SANTA MONICA BAY NATIONAL ESTUARY PROGRAM
Fiscal Year 2018 Work Plan

(October 1, 2017 – September 30, 2018)

Table of Contents

I. INTRODUCTION **1**

II. WORK PLAN OVERVIEW **4**

III. TASK DESCRIPTIONS **7**

PROGRAM AREA 1: WATER RESOURCES AND QUALITY IMPROVEMENT 8
1.1 Support regional water quality improvement planning and policies *8*
1.2 Improve water quality through pollution control and prevention *13*
PROGRAM AREA 2: NATURAL RESOURCE PROTECTION AND HABITAT RESTORATION 22
2.1 Support natural resource protection policies and programs *22*
2.2 Restore wetlands and streams *26*
2.3 Restore coastal bluffs, dunes, and sandy beaches *34*
2.4 Restore intertidal and subtidal habitats *38*
PROGRAM AREA 3: MULTIDISCIPLINARY AND INTEGRATIVE PROGRAMS 43
3.1 Promote climate change adaptation *43*
3.2 Conduct public outreach and increase collaborations *47*
3.3 Support planning, monitoring, and organizational management *51*

IV. US EPA 320 GRANT BUDGET SUMMARY **60**

V. TRAVEL DOCUMENTATION **62**

VI. SMBNEP STAFFING **63**

THE BAY FOUNDATION (AS OF ~~6/30/2016~~ 4/1/2017): 63
SMBRC STAFF (AS OF ~~6/30/2016~~ 4/1/2017): 68
SMBRA STAFF (AS OF ~~6/30/2016~~ 4/1/2017): 70
Appendix A. Prop. 84: details of completed projects from FY17. ..... *71*
Appendix B. Prop. 84: details of ongoing projects. *72*
Appendix B (continued). Prop. 84: details of newly awarded projects in FY17. ..... *73*
Appendix C. Groups for which SMBNEP staff provide technical support. *75*

Common Work Plan Acronyms

BEP = Boater Education Program
BRP = Santa Monica Bay Restoration Plan
BWER = Ballona Wetlands Ecological Reserve (or Reserve)
CDFW = California Department of Fish and Wildlife
CMP = Santa Monica Bay Comprehensive Bay Monitoring Program
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
FY17 = Federal Fiscal Year 2017
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
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
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: 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). 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/.

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). 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).

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.santamonicabay.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 activities.

Bay Restoration Plan and FY18 Work Plan

The original BRP of 1995 was updated in 2008 and again in 2013. The 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 the results of the climate change vulnerability assessment project completed in September 2016.

The purpose of this federal Fiscal Year 18 (FY18) Work Plan is to identify program objectives, tasks, and timelines of the work to be performed during the federal fiscal year (FY18): October 1, 2017 – September 30, 2018, 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 ~~emerging~~ 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 EPA 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.

EPA's *FY 2014-2018 Strategic Plan* charts a course for the agency through FY18 and is organized around five key goals, including:

- Taking Action on 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 EPA Strategic Plan goals as well as the Office of Water (OW) *National Water Program Guidance* (FY14 and FY15 Addendum). 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.[1]"

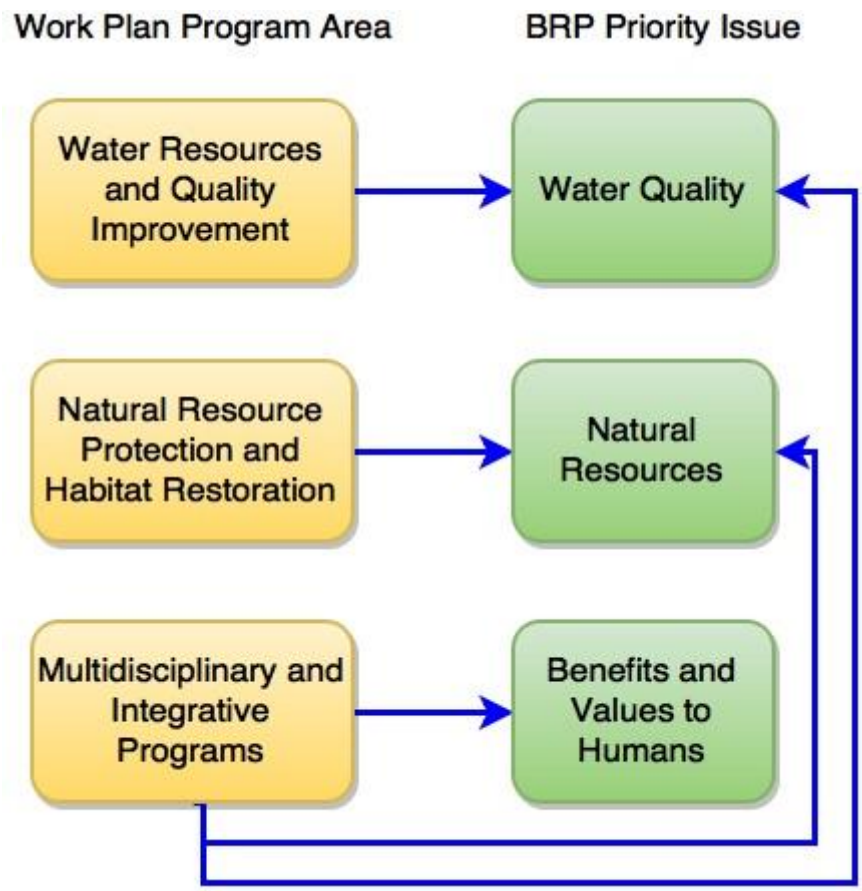
[1] http://water.epa.gov/aboutow/goals_objectives/goals.cfm, p. 53.

II. WORK PLAN OVERVIEW

Work Plan Structure

Section II of the Work Plan provides an overview of the activities to be undertaken in FY18. 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.

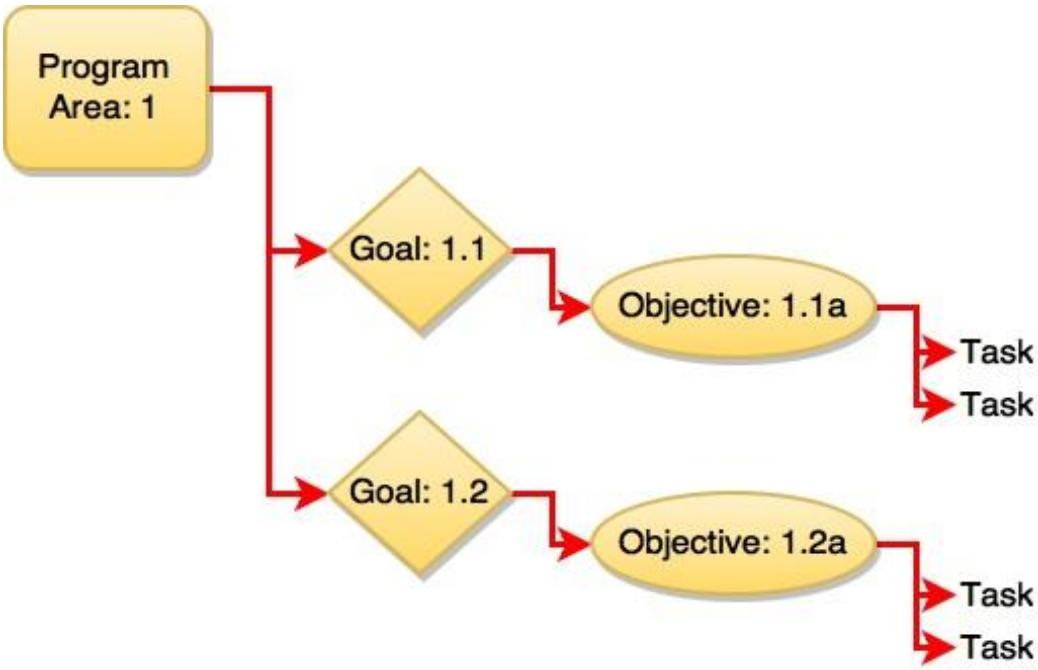
The scope of this Work Plan is broad and structured into three overarching Program Areas (all contained within Section III). Significant efforts will be devoted to carry out water quality improvement and habitat restoration programs and projects, aimed at achieving the objectives and milestones in the 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. There will also be more focus and efforts in FY18 on implementing 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. The diagram below illustrates the connection between SMBNEP's FY18 Work Plan and BRP 2013 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 FY18.

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. The diagram below illustrates the Work Plan structural outline.



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 FY18 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 FY18 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 FY18.

Many of the FY18 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 FY17 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 FY18 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 Clean Bay Restaurant Certification 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

Two Proposition projects were completed in FY17: Phase 2 Arroyo Sequit Fish Barrier Removal – Implementation (Prop. 50), and Oxford Retention Basin Water Quality and Multi-Use Enhancement Project (Prop. 84). See the narrative description of both completed projects below the task table.

Additionally, in FY17, the Governing Board of the Santa Monica Bay Restoration Commission recommended five new projects for $9 million in funding through Prop 84 via the State Water Resources Control Board (SWRCB). These projects will assist responsible agencies in meeting the requirements of the new Los Angeles County Municipal Separate Storm Sewer System Permit (MS4 Permit). The five projects recommended for funding are described below:

- ***Culver Boulevard Realignment and Stormwater Infiltration/Retention Regional Project*** – The proposed system will include a belowground infiltration/retention basin situated underneath the Culver Blvd. median, capable of capturing/treating the 85th percentile, 24-hour design storm runoff from a drainage area of 800 acres and capture 100% of the dry weather flow from its drainage area. The project lead is the City of Culver City.
- ***Westwood Neighborhood Greenway Project*** – The project proposes to divert and capture dry-weather flow from a stormdrain that captures runoff from 2,400 acres of drainage area into two parallel bioswales to improve water quality in the receiving waters (Sepulveda Channel, Ballona Estuary and Santa Monica Bay Beaches). The project is expected to capture 67,000 to 340,000 gallons per day of urban runoff. During storm events, this 5-acre project will capture the "first flush" of the storm from a 2,400-acre drainage area. The project lead is City of Los Angeles.
- ***Santa Monica Bay Catch Basin Insert Project*** – The project retrofit Connector Pipe Screen (CPS) units in as many as 1,368 catch basins in three cities in the Palos Verdes Peninsula Watershed. They include the Cities of Rancho Palos Verdes, Palos Verdes Estates, and Rolling Hills Estates. The portion of the Peninsula WMG that drains to Santa Monica Bay consists of approximate 14 sq. miles. The project lead is City of Rancho Palos Verdes.
- ***Ladera Park Water Quality Enhancement Project*** – Through a 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 the non-stormwater runoff from the 110-acre tributary area. The project lead is County of Los Angeles Department of Public Works.
- ***Gates Canyon Park Project*** – The project is located at an 8.2 acre park space located within the upper Malibu Creek Watershed. The Project will divert runoff from an existing storm drain to a proposed underground detention gallery and capture up to the 85th percentile storm from 105 acres of single family residential property tributary to this project, and provide infiltration as well as water storage capacity through a gallery below the park's open space. The stored water will be utilized to irrigate Gates Canyon Park during the dry season. The project lead is County of Los Angeles Department of Public Works.

In FY18, SMBRC will continue to work with grantees to develop grant agreements and implement the above projects. Additionally, In FY18 and future years, SMBRC will continue to work with SWRCB to provide oversight of, and technical support for pollution prevention and habitat restoration projects funded through Prop. 84 grant programs, including ongoing and newly awarded projects. At the time of drafting this work plan, there are two ongoing and continuing Prop. 84 projects (continuing from FY17), including: University Park Rain Gardens and Milton Street Park Project. Project objectives include

increasing native habitat, diverting and treating stormwater, and improving water quality. For additional details on these ongoing Prop. 84 projects, see Appendix B.

Prop. 1 Funding
Additionally, 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.

1.1b Promote and participate in integrated watershed-wide water quality improvement planning and implementation

SMBRC and TBF will continue to promote and participate in integrated regional and sub-regional stakeholder groups and other mechanisms engaged in watershed-wide water quality improvement planning and implementation efforts.

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 ~~Drought~~ Water Resiliency Work Plan and associated efforts~~. funding mechanism report and support a new County-wide funding ballot measure as part of the FY18 Work Plan.~~

** NEW: Strategy to Optimize Resource Management of Storm Water (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 will participate in the Storm Water Strategy effort 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. The goal of SMBRC's participation is to make the best possible use of the water resources of the Santa Monica Bay watershed.

For more information on the Storm Water Strategy, visit:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/

Integrated Water Resource Management Plan
In 2013, SMBRC was re-elected as one of ten members of the Leadership Committee charged with developing an Integrated Water Resource Management Plan (IRWMP) for the Los Angeles Metropolitan region (which includes the entire Santa Monica Bay watershed). Also in 2013, SMBRC lead the development of a new and ground-breaking element focusing on Open Space for Habitat and Recreation during the IRWMP update.

During FY18, SMBRC will continue to participate in the activities of the leadership group and 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.

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.

Sub-Region Steering Committees

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	~~Lead~~ Participate	SWRCB*, LARWQCB, MS4 permittees	Grant agreements drafted in early 2017; project implementations: April 2017 – 2020
Support funding (e.g. Prop. 1) for WMP and EWMP projects	SMBRC, TBF	Support	LARWQCB, MS4 permittees	Attend six public comment and TAC meetings state-wide; occasional meetings with local agencies
1.1b Promote and participate in integrated watershed-wide water quality improvement planning and implementation				
Support efforts to increase funding for water resiliency	SMBRC, TBF	Support	LA County, MS4 permittees	~~Specific events (e.g. funding ballot measure) are contingent on the pending timeline of the LA County Drought Resiliency Work Plan and funding mechanism report~~ Engage with County staff to identify collaborative opportunities.
** *New:* Storm Water Strategy	SMBRC	Participate	SWRCB*, LARWQCB, MS4 permittees	Engage with SWRCB and LARWQCB staff to identify collaborative opportunities. Provide updates at Governing Board meetings.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
Participate in IRWMP leadership group and provide technical support	SMBRC	Participate	Los Angeles County Dept. of Public Works (LA~~C~~DPW)*, municipalities in watershed, Los Angeles County Sanitation District (LACSD), West Basin Water District	Quarterly meetings
Participate in sub-region Steering Committees	SMBRC	Participate	LARWQCB, MS4 permittees	See Appendix C for list of groups and meeting frequency

** Project lead*

Linked BRP Objectives and Milestones: 1.1a-d

Completed Projects

Two projects were completed in FY17: Phase 2 Arroyo Sequit Fish Barrier Removal – Implementation (Prop. 50), and Oxford Retention Basin Water Quality and Multi-Use Enhancement Project (Prop. 84). Detailed narratives for both projects are included below.

Arroyo Sequit Fish Barrier Removal

Southern California steelhead trout are a federally listed endangered species and a California state listed Species of Special Concern. They are considered to be the most jeopardized of all steelhead populations within California. Historically, thousands of fish spawned each year throughout the streams in the Santa Monica Mountains. Today only three streams, Arroyo Sequit, Malibu, and Topanga creeks, are known to contain steelhead trout, and their numbers are few.

This project improved conditions for recovery of the endangered steelhead trout in the northern Santa Monica Bay watershed, and improved safety to park visitors. Tasks included the removal of a small check dam, and two at-grade (Arizona) crossings on Arroyo Sequit Creek. The Arizona crossings were replaced with free span bridges allowing unimpeded fish passage and safe crossing for both motorized vehicles and pedestrians.

Oxford Retention Basin Water Quality and Multi-Use Enhancement Project

Oxford Basin ~~serves as~~ is a flood control facility which retains urban and stormwater runoff from approximately 700 acres of the Marina del Rey Watershed. ~~Runoff from the basin is discharged directly to~~ The Basin is hydrologically connected to Basin E in Marina del Rey ~~through existing~~ via tide gates under Admiralty Way. The project improves water quality, enhances habitat and open space, creates passive recreational opportunities, improves aesthetics, and mitigates localized flooding. Major tasks included the construction of vegetated circulation berm, replacement and reprogramming of tide gates,

installation of bioswales, removal of contaminated sediment, removal of non-native and invasive vegetation and installation of native vegetation.

Environmental Results: Outputs: Progress toward TMDL and stormwater permit compliance. Number of projects initiated, in progress, or completed.

Environmental Results: Outcomes: Reduction in "miles of" or "days of" beach closures, exceedances of water quality criteria, and pollutant loadings.

Performance Measures: Improved beach water quality grades at Santa Monica Bay beaches; decreased pollutant concentrations and loading in 303(d)-listed waterbodies.

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 FY18, SMBNEP will continue to implement and seek opportunities to 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.

In FY16, TBF installed rainwater harvesting techniques (rain gardens and rain barrels) at four residential properties and evaluated their successes through pre- and post-installation monitoring through a grant awarded by the Metropolitan Water District's (MWD) Innovative Conservation Program. TBF completed the final report for this project in July 2016, entitled "Rain Gardens: Water-Wise Investments in our Future." It was subsequently posted on the technical report page of TBF's website, and posted through the Metropolitan Water District's website.

In FY16, TBF was also awarded and completed a Los Angeles Department of Water and Power (LADWP) Community Partnership grant that used a diverse outreach strategy to educate the public about energy efficiency and water conservation throughout our region. This project was completed in the summer of 2015 and reached over half a million people. Click here for a link to the final report. During FY17, TBF applied for, was awarded, and completed another LADWP grant, the School-Based Community Organizations for Educational Partnership Program grant which involved direct outreach to Middle School children and teachers regarding water, energy, and natural gas conservation (see narrative below summary task table).

Stormwater Monitoring
At the time of authoring this work plan, TBF helped facilitate water quality monitoring of seven storm events at the Ballona Creek Rain Garden during FY16 and FY17, in partnership with Loyola Marymount University (LMU). During FY18, TBF will continue to facilitate and provide technical support for the drafting of a final report and presentation summarizing the water quality monitoring and stormwater retention data, and will provide student support.

Additionally, TBF and SMBRC will seek new partnership and funding opportunities for new rain garden, water conservation, and other LID projects, including development and implementation of LID projects on various parkland locations and monitoring efforts.

1.2b Implement the Boater Education Program

The Boater Education Program (BEP) was initiated in 1996, funded solely through a grant to SMBRA from the California State Parks Division of Boating and Waterways (DBW). Since its inception, BEP has received funding from California Coastal Commission (CCC), DBW, CalRecycle, US EPA, Sea Grant, and SWRCB. Pollutants of concern addressed by BEP include: household hazardous waste, copper, invasive species, oil, plastics, sewage, and trash. BEP works to reduce these pollutants through direct community engagement, materials development, technical assistance, networking, and partnerships. BEP has reached hundreds of thousands of boaters, created and printed four editions of the Southern California Boater's Guide, published its first ever iPad application with Clean Vessel Act (CVA) grant funds, installed a bilge pumpout facility in Oceanside, developed the statewide Annual Pumpout Report Card in partnership with San Francisco Estuary Partnership (SFEP) and DBW, and has forged numerous partnerships within the boating community and industry. BEP tasks are categorized into Pumpout Monitoring, Honey Pot Unlimited, Boating Community Engagement Events, Dockwalker Volunteer Program, and Copper TMDL Outreach.

Pumpout Monitoring
The goal of pumpout station monitoring is to promote a sense of accountability for condition and operational status of pumpout stations, promote useful pollution prevention amenities for boaters, and decrease the amount of sewage discharged into waterways.

In FY18, TBF staff will continue quarterly monitoring of 71 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 will continue to submit quarterly monitoring reports to DBW. In spring 2018, monitoring data from 2017 will be published in an Annual Pumpout Usage Report. TBF staff will continue to work with program partners, SFEP and DBW, on developing consistent data analysis and monitoring protocols for the State of California.

Additionally, In FY18, TBF staff will work DBW on the beta-trial of the CVA App for on-site pumpout data collection using an electronic tablet. This will allow immediate integration of the data into Excel and generation of reports for facility managers and CVA grant managers. The CVA App also serves as a mobile app for boaters to geo-locate pumpout stations, create personal logs to record a user's history of pumpout activity, submit facility reviews and photos, and will include a portal to notify facility managers of operational difficulties with a given pumpout.

Honey Pot Live

Honey Pot Live (HPL) encourages proper sewage disposal by providing free mobile pumpout service and clean boating education to boaters in Los Angeles County. The program will be offered during the height of the boating season, June thru August. Free mobile pumpouts will be provided to boaters that complete an online course, consisting of an instructional video on pumpouts, three related publications, and a brief quiz. Since 2009, Honey Pot programs have promoted mobile pumpout services to the boating community, and HPL is now offered in four harbors: Marina del Rey, King Harbor, Los Angeles, and Long Beach. HPL has been a cost-effective program; it has engaged 50 percent more boaters than previous Honey Pot programs. To measure and document the outcomes of HPL, participants are expected to complete an anonymous questionnaire rating the online module and pumpout service.

Boating Community Engagement Events

The goal of attending boater community engagement events is to provide the boating community with information about proper sewage disposal, and to encourage the proper disposal of vessel waste and use of local sewage pumpout stations.

In FY18, TBF staff will develop the Southern California Tide Calendar (2018), produce three Changing Tide newsletters, attend a minimum of three community engagement events, and maintain a contacts database of partners and boaters who have received clean boating information. TBF will focus efforts on engaging young boaters by connecting with youth boating organizations and schools.

Dockwalker Volunteer Program

The Dockwalker Volunteer 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. Partners for this task include: DBW, CCC, Contra Costa County, US Coast Guard, US Power Squadrons, boating community, marinas and yacht clubs, and volunteers.

In FY18, TBF will produce and distribute 6,500 Boater Kits statewide, 3,500 in Northern California (by DBW, CCC, and Dockwalker volunteers) and 3,000 in Southern California (by TBF and Dockwalker volunteers). Each kit is accompanied by a questionnaire to test boater knowledge. To receive a Boater Kit, the recipient must complete the questionnaire. Each Boater Kit will include an oil absorbent pillow, tide calendar, West Marine coupons, "When Nature Calls" brochure, and an order form for the Southern California Boater's Guide. TBF will host 4 Dockwalker trainings in Southern California and coordinate Dockwalker participation at boating events. TBF will also partner with DBW and California Coastal Commission's "Boating Clean & Green Campaign" to coordinate and implement the Dockwalker Program. Coordination includes regular conference calls to update training materials and presentations, a Dockwalker newsletter announcing statewide Dockwalker efforts, an annual check in with the Dockwalker Technical Advisory Committee, data management of boater questionnaire results, support for volunteers to encourage their community engagement activities, promotion of events for potential "Dockwalking", year-end awards for top Dockwalkers, and management of new contacts. TBF will focus efforts on engaging young boaters by connecting with youth boating organizations and schools. For more information on the Dockwalker Program go to:
http://dbw.ca.gov/Environmental/CleanGreen/Dockwalker.aspx#DOCKWALKERS.

Copper TMDL Outreach

Copper is used in antifouling paints to prevent marine organisms from attaching to boat hulls by passively leaching into the surrounding waters. Storm water runoff and antifouling paints are sources of copper in the sediment. According to the Los Angeles Regional Water Quality Control Board and USEPA,

antifouling paints are suspected as being the significant source of copper in watercraft basins, including Marina del Rey[2,3]. Based on findings from the Department of Pesticide Regulation, eight of 47 toxicity samples exhibited statistically significant toxicity; seven of the eight toxic samples came from Marina del Rey in Los Angeles[4]. ~~Copper is used in antifouling paints to prevent marine organisms from attaching to boat hulls by passively leaching into the surrounding waters. Due to the density of boats in Marina del Rey Harbor and poor tidal action, copper-based antifouling paints are the primary source of dissolved copper to the water column to levels that are harmful to aquatic life.~~ To protect aquatic life and activities that depend on a healthy aquatic ecosystem (such as recreation, wildlife habitat, and fishing), LARWQCB updated the existing toxic pollutants TMDL, which requires an 85% reduction in the amount of copper entering Marina del Rey Harbor.

The County of Los Angeles was recently awarded a SWRCB Section 319(h) grant to reduce the copper loading to Marina del Rey Harbor from copper based antifouling boat hull paints by providing boat owners with inflatable boat lifts. Under a contract with the County, TBF will lead the community engagement and education component of this project (expected contract execution date is January 2017).

In FY18, TBF will conceive, design, and electronically post and distribute 1-3 outreach and promotional tools such as a press release, postcards, fact sheets, newsletter articles, and brochures regarding the Marina del Rey Harbor copper TMDL, integrated best management solutions, and the County's Boat Lift Program. TBF will be responsible for distribution of outreach tools and materials to boaters through email, social media posts, and at a minimum of four boating events (through the course of the three year contract). TBF will manage the strategy behind the outreach campaign and support development of program logistics (i.e. how boaters obtain inflatable boat lifts).

***** NEW*: Pilot Dye Tablet Program**

Marina del Rey harbor is one of world's largest man-made small craft harbors. Limited tidal movement in this harbor results in frequent ecological impairments from bacteria, toxic metal (i.e. copper), oil, trash, and other pollutants[5]. To raise awareness about harmful bacteria issues in the harbor and how sewage discharges from faulty marine sanitation devices contribute to the problem, TBF will partner with Marina del Rey facility managers, Los Angeles County Department of Public Works ~~Department (LACPWD)~~, Los Angeles Department of Beaches and Harbors, and Los Angeles County Sheriff's Department to implement a pilot dye-tablet program. TBF will supply managers with dye-tablets and an informational hand-out on this voluntary program so that boaters may inspect their marine sanitation devices. Based on preliminary discussions with the Los Angeles County Sheriff's Department, sewage discharge detected under this program will not result in a citation, but the boater ~~must commit~~ will be encouraged to ~~fixing~~ address ~~the problem immediately~~ the issue. Collaboration with ~~LACPWD and local law enforcement~~ the various stakeholders and agencies will increase the numbers of boaters reached

---

2 Los Angeles Regional Water Quality Control Board. 2005. Total maximum daily loads for toxic pollutants in Marina del Rey Harbor. Draft Report. LARWQCB, Los Angeles, CA.

3 U.S. Environmental Protection Agency. 2002. Total maximum daily loads for toxic pollutants, San Diego Creek and Newport Bay, California. U.S. EPA Region IX. San Francisco, CA.

4 California Department of Pesticide Regulation, 2009. Monitoring for Indicators of Antifouling Paint Pollution in California Marinas. CalEPA Sacramento, CA

5 Los Angeles Regional Water Quality Control Board. 2005. Total maximum daily loads for toxic pollutants in Marina del Rey Harbor. Draft Report. LARWQCB, Los Angeles CA

through coordinated community engagement resources via agency websites, media contacts, and staff resources to help with communications and marketing.

1.2c Implement the Clean Bay Restaurant Certification Program

TBF initiated the Clean Bay Restaurant Certification Program (aka Clean Bay Certified) in 2008 to help beach communities address a significant potential source of pollution – local restaurants. Clean Bay Certified is a collaborative partnership between local agencies, businesses, and consumers and advocates for environmental stewardship. The program 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. Two additional cities (Palos Verdes Estates and Rolling Hills Estates) joined the program during FY17, bringing the total number of participating cities to 11, and the number of certified restaurants to 350. For more information, go to http://www.santamonicabay.org/learn/our-work/clean-bay-restaurants/.

Clean Bay Certified Promotion

In FY17, TBF will promote certified restaurants on the TBF website, city websites, and social media outlets (i.e. Facebook, Instagram, and Twitter). If funding is available, TBF staff will attend events to promote the restaurants to the general public, develop informational resources, as well as engage the public about stormwater pollution and the importance of citizen action. In FY18, TBF will host Clean Bay Certified award events in each participating city to celebrate the most innovative and ocean-minded restaurants; appropriate media outreach will promote/announce these awards.

Restaurant Inspections

Participating cities are responsible for annual restaurant inspections for Clean Bay Certified. The City of Redondo Beach inspects restaurants monthly. Upon completion of inspections, cities forward all inspection forms, including a list of newly certified restaurants, to TBF for organization and promotion on its website.

In FY18, TBF will continue to support inspection and certification of restaurants, 350 restaurants annually. TBF will hold annual inspector trainings and partner meetings, visit a selection of newly certified establishments and conduct brief interviews with managers and/or owners. Interviews will help staff learn more about individual restaurant habits and how to better inform and educate on more sustainable practices. The information collected will help TBF staff with resource and sustainable program development (i.e., organics recycling, water conservation, waste reduction). Questions will also establish baseline information for which to compare pre and post-participation numbers such as amount spent on single use take-out containers and amount spent on reusable take-out containers, amount of water used, and quantity of disposal products distributed. Questions include: motivation for joining the certification program, obstacles in the restaurant business, obstacles to "being green", cost of take-out containers, types of take-out containers used, sources for restaurant news, etc. TBF will work with cities on any Clean Bay Certified Inspectors Handbook revisions, and update criteria (if needed). TBF will also provide technical support on various inspection points, such as research relating to sustainable take-out containers or assisting in developing a recycling program(s) for restaurants.

**** *NEW*: Community Composting and Community Supported Agriculture Outreach**

The Table to Farm Composting for Clean Air program (new for FY18) addresses methane generation from landfills by connecting restaurants with compost hubs, urban farms, and community gardens for a multifaceted food waste reduction program in the City of Inglewood. Our waste reduction program tackles air quality and food insecurity issues impacting disadvantaged communities with a two-tiered approach: 1) Organic waste recovery and composting partnerships with South L.A. farms and gardens; 2) Outreach about local food sourcing and Community Supported Agriculture (CSA).

Through this program, TBF will partner with local community groups and schools (i.e. Social Justice Learning Institute (SJLI), Inglewood Environmental Charter Middle School, LA Compost) on a pilot "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. Participating restaurants will be expected to deliver their pre-consumer organic scraps to a local composting hub. SJLI manages several acres of land throughout South L.A. and will manage the compost. Currently, 25% of the produce grown by SJLI is sold through their community supported agriculture, a program where people can buy directly from farmers.

With our efforts, in addition to addressing air quality issues, we will raise awareness about SJLI's CSA program and the benefits of buying from it at local L.A. restaurants. Furthermore, promoting CSA's in South L.A. means more jobs, as SJLI is dedicated to training and employing youth and community members in urban farm management.

**** *NEW*: Single Use Disposable Products Reduction Initiative**

In FY18, through partnerships with local stakeholders, Rethink Disposables (a program of Clean Water Action and Clean Water Fund), and the Surfrider Foundation's Ocean Friendly Restaurant Program, TBF will work to reduce single use disposable items from food service establishments. This program addresses the prolific amount of disposable food service products (i.e. straws, lids, stirrers, cups, utensils, etc.) found in stormwater and marine debris and focuses on stopping the pollution at its source. TBF will identify trash "hot spots", conduct waste audits at food service establishments, provide technical assistance to restaurants to encourage the use of durable products rather than disposable items, and seek additional funding.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
1.2a Implement green infrastructure and LID projects				
Seek new partnerships and funding opportunities for new rain gardens, conservation outreach, and other LID projects	TBF	Lead	LADWP, MWD	Conduct monthly program meetings, seek grants and funding (ongoing)
Facilitation of stormwater monitoring and monitoring of LID effectiveness	SMBRC, TBF	Facilitate	LMU*, LARWQCB, MS4 permittees	Participation of TAC review when needed; complete final report and

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
				presentation for Ballona Creek Rain Garden
1.2b Implement the Boater Education Program				
Conduct pumpout monitoring	TBF	Lead	San Francisco Estuary Partnership, DBW, CCC	Quarterly monitoring and annual report
Implement Honey Pot Live	TBF	Lead	San Francisco Estuary Partnership, DBW, CCC	Implementation of Honey Pot Live in summer; final report
Attend and promote community engagement events	TBF	Lead	DBW, CA Coastal Commission, Contra Costa County, US Coast Guard Auxiliary, US Power Squadrons, boating community, marinas and yacht clubs, volunteers	Produce 4,500 2018 Southern California Tide Calendars, three Changing Tide newsletters, attend three boating events, manage contacts database of partners and boaters to track education and outreach efforts
Coordinate Dockwalker Volunteer Program	TBF	Lead	DBW, CCC, marinas and yacht clubs, volunteers	Conduct 4 trainings; distribute 6,500 Boater Kits and questionnaires, publish one newsletter; convene Dockwalker TAC meeting in winter 2017/18; award top volunteers in winter 2017/18
Conduct copper TMDL outreach	TBF	Support	DBH, LARWQCB, marina managers, boating community	Develop 1-3 outreach and promotional pieces; promote the Boat Lift program via media outreach, social media and boating events

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
** *NEW*: Pilot Dye Tablet Program	TBF	Lead	LADPW, DBW, LADBH, marina managers, boating community	Produce one outreach piece; report on summary of results to LA County
1.2c Implement the Clean Bay Restaurant Certification Program				
Implementation of the Clean Bay Certified program	TBF	Lead	Cities in the Bay Watershed	Monthly program meetings; seek grants and funding (ongoing); semi-monthly online promotion; award events in Jan/Feb 2018; conduct restaurant staff interviews; media outreach
Support restaurant inspections by Cities	TBF	Support	Cities in the Bay Watershed*	Annual or monthly inspection of restaurants (350 annually)
** *NEW*: Community Composting and Community Supported Agriculture Outreach	TBF	Lead	Social Justice Learning Institute, LA Compost, cities in the Bay Watershed, restaurants	2-3 restaurant composting programs, 1-2 composting hubs, program flyer/brochure
** *NEW*: Single Use Disposable Products Reduction Initiative	TBF	Lead	Rethink Disposables, Clean Water Action, Clean Water Fund, Surfrider Foundation, Heal the Bay	Conduct monthly program meetings; seek grants and funding (ongoing); complete waste audit training for TBF staff; establish waste audit and program protocol for food service establishments

** Project lead*
*** New project for FY18*

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

Completed Projects

LADWP Educational Partnership Grant

In FY17, TBF applied for, was awarded, and completed implementation of the LADWP Educational Partnership grant. The overarching objective of this project was to promote energy, water, and natural gas conservation throughout LAUSD by implementing innovative educational opportunities and additional outreach strategies within a 'two-tiered' approach. Tier-1: TBF directly engaged LAUSD teachers and students in ten classrooms split between at least two schools about conservation needs and solutions through engaging infographics, educational handouts, and online resources. Tier-2: Additional broad-scale outreach occurred through websites, newsletters, press releases, and additional online media and social media sources.

Used Oil Recycling

Funding to support used oil recycling projects from a CalRecycle Used Oil Grant ended April 30, 2016. Over the course of this grant, four exchange locations were initiated at Del Rey Fuels and Anchorage 47 in Marina del Rey, Oceanside Harbor, and Sun Harbor Marina. In summary, 3,200 absorbents were distributed at exchange sites; 133 absorbent pad exchange program surveys were collected; 9 drums of used oil absorbents were collected; approximately, 127.6 gallons of oil were collected at exchange sites. TBF unveiled the new bilge pumpout and oil-water separator in Oceanside Harbor on December 11, 2015 at a ribbon-cutting event. By partnering with a diverse group of organizations, agencies, and dedicated volunteers, TBF successfully implemented a community engagement and education campaign that stretched from Santa Barbara to San Diego. TBF participated in 4 community engagement events, distributed: 4,529 Boater Kits, which included 2016 tidebooks produced by TBF, oil pillows with the educational wrapper, and promoted exchange programs and the new bilge pumpout in Oceanside. Additionally, with the support of our stakeholders, we were able to distribute an additional 19,000 oil absorbents.

Environmental Results: Outputs: Number of new residential rain gardens and water conservation and stormwater retention devices; Southern California Boater's Guide (interactive eBook), Boater Kits, and other educational materials; number of restaurant inspections, and number of restaurants certified. Volume of stormwater collected/infiltrated, volume of potable water conserved; pounds of organic waste diverted from landfills/composted

Environmental Results: Outcomes: Increased opportunities to receive environmental education about boat generated pollution, decreased amount of illegal sewage discharges; greater awareness of clean Bay issues leading to greater involvement by the public and increased participation of restaurants, and reduced runoff via source control from participating restaurants, and pounds of compost created.

Performance Measures: Improved stormwater quality and beach water quality grades at Santa Monica Bay beaches, indirect measurements of numbers of individuals reached through social marketing techniques (e.g., number of individuals at Dockwalker trainings and events, boat shows, and other boating-related events) and through newsletters and other education and outreach avenues, indirect measurements of the outreach effectiveness via Clean Boater Questionnaires, and amount of properly disposed sewage; number of cities participating, number of restaurant inspections, and number of restaurants certified, and number of restaurants with new organics/composting programs, number of new CSA subscriptions for restaurants, number of participating farms/garden in composting program..

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 FY17 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

<u>Ocean Vessel Aerial Monitoring</u>
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.

Subsequent to the first two pilot phases (which collected data from approximately 40 pre-MPA flights and 40 post-MPA flights), funding has periodically allowed for supplemental data to be collected to provide information on long-term trends over time. TBF and academic researchers from Occidental College have been conducting comprehensive analyses of all aerial survey data from 2010 to 2017. Analyses focus on the impact of the implementation of MPA's on recreational and commercial fishing effort of Southern California's nearshore waters. Analyses were designed to determine the spatial shifts in fishing effort, the compaction of vessels, and compliance with fishing restrictions with MPA establishment. A final report is in-process at the time of drafting this Work Plan and should be available at the end of FY17. Project partners at Occidental College have developed a distribution model of expected fishing effort in Southern California waters based on environmental and fish habitat data. Incorporation of this distribution model into related analyses is underway.

In FY18, TBF will continue quarterly ocean vessel aerial monitoring flights and produce an annual report summarizing the quarterly data. In addition to the flights, this program includes communication with the MPA Collaborative, Ocean Science Trust, Vantuna Research Group, LA Waterkeeper, Heal the Bay, Fishing Community, Pepperdine University, LA County Department of Beaches and Harbors, State Parks, Statewide MPA Watch Program, and CDFW. Additional outreach will also continue through opportunistic presentations given at conferences and seminars throughout the region and through the use of online media.

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). A full map of MPAs for the Southern California Region can be found here: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=105396&inline.

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. For additional background details on MPAs, refer to the California Department of Fish and Wildlife's (CDFW) website: https://www.wildlife.ca.gov/Conservation/Marine/MPAs/Network/Southern-California.

In FY18, TBF will continue to explore funding and partnership opportunities to promote sustainable fishery resource management and marine ecosystem protection. Specifically, TBF will continue to participate in the Los Angeles MPA Collaborative to facilitate management and inform monitoring and enforcement challenges.

Sustainable Fishery Management

The outreach associated with the kelp restoration project, aerial monitoring project, efforts of the SoCal 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. Additionally, TBF will also continue to encourage and promote efforts by CDFW to complete the development of a fishery management plan for high priority fisheries, including a stock assessment of California halibut in compliance with Assembly Bill 1414 which established a white seabass restocking effort in Santa Monica Bay.

The MDR Anglers in cooperation with LACO B&H and CDFW have been operating fish rearing pens since 1995. In FY18, TBF will continue to support the NDR Anglers' Youth Fishing Program, assisting in the attraction and development of interns to support the fishing trips. Specific actions will include promotion and awareness building for the program.

Expansion of 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. In addition, white croaker and barred sand bass, which are target species for recreational fishing, may contain high levels of PCBs, DDT, and DDE. The public health impacts of consuming these species and others supports an ongoing effort to determine the spatial extent of human exposure to these, (and other species) of contaminated fish.

Additionally, both great white sharks and giant black sea bass are protected by state and federal regulations but are accidentally caught or purposefully targeted by fishermen. The expansion of the telemetry network will provide data as to the presence and movement of these species off the Malibu coastline. This information will allow for outreach to resource management, and the public on ways to safely interact and protect these ecologically significant species.

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.

Specifically, in FY17, TBF provided four acoustic receivers to the Shark Lab at CSULB. These receivers will be deployed in first half of 2017, data are downloaded quarterly, and reports will be completed by the Shark Lab. In FY18, 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.

**** *NEW*: Remotely Operated Vehicle Surveys**

Remotely operated underwater vehicles (ROVs), once only available to agencies and universities due to their expense, now allow everyone from children to scientists the opportunity 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. TBF acquired a remotely operated vehicle (ROV) in late 2016. Named R2Deep2, this ROV is capable of dives up to several hundred feet. Research teams from TBF will deploy R2Deep2 in FY17 and FY18 to gather preliminary information on a number of underwater habitats in Santa Monica Bay and in freshwater and brackish

environments. The videos and imagery are expected to assist in general site characterization and prioritization for future monitoring and restoration efforts.

MDR Youth Fishing Program

In FY18, 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.

2.1b Support stream protection policies

Over 80% of the natural streams in the Santa Monica Bay watershed have been paved over, culverted, or channelized, significantly reducing the ecosystem functions and services that they provide. Thus, preserving the natural quality of the remaining stream systems/sections has become more critical over the years. This task is directly connected to BRP Objective 4.1.

In FY18, TBF and SMBRC will build upon communications and data collection efforts made in previous years, and in partnership with other stakeholder groups, will continue to promote creation and adoption of stream protection ordinances and/or policies by local jurisdictions.

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 (see narrative for additional collaborators)	Quarterly surveys and annual report
Participate in MPA Collaborative	SMBRC, TBF	Promote	Heal the Bay, Los Angeles Waterkeeper, Orange County Coastkeeper, WildCoast, Santa Barbara Channelkeeper	Participate in semi-annual meetings; ongoing communications
Promote sustainable fishery management	SMBRC, TBF	Promote	CDFW*	Opportunistic participation in meetings and communications
Expand Acoustic Telemetry Network	TBF	Participate	CSULB*, FCEC, County Lifeguards	Assist in installation and maintenance of four sensors;

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
				quarterly data download and outreach
** *NEW*: Remotely Operated Vehicle (ROV) surveys	TBF	Lead	LMU, other universities	Launch ROV into marine and freshwater systems to capture video and imagery
Support MDR Youth Fishing Program	TBF	Support	Marina Del Rey Anglers*	Continue communications and community engagement, assist in the attraction and development of interns to support the fishing trips
2.1b Support stream protection policies				
Promote creation and adoption of stream protection ordinances and/or policies	TBF	Promote	City of LA*, other watershed cities, Heal the Bay	Ongoing communications

** Project lead*
*** New project for FY18*

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

<u>Environmental Results: Outputs:</u> Aerial monitoring data; newly adopted fishery management plans; stream protection policy and ordinance adopted by watershed cities.

<u>Environmental Results: Outcomes:</u> Increased population and diversity of marine organisms as shown by monitoring data; increased and more sustainable harvest of local seafood, increased public awareness of the value of marine resources measured by number of outreach events and participants; linear miles of streams protected.

<u>Performance Measures:</u> Increased resources for enforcement and monitoring of established MPAs, reduced number of MPA regulation violations, increases in species diversity and abundance in MPAs; adopted stream restoration policies and linear miles of streams protected.

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 century and a half 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 over 3.1 million cy of sediment on the site, and the continued encroachment of habitat-altering invasive species. Restoration of the Reserve is a top priority of the SMBNEP. The development of the Ballona Wetlands Restoration Plan 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 all of the technical reports discussed below, refer to the project website: www.ballonarestoration.org. Technical reports, scientific memoranda, lists of public meetings, electronic newsletter, and additional information can all be found by clicking "News" (http://ballonarestoration.org/news/).

With funding support from SCC, TBF conducted and completed a baseline data collection and monitoring project over more than a five-year time period (2009-2015), and provided technical expertise to the restoration Project Management Team (PMT). Technical reports that were produced as part of this funding support in FY16 included two significant documents, the Ballona Wetlands Ecological Reserve Comprehensive 5-Year Monitoring Report and the Condition Assessment of the Wetland Habitats in the Reserve. These and additional reports from previous FYs can be found here: http://ballonarestoration.org/news/. TBF will continue data collection if new funding is applied for and obtained or is otherwise directed by the PMT.

Ballona Reserve – Community Stewardship Project

In FY15, TBF applied for and received funding to implement an interim stewardship management project at the Reserve through community engagement and invasive species removal in a portion of the Reserve that will not be affected by the larger restoration project planning efforts. The public community events provided a diverse range of community members and students the opportunity to participate in hands-on wetland restoration activities to restore degraded wetland habitat and become engaged in the larger restoration planning effort. TBF began implementation of this project in FY16 through initiation of public processes and permit applications and continued implementation in FY17. 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 total, 0.88 acres were

restored from September to December 2016. No wildlife were harmed as part of this restoration project. This report serves as the final product for the first project phase, specifically the "Ballona Wetlands Restoration through Community Partnership" project, funded by the Southern California Wetlands Recovery Project's Community Wetland Restoration Grant Program.

In FY18, post-restoration project monitoring and additional community restoration events will be continued as feasible and pending internship student participation and leadership through the Center for Santa Monica Bay Studies at LMU. FY17 focused on an approximately 1-acre area; however, the full restoration area and permitting for the entire project (subsequent phases) covers an area of approximately 3 acres, which will be continued in future years when additional funding becomes available. TBF will also continue to promote and participate in other cleanup efforts and trash removal projects throughout the Reserve.

Ballona Reserve – Draft Environmental Impact Report/Statement

CDFW and US Army Corps of Engineers are the lead agencies for the Ballona Restoration Project. The project lead agencies are scheduled to ~~The~~ release ~~of~~ the draft Environmental Impact Report/Statement (EIR/S) ~~is scheduled by the project lead agencies~~ in mid-2017. In FY18, TBF will continue to assist the lead agencies with draft EIR/S review for the restoration of the Reserve. Specific activities in FY18 include completion of technical review of the draft EIR/S; assistance with review of public comments; and further technical input as requested by the PMT. For more information about the draft EIR/S process, and to stay up-to-date on project activities, click on the project website: www.ballonarestoration.org, or sign up to receive the Ballona Restoration newsletter.

Ballona Reserve – Public Outreach

In FY18, TBF will continue to facilitate and promote ongoing communications in partnership with the lead agencies to advance public involvement through a variety of methods. Specifically, TBF will conduct community outreach through online and print media, conduct tours, give presentations, distribute electronic newsletters, and update TBF's website. TBF will also assist CDFW in updating the Ballona Wetlands Restoration Project website: www.ballonarestoration.org and social media site at the direction of the PMT.

Malibu Lagoon Maintenance and Monitoring

After years of planning, State Department of Parks and Recreation completed the construction phase for the restoration of Malibu Lagoon ~~was completed~~ in March 2013. Since 2013, SMBRA and TBF have led semi-annual post-restoration biological, chemical, and physical monitoring activities and produced annual reports which can be found on TBF's website: www.santamonicabay.org. Based on data collected thus far, the project has been a success. An evaluation of post-restoration conditions, through detailed physical, chemical, and biological monitoring components have resulted in several overarching trends. 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. Monitoring and reporting will continue for five years post-restoration, ending in the completion of the program in 2018.

In FY18, SMBRA and TBF will continue to coordinate and work with partners and other stakeholders to conduct post-restoration maintenance and monitoring for the fifth monitoring year, continue assistance in invasive plant removal, complete one annual public report, and conduct public outreach.

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 from 2011 through 2015. With grant funding awarded from the USEPA Wetland Program Development Grant, SMBRA and TBF partnered with the Southern California Coastal Water Research Project (SCCWRP), California State University Channel Islands (CSUCI), and the Southern California Wetlands Recovery Project (WRP) to develop the framework for Level 3 monitoring, field test numerous protocols, and produce a Monitoring Manual and Regional Wetland Monitoring Report. The grant for this project ended in FY16. In FY16, SMBRA, TBF, and their partners applied for and received a new USEPA Wetland Program Development Grant to continue and expand the regional wetland monitoring program to evaluate data from additional wetlands between Point Conception and the Tijuana border. The current grant is ongoing.

In FY18, activities will include further developing the program, in partnership with SCCWRP, California State University Long Beach, and the Tijuana River National Estuarine Research Reserve. Specific tasks include consolidating regional datasets, developing a literature review, and conducting analyses. Project partner meetings will be held periodically throughout the grant period.

Other Coastal Lagoon Restorations

Restoration of the Oxford Basin (a small estuarine wetland in Marina del Rey) was completed by the County of Los Angeles DPW in May of 2016. Ongoing maintenance and monitoring continues by the County, with technical advice from TBF and SMBRC, when requested. For additional details on Oxford Basin, refer to Appendix B.

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

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 Steelhead Trout have lost 80 – 95% of their historic habitat range.

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. The vegetation that continues to grow at the creek site has been dominated by invasive plants which overtake and try to push out the few remaining native plant and wildlife species.

TBF and the UCLA Lab School (ULS) have worked together, with thousands of volunteers over more than six years, to help restore the ecosystem of the only remaining section of unburied creek on the UCLA campus. Serving as a 'living classroom' for the school, huge progress has been made, but it requires ongoing maintenance to preserve the habitat for native vegetation and wildlife. An additional result of this project is the recognition of the UCLA Lab School as a National Wildlife Federation Certified Schoolyard Habitat program.

In FY18, 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.

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. The highly invasive NZMS was first reported in the Santa Monica Mountains in 2005. The snails were collected in 4 streams during bioassessment monitoring of the Malibu Creek watershed as part of a watershed-wide monitoring program. As of 2016, NZMS have been detected in 14 streams in the Santa Monica Mountains. Research funded by TBF shows NZMS have a negative impact on the diversity of the benthic macroinvertebrate community, and specifically on mayflies, in northern Santa Monica Bay watershed. Stakeholders, including California State Parks, Mountain Restoration Trust, National Parks Service, and SMBNEP, are currently considering the use of biological control methods being proposed by Dr. Tom Dudley from the Riparian Invasion Research Laboratory at UC Santa Barbara. However, due to the variable abundance of NZMS select stakeholders urge caution against utilizing biological controls at this time. SMBNEP is also evaluating the potential uses of environmental DNA (eDNA) as an early detection method for NZMS and other aquatic invasive species. The most recent survey results are being compiled into a report, expected to be complete by spring 2017. The 2015 SMBNEP New Zealand Mudsnail Survey Report report is available on SMBRC's website: http://www.smbrc.ca.gov/news_events/docs/nzms_rpt2015.pdf.

In FY18, SMBRC and TBF will continue to lead efforts to address the environmental damage caused by invasive species, including continuing to conduct and report on the result of the mudsnail infestation surveys in the Northern Bay watershed biennially, and ecological impact analysis in collaboration with Heal the Bay.

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. Red swamp crayfish disturb the ecosystem via predation on native species, reduced water quality, and through burrowing which

contributes to creek bed erosion. To date, volunteers working with TBF and Mountains Restoration Trust have removed over 11,000 crayfish from Malibu Creek.

Mountains Restoration Trust has received significant funding for crayfish control efforts from ~~Department of Fish and Wildlife~~ CDFW and have developed their own volunteer base. They now have professional staff and are not reliant on TBF for funding or interns to perform the field work.
In FY18 SMBRC and TBF participation will be limited to occasional volunteer events and staff support for the Mountains Restoration Trust TAC.

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 2 pairs of adults were discovered. It's the first time in decades CRLF have bred in the Santa Monica Mountains. In the past the SMBRC has funded a study to determine appropriate sites for introduction, and implemented water quality monitoring at introduction sites. SMBRC and TBF will continue to support NPS in their work to reestablish CRLF in the SMM.

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, ~~that~~ provided financial support, and TBF provided ~~SMBRC and TBF provided financial and~~ 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. Near the end of the calendar year in 2016, the project team installed two bridges ~~were installed~~ to replace the crossings and the instream work to re-contour the stream bed and channel were complete. Monitoring of the creek for steelhead trout in December 2016 and January 2017 identified two fish upstream of what was impassable in advance of the completion of this project.

In FY18, TBF will continue to support the project by aiding State Parks in continuing to revegetate sections of Arroyo Sequit Creek's banks with native plants to complete the construction phase of the project.

Rindge Dam Removal
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, SMBRC and TBF will support the project through continued communications with the lead agencies to inform and finish the feasibility study and explore the next steps for the project. The current schedule calls for Draft Feasibility Report (draft EIS/EIR with the Tentatively Selected Plan) to be issued and available to the public for comment in 2017, with final Record of Decision in August 2018.

Topanga Creek Restoration
In FY18, TBF will continue to support the effort to restore Topanga Creek, including communications with the project partners, mainly State Parks and RCDSMM to replace the PCH bridge at Topanga Lagoon to allow for additional area for wetland restoration.

Other Stream Restoration and Fish Barrier Removal Projects

Building upon the progress made in previous years, FY18 will also include opportunistic promotion of additional fish barrier removal projects and stream restoration 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. Additional effort will be made to build support, and seek funding (e.g. Resources Agencies and SWRCB), for the implementation of stream daylighting and restoration projects.

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
Assist with the draft EIR/S review for the Ballona Reserve	TBF	Participate	CDFW*, USACE, SCC, LAC Flood Control	Draft EIR/S expected in mid-2017; public review for minimum of 60 days
Conduct public outreach about Ballona Reserve	TBF	Participate	CDFW*, SCC, Friends of Ballona Wetlands, others	Conduct at least one activity or event per month; facilitate ongoing communications
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
Implement Level 3 regional wetland monitoring program	SMBRA, TBF	Lead	SCCWRP, CSUCI, CWMW	Conduct literature review; data consolidation; periodic partner meetings
Facilitate restoration of other coastal lagoons in northern Santa Monica Bay	SMBRC, TBF	Support	RCDSMM, LA County DPW, NPS, NMFS, Caltrans	Meetings attended opportunistically as lead agencies progress; ongoing funding searches

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
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	~~N/A~~ Heal the Bay	Biennial surveys, pending funding; biennial reporting
Facilitate projects to control crayfish and other invasive species in Santa Monica Mountains watersheds	SMBRC, TBF	Support	National Parks Service*, Mountains Restoration Trust, MRCA	Support for removal projects and other control efforts
Support reintroduction of red-legged frogs in the Santa Monica Mountains	SMBRC TBF	Support	NPS	Support reintroduction and monitoring efforts
Complete Arroyo Sequit fish barrier removal project	TBF	Participate	State Parks*	Ongoing vegetation and maintenance
Support completion of Rindge Dam removal feasibility study	SMBRC, TBF	Support	U.S. Army Corps of Engineers (Corps)*, State Parks, SCC	Targeted study completion: August 2018; targeted removal start in 5-10 years
Support restoration of lower Topanga Creek	SMBRC, TBF	Support	State Parks*, RCDSMM	Opportunistic communications throughout the work plan time period
Seek funding and promote stream restoration and fish barrier removal projects	SMBRC, TBF	Promote	TBD	Opportunistic communications and funding searches throughout the work plan time period

** 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

Environmental Results: Outputs: *Development of restoration plans and restoration project(s) initiated.*

<u>Environmental Results: Outcomes:</u> Acres of wetland habitat restored, improvement in ecosystem functions and connectivity in major coastal wetland complexes measured by CRAM scores, and increased public and stakeholder engagement; restored, improved riparian - aquatic habitat and biodiversity as measured by California Stream Condition Index (CSCI) scores, increased linear miles of passage for endangered southern steelhead trout, improved water quality measured by fewer related 303d listings, reduced erosion/sedimentation as shown by monitoring data, and reduction and effective control of invasive species populations.

<u>Performance Measures:</u> Completed EIR/EIS documents, monitoring protocols, reports of monitoring results, acres of habitat protected or restored; number of stream restoration projects planned or underway, and linear miles of streams protected/restored.

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.

<u>Monthly LAX Dunes Restoration Events</u>
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 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. TBF has been supporting restoration efforts of the LAX Dunes at LAWA through coordination of monthly volunteer non-native vegetation removal events. In FY16, TBF applied for and received an SCC Explore the Coast grant to continue monthly restoration events for three years.

In FY17, 435 volunteers removed 700 bags of invasive vegetation weighing over 7,000 lbs (3.5 tons) from the LAX Dunes. In FY18, TBF will continue monthly events, with an emphasis on middle and high school student opportunities.

<u>Dune Restoration Partnership</u>
In FY18, SMBRA and TBF will continue a new partnership with LAWA initiated in FY17 to restore the northern 48-acre portion of the LAX Dunes, which contains areas dominated by invasive vegetation. In

January 2017, the Los Angeles Board of Airport Commissioners (BOAC) approved a 3-year memorandum of understanding with SMBRA. The MOU supports increased activity on the site allowing for greater community involvement and an expansion of restoration efforts. In FY18, SMBRA and TBF will provide a variety of other 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. SMBRA will also prepare the initial and subsequent monitoring reports on the progress of habitat restoration for the CCC during the term of the MOU on behalf of LAWA.

Additionally, TBF will continue to explore additional opportunities and partnerships to participate in and promote restoration of more coastal dunes and bluffs along the Bay coast.

Coastal Clean-up Day

Coastal Clean-up Day (CCD) is the biggest single-day volunteer event on Earth, with over 600,000 volunteers worldwide. CCD recognizes the removal of both trash and invasive species as part of volunteer clean-up events, as both are detrimental to coastal landscapes. Therefore, TBF will join the thousands of Los Angeles County volunteers in the removal of both litter and invasive vegetation for CCD through coordinating a volunteer restoration event at the LAX Dunes. TBF works directly with Heal the Bay, who is the regional coordinating group for CCD in the LA area. In FY17, 132 volunteers removed over 3,500 lbs of invasive vegetation species from the LAX Dunes.

In FY18, TBF will again partner with Friends of the LAX Dunes (FOLD) to help restore Los Angeles County's largest remaining dune system, the LAX Dunes. This unique opportunity also provides coastal access to volunteers at a site normally closed to the public (within Los Angeles World Airport private property). Over 50 volunteers are expected to participate in FY18, and the event will be funded by a grant from SCC.

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.

Santa Monica Beach Restoration Pilot Project

The Santa Monica Beach Restoration Pilot Project conducted in partnership with the City of Santa Monica is restoring several 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. It will also serve as a model for the region, showing that heavy recreational use of Los Angeles beaches and meaningful habitat restorations are both possible.

In FY17, TBF ~~permitting was applied for and~~ received permits (Coastal Commission CDP and CEQA exemption), and completed implementation of the two phases of the project (fence installation and seeding) was completed, and publicly released the first annual report ~~was completed and publically released~~ on TBF's website. By mid-December 2016, thousands of seedlings had germinated within and immediately adjacent to the restoration area. Ongoing public engagement continues through tours, social media, trash pick-ups, and scientific monitoring.

Specific project activities during FY18 will include: conducting post-restoration monitoring, maintenance, and outreach; completing an annual report; and conducting ongoing opportunistic media engagement. For additional details, visit the project webpage: http://www.santamonicabay.org/santa-monica-beach-restoration-pilot/.

Standardized Sandy Beach Monitoring

This task uses a programmatic approach to develop a standard method for the ecological assessment of sandy beaches, and utilizes community-based monitoring to collect baseline data for an initial assessment of the present state of the beach habitats. The task will lay a foundation for long term monitoring of sandy beach habitats, which will increase our regional understanding of beach ecology, allow evaluation of natural variability and beach management practices, and evaluate the benefits and effectiveness of sandy beach protection and restoration policies in addressing the impacts of climate change.

In previous years, TBF and SMBRC have participated in and promoted the All-Ashore sandy beach ecology citizen monitoring project, a collaborative effort of local stakeholders led by Pepperdine University and UCSB researchers. The goal of this program is to develop and implement a protocol for citizen-monitoring of ecological condition of sandy beach habitat, which is necessary for establishing baselines for sandy beach habitat protection. Progress has been made in recent years with development of a draft protocol and implementation of initial field testing and evaluation of a standardized beach survey form. Additionally, TBF has worked with CSUCI to apply a regional scientific sandy beach monitoring protocol to beaches throughout the Bay.

Specific project activities during FY18 include continued participation and promotion by SMBRC and TBF for the All-Ashore and CSUCI projects and similar regional beach monitoring efforts into the next phases, which include refinement and finalization of the monitoring protocols through field testing, baseline monitoring and initial assessment of several pilot beach locations, and refinement of a community-based program for long-term monitoring. Additionally, in FY18, TBF and SMBRC will seek funding to pursue other opportunities to expand beach monitoring efforts in our watershed.

"Healthy Beaches" Research Studies

TBF, in partnership with LMU, is conducting a series of "Healthy Beaches" research studies to conduct geospatial and tool-based analyses as well as field work to evaluate a living, restored shoreline with a diverse wildlife community as an alternate approach for climate change adaptation. The studies are taking the next step forward in beach management by working towards the development of a site-suitability method to evaluate potential locations for future beach restoration projects. Additionally, the studies perform on-the-ground monitoring of parameters such as beach topography, elevation, avifauna, kelp wrack, trash, invertebrates, sand transport, human use, and micro-plastics.

These studies will continue into FY18 by engaging more LMU students and developing and implementing new site-selection criteria and on-the-ground monitoring. These studies are conducted currently in partnership with the Center for Santa Monica Bay Studies at LMU.

**** *NEW*: Beach and Dune Restoration Opportunities**

In FY18, TBF will explore new funding, partnerships, and opportunities to expand and/or conduct new beach and dune restoration projects throughout the Santa Monica Bay, including communications with coastal cities and ~~LA County~~ all pertinent LA County departments including Beaches and Harbors, Public Works, Sheriff and Fire Departments.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
2.3a Restore coastal dune and bluff habitats				
Conduct monthly volunteer restoration events at LAX Dunes	TBF	Lead	LAWA, FOLD, SCC, LMU	Monthly restoration events
Conduct dune restoration partnership with LAWA (48-acre northern area)	SMBRA, TBF	Lead	LAWA, LMU, Conservation Corps, others TBD	Submit annual work plan, submit quarterly reports and one annual report; conduct scientific monitoring
Coordinate Coastal Clean-up Day at LAX Dunes	TBF	Lead	LAWA, FOLD, Heal the Bay	Annually in September
2.3b Protect and restore sandy beach habitats				
Implement the Santa Monica beach restoration pilot project	TBF	Lead	City of Santa Monica, UCSB, State Parks	Implement in fall/winter 2016; targeted completion date: December 2017
Facilitate standardized sandy beach monitoring	SMBRC, TBF	Facilitate	Pepperdine University, UC Santa Barbara, others	Grant applications submitted opportunistically throughout work period; ongoing communications

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
Conduct the "Healthy Beaches" project	TBF	Lead	LMU	Literature review; monitoring plan; data collection in spring 2017
** NEW: Explore new beach restoration opportunities in the Bay	TBF	Lead	LMU, Bay Cities, ~~LA County~~ all pertinent LA County departments, others	Seek funding to expand beach restoration efforts; explore partnerships with new Cities

** Project lead*
*** New project for FY18*

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

Environmental Results: Outputs: Amount of funding obtained for coastal dune and bluff restoration

Environmental Results: Outcomes: Restored coastal dune and bluff habitats that lead to increased native vegetation and re-establishment of endangered species.

Performance Measures: Acres of coastal dune and bluff habitat restored, amount of native vegetation planted, recovery of El Segundo blue butterfly population.

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 FY18, 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 habitats 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 large expanses of nearshore rocky reef that were dominated by high densities of sea urchins, *Strongylocentrotus purpuratus* and *S. franciscanus*. In total, 61.5 hectares were described to exist as an urchin barren. The purpose of the kelp restoration project is to reduce the density of purple sea urchins (*S. purpuratus*) to approximately two per square meter within the boundaries of sea 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.

SMBNEP has a long history in working with several partner organizations and engaging in restoration of rocky reef/kelp forest habitats, which is one of the most productive and diverse marine ecosystems in the world. The newly expanded, multi-year rocky reef/kelp restoration project by TBF began in the summer of 2013, and to-date has cleared more than 3.3 million purple sea urchins from 39 acres of reef (as of 31 December 2016).

In FY18, TBF will continue to carry out this restoration project off the Palos Verdes shelf which is expected to result in restoration of 12-18 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, CDFW, and others.

2.4c Reintroduce and restore abalone

Abalone are functional components of a healthy kelp forest ecosystem, acting as competition 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. However, by 1997, recreational and commercial fisheries for all abalone species were closed in ocean waters south of San

Francisco. Both the subtidal ecosystem and the California economy will benefit from the presence of healthy abalone populations if restoration of this vital species is achieved.

The restoration of abalone species (*Haliotis spp.*) continues to be of great importance to SMBNEP. To facilitate local recovery of these species, TBF obtained grant funding and initiated research on abalone population level genetics and development of disease prevention protocols in partnership with NOAA, NMFS, UCSB researchers, Hubbs Sea World Research Institute, and Channel Islands National Park Service staff. TBF has been actively involved in abalone restoration since 2011, and continues to obtain competitive grant funding to restore abalone populations in southern California. The major goal of the abalone project is to outplant abalone into the wild at a density that will allow reproduction to once again occur naturally. Past project topics include: genetic analysis of green abalone population structure in southern California, analysis of abalone populations exposure to the causative agent of Withering Syndrome, and development of abalone outplanting equipment and methods.

Abalone Restoration 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 (*Haliotis rufescens*) broodstock were collected and brought into the facility to be spawned. The larvae and juvenile abalone produced by these organisms will be used to test and refine outplanting methods with abalone at different life stages. In FY18, the facility will continue to be maintained and will be expanded, increasing our capacity to rear abalone and serve as a staging center for outplanting efforts in southern California.

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 FY18 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 FY18. 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.

**** *NEW*: 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 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. Currently abalone aquaculture operations in California and Mexico focus on red abalone. Red abalone are a cold water species that experience stress and reduced fitness in warmer waters. Green abalone, also native to the region, are more tolerant of warmer waters and may serve as a better species for industry. This project aims to sustain abalone farming in California in the face of climate change by contributing to the development of aquaculture protocols for the native warmer water green abalone. The improved and adapted larval and juvenile production methods, generated for green abalone will simultaneously support current efforts to outplant and restore wild green abalone populations in Southern California coastal waters including Santa Monica Bay.

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 (*Haliotis sorenseni*). In FY18, to begin working on white abalone restoration, TBF will conduct spawning and rearing experiments with red abalone, which prefer similar habitat characteristics as white 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 12-18 acres by Sept 2019
2.4c Reintroduce and restore abalone				
Maintain abalone restoration laboratory	TBF	Lead	SCMI	Maintain and support abalone laboratory. Develop funding and support in FY18 to include space for white abalone
Restore green abalone	TBF	Lead	NOAA, NMFS, Cal Poly Pomona, SCMI, NFWF	Spawning and outplanting experiments; quarterly monitoring of outplanting locations
***NEW*: Conduct abalone aquaculture resilience research	TBF	Participate	NOAA, NMFS, Cal Poly Pomona, SCMI, NFWF	Develop spawning methods for green abalone to support commercial aquaculture operations in California
Restore white abalone	TBF	Lead	NOAA, NMFS, ,SCMI, NFWF, Bodega Marine Lab,	Conduct red abalone spawning and outplanting experiments

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
			Southwest Fisheries Science Center	

** Project lead*
*** New project for FY18*

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

Environmental Results: Outputs: Summary report and publication of research results, amount of funding obtained for rocky reef monitoring and restoration

Environmental Results: Outcomes: Increased biomass and species diversity of organisms with protected rocky intertidal habitats; reintroduction and increase in population of abalone in the Bay; restored rocky reef habitats that lead to increased biomass and diversity of marine life within the restored rocky reef habitats as shown by monitoring data.

Performance Measures: Amount of funding and other resources secured for research and monitoring of the concerned species; acres of rocky reef habitat restored, amount of sea urchin removed, recovery of giant kelp, (size, density and number) of finfish, invertebrates, and macroalgae.

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 in practice 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 internship and volunteer program
	3.2c Participate in and provide technical support to stakeholder groups
	3.2d Implement the Public Involvement and Education (PIE) mini-grants program
3.3 Support planning, monitoring, and organizational management	3.3a Seek and increase funding for BRP implementation
	3.3b Support comprehensive monitoring of Bay health
	3.3c Support organizational management

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 FY18, 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~~ing~~ and inform a risk-based action plan including BRP revision recommendations based on the results of the vulnerability assessment. Resources for this plan will include, but are not limited to the updated California Climate Adaptation Strategy developed by the State Natural Resources Agency, the LA Basin Storm water Conservation Study completed by the LADPW and US Bureau of Reclamation, (www.usbr.gov/lc/socal/basinstudies/LABasin.html), and the ongoing Local Coastal Plan update by the City of Santa Monica. 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 FY18, 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.

Promote "Softscape" Measures for Climate Change Adaptation

In FY18, SMBRC and TBF will also 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 (see Section 2.3a) 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.

3.1b Conduct research on local impacts of climate change

Kelp Forest Hydrodynamics Study

In FY16, TBF secured funding in partnership with researchers from UC Davis and California State University Monterey Bay; to quantify how restored kelp forests influence temperature, stratification, mixing, sediment transport, ~~advective~~ currents, ocean acidification and the attenuation of wave energy. Oceanographic equipment is deployed to collect physical measurements. Water samples are collected to measure chemical properties. Subtidal SCUBA based surveys are conducted to categorize the biological condition of the reef, focused on type, density and size of macroalgae. These aforementioned efforts have continued in FY17 and are expected to continue into FY18.

***** NEW:* Impacts of Kelp Forests on 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 are supported by TBF staff and researchers from UC Davis and UCLA as they collect water quality samples to inform their hypothesis. A final report summarizing their methods, literature review, data and analyses will be produced in June 2017. TBF and UC Davis are currently seeking funding to extend this work into FY18.

Monitor Ocean Acidification

The second FY16 USEPA grant supported installation of a high precision instrument package for pH, dissolved oxygen, and pCO_2 to provide valuable time-series information on acidification and hypoxia in Santa Monica Bay and advance research on status and trends as well as response to acidification by biological communities in the Bay. In collaboration with the Los Angeles County Sanitation District, the City of Los Angeles Environmental Monitoring Division, the Southern California Coastal Water Research Project, and the Los Angeles Regional Water Quality Control Board, ~~installation of the sensors are targeted for completion by September 2016.~~ Installation of the sensors were completed by November 2016. Data collection and analysis will continue in FY18 and future years.

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	Seek funding; engage TAC; targeted completion date: 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

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
Promote "softscape" measures for adapting to climate change impacts	SMBRC, TBF	Promote	LACFCD*	Ongoing dialogue with different parties throughout the work plan time period
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	Deploy sensors summer 2016; quarterly checks/download; targeted completion date: Sept 2018, seek funding to continue fieldwork in FY18. Analyses and reporting will be ongoing and performed in FY18.
***NEW*: Study impacts of kelp forests on ocean acidification in Santa Monica Bay	TBF	Support	UCLA IoES*, UC Davis, California State University Monterey Bay	Collect water quality samples in a select time series, corresponding with changes in kelp density and size. Conduct literature reviews, analyze data and produce report. Seeking funding to continue in FY18
Monitor ocean acidification	SMBRC, TBF	Participate	LA County Sanitation District*, City of LA Bureau of Sanitation, SCCWRP, LARWQCB	Sensor deployment (targeted) Sept 2016; calibrate, download, and maintain sensor (ongoing monthly)

** Project lead*
*** New Project for FY18*

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

<u>Environmental Results: Outputs</u>: Assessment of climate change (sea level rise and storm surge) impact on beach profile, GIS-based maps designed for use by the cities and county departments, number of training sessions conducted and number of people trained, policy and LCP revision recommendations for adapting to the impacts of climate change, updated BRP, and new ocean acidification monitoring station installed.

<u>Environmental Results: Outcomes</u>: Increased awareness of climate change impacts, increased amount and availability of knowledge and tools for use in adaptation planning, wetland restoration planning and long-term management planning with climate change adaption strategies incorporated, improved

collaboration among local agencies and research organizations in addressing climate change impacts, and restored acres of coastal strand and dune habitat.

Performance Measures: Report/research publications on climate change impact assessment, number and status of climate change adaption plans developed and LCP updated locally, and pH/CO2 monitoring data collected, analyzed, and utilized for assessment.

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. Additionally, 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 update on progress of SMBNEP's activities.

3.2a Create and manage communications

Conduct Press and Media Communications

SMBRC and TBF will continue efforts to reach out and generate local, regional, and national media coverage in various forms. In FY17, approximately seven press releases will be written and distributed to media (two have been serviced at the time of this Work Plan release with a third sent in partnership with LAWA) regarding a broad range of topics, including new TBF board members, the Boater Education and Clean Bay Certified Programs, wetland, beach and stream restoration projects, and abalone and kelp restoration projects. Approximately 20-25 newspaper, online blog articles, or broadcast pieces are expected to result from these press releases and direct media outreach.

In FY18, press releases will continue to be released and posted opportunistically on the TBF media center webpage: http://www.santamonicabay.org/about-us/media-center/press-releases/. At least four press releases will be produced in FY18. There will continue to be news items garnered from both press releases and from phone and email pitches. Resulting articles will continue to be posted online: http://www.santamonicabay.org/about-us/media-center/in-the-news/.

Publish Newsletters and SMBNEP Outreach Materials

In FY18, SMBNEP will continue to conduct general outreach through regular publications. These will include quarterly publication and distribution of the electronic Baywire newsletter, (http://www.smbrc.ca.gov/news_events/newsletters.shtml or http://www.santamonicabay.org/explore/library/newsletters/baywire-e-newsletter-archive/) publication of the scientific journal *Urban Coast* (http://urbancoast.org/), and annual publication of SMBNEP's Annual Report (http://www.smbrc.ca.gov/annual_reports/ or http://www.santamonicabay.org/explore/library/reports/) summarizing key activities and programs of that calendar year.

Maintain Websites
In 2016, the TBF website was updated to align with an increased climate change focus and expanded programs. In FY18, the TBF website home page will continue to be updated with fresh information every two months. TBF also assists in maintaining the Ballona Restoration Project website: www.ballonarestoration.org and helps facilitate electronic newsletter distribution for CDFW (http://ballonarestoration.org/news/). In FY18, the SMBRC website will continue to be updated at least quarterly with SMBRC business.

Promote Social Media Communications
Social media will continue to be posted regularly throughout the week, at least twice, 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.

Attend Conferences
In FY17, two SMBNEP staff attended the ANEP National Conference in Washington, DC and the ANEP Technical Transfer Conference in New Orleans, in February and December, respectively. SMBNEP made multiple presentations at both conferences. At the National Conference, presentations included kelp and abalone restoration and aerial surveys. At the Technical Transfer Conference, presentations included details on the SMBNEP CCVA process and report, and a three minute speed presentation across many aspects of the SMBNEP.

In FY18, 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 internship and volunteer program

TBF, in partnership with LMU's Institute, will continue to develop and expand its ever popular internship and volunteer program, increasing opportunities for students and members of the public to engage in hands-on action and study. This program began in 2009 and includes nearly 23,000 hours of volunteers work completed by more than 350 students and over 4,000 general volunteer participants. Students are from over 50 universities throughout the world. 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.

Specifically in FY18, 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 students and post-graduate 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/.

Additionally in FY18, TBF will reinvigorate its partnership with LMU through the Center for Santa Monica Bay Studies. This reinvigoration will include research and monitoring resulting from direct partnership(s) with LMU faculty and corresponding internship opportunities in the field and laboratory on several ongoing projects. The Center will increase its communications with the Santa Monica Bay Restoration Commission TAC, via the TAC meetings to keep the SMBRC TAC appraised of progress resulting from ongoing research and monitoring.

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 all 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 C contains a table of the stakeholder groups in which SMBNEP staff participate. The engagement in these groups will continue in FY18.

Stakeholder Group Participation

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

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). In FY18, SMBRC and TBF will continue to participate in the FCEC's activities, including 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.

3.2d Oversee the Public Involvement and Education (PIE) mini-grants program

For more than a decade, the PIE program provided seed money to more than 50 recipients to implement more than 80 projects. These projects have been a catalyst for innovative and engaging outreach and project implementation in our watershed and, through them, SMBNEP raises awareness of local environmental issues and inspires the stewardship needed to protect the health of our waters and our communities**.** Raising funds for another round of PIE has been challenging over the last several years.

In FY18, TBF will continue to promote the value of the PIE program to potential funders as a helpful source of funding for small-scale grassroot and community efforts and projects. If funding is obtained, a new round of the PIE program will be initiated.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
3.2a Create and manage communications				
Conduct press and media communications	SMBRC, TBF	Lead	n/a	Release four press releases annually; respond to media questions
Publish newsletters and SMBNEP outreach materials	SMBRC, TBF	Lead	LMU	Release *Urban Coast* annually; release annual SMBNEP report; release quarterly Baywire newsletter
Maintain websites	SMBRC, TBF	Lead	SWRCB, LMU	Update TBF website bi-monthly; update SMBRC website quarterly
Promote social media communications	SMBRC, TBF	Lead	n/a	Semi-weekly posts on FB, Twitter, Instagram; YouTube posts as available
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 C for frequency
Participate in PV Shelf and FCEC risk communication activities	SMBRC, TBF	Participate	USEPA*, FCEC, State Office of Environmental Health Hazards Assessment, other stakeholders	Two semi-annual FCEC and technical information exchange group meetings; additional meetings as needed
3.2d Oversee the Public Involvement and Education (PIE) mini-grants program				

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
Raise funding from local sponsors and initiate a new round of PIE program	TBF	Lead	Multiple stakeholders (to be determined)	Opportunistic funding requests or grant applications

** Project lead*

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

Environmental Results: Outputs: Outreach publications and other materials, including the Urban Coast journal. Number of website and Facebook visits, Twitter feed, YouTube and Instagram followers and output, etc.; number of media items produced/published. Number of people participating in Coastal Cleanup events, number of PIE projects awarded, in progress, or completed; total amount of PIE grant funding; new strategic plan for the FCEC and number of risk communication/outreach materials distributed, aquatic Invasive Species Management Plan, projects funded under the CBI and Urban Greening programs, wetland monitoring protocol, beach monitoring protocol and best management practice manual, etc.

Environmental Results: Outcomes: Greater awareness of SMBNEP's activities and resources (technical, financial, and otherwise) will lead to greater involvement by stakeholders in implementing the environmental improvements identified in the BRP, greater awareness of the Bay issues and resources measured by the type and number of education/outreach events and number of participants; number of people reached with FCEC messages and increased public understanding of fish contamination issues, reduced exposure to health risk from consuming fish from Santa Monica Bay and other nearby coastal waters, improved coordination among stakeholders, improved planning efforts, greater stakeholder involvement in BRP implementation and corresponding, increase in amount of leveraged resources, resolution of issues which may be impeding BRP implementation, and new or improved technical standards for projects implemented.

Performance Measures: Increase in the degree to which target audiences have an understanding of and are involved in SMBNEP's BRP implementation efforts, feedback provided by PIE recipients; when applicable, pre- and post-surveys to determine change in public knowledge and behaviors; number of people in target populations who are knowledgeable about fish contamination issues and number who have modified their behavior as a result; number of action items generated/implemented by inter-agency groups, number of new entities brought into the fold, and number of new research and capital projects funded and implemented in the Bay watershed.

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 Seek and increase funding for BRP implementation

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.

Increase BRP Implementation Funding

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 FY17 annual work plan, and that effort is expected to continue in FY18. Building on the past success, TBF and SMBRA will continue to investigate and develop new partnership opportunities and new sources of grant funding, including grant funding made available under Prop. 1, and continue to work with congressional delegates to solidify and expand support for additional federal funding.

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 Seek and increase funding for BRP implementation				
Seek grant funding for implementation of specific BRP objectives and milestones	SMBRA, TBF	Lead	Multiple stakeholders (to be determined)	Opportunistically apply for grants throughout time period
** *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

Environmental Results: Outputs: New sources of financial support for BRP implementation.

Environmental Results: Outcomes: Increase in the rate at which the health of Santa Monica Bay is improving.

Performance Measures: Amount of new funding requested and/or secured, especially from new sources.

3.3b Support comprehensive monitoring of Bay health

The Santa Monica Bay Comprehensive Bay Monitoring Program (CMP) represents SMBNEP's plan for implementing coordinated monitoring to provide a regional, long-term picture of the status of the various ecosystems in Santa Monica Bay, which are essential information needed to track, assess, and report on the environmental results of BRP implementation. The CMP specifies detailed monitoring designs for broad ecosystem components, each of which coordinates both existing and new monitoring and explicitly links indicator selection, sampling design, and intended data products that focus on specific scientific and management questions.

***** NEW:* CMP Update**

The current Santa Monica Bay Comprehensive Monitoring Program (CMP) was developed in 2007. Since that time, monitoring needs have grown to address new and emerging issues such as climate change (OA, HAB, hypoxia), water resource management, TMDL compliance, and contaminants of emerging concern (CEC). There have also been persistent gaps in monitoring of many types of Bay habitats and new data gaps identified during the 2010 and 2015 State of the Bay reports. To address these new monitoring needs as well as support the planned Bay Restoration Plan update, SMBNEP plans to develop an updated CMP during FY18. The update will be conducted by working with the TAC and agencies responsible for existing monitoring programs in the Bay and will involve identification and prioritization of data gaps, revision to existing or adding new designs to incorporate new monitoring needs, revision of the structure and format of the CMP (if necessary), and development of implementation mechanisms.

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 FY18, TBF monitoring efforts will also 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 (see below), and will be integrated into the updated CMP, if applicable.

In FY18, SMBRC will continue to work closely with the LARWQCB and permittees to monitor implementation progress of the CMP components incorporated in the NPDES permits. SMBRC will also work to involve LARWQCB staff and NPDES dischargers in the CMP update and in developing CMP implementation mechanisms, including incorporation of the newly updated relevant CMP components into the NPDES permits.

Pilot Deep Reef Surveys

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. In FY17, TBF purchased a Remotely Operated Vehicle (ROV) capable of deploying to the deep reef environments to capture video imagery and presence-absence of species on these poorly understood habitats. In FY18, SMBRC and TBF will continue to work on a funding package, including solicitation of additional participants and contributions from main ocean dischargers (City of Los Angeles Bureau of Sanitation and Los Angeles County Sanitation District) for implementation of the pilot surveys collaboratively.

Eelgrass Monitoring

Sea grasses, e.g. eel grass and surf grass, are considered essential fish habitat by the Magnuson Stevens Fishery Conservation Act. 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. The expanse and health of eel grass in Santa Monica Bay is poorly understood; 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.

In FY16, NOAA and NMFS contracted side scan sonar surveys to determine the presence and expanse of eel grass in the northern reach of Santa Monica Bay and up the coast towards the Los Angeles-Ventura County Line. Approximately 35 acres of eel grass were identified in this survey.

In FY18, efforts by TBF will focus on SCUBA and ROV based surveys to confirm these results and collect additional data on the composition of the biotic community associated with eel grass beds. Additional efforts in FY18 will focus on prioritization and planning for mapping the remainder of the nearshore environment of Santa Monica Bay with NOAA, NMFS, and other stakeholders.

State of the Bay Report Development

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.

The latest 2015 State of the Bay Report was released in January 2016. The report compiled efforts from staff, TAC, and additional scientists and stakeholders throughout the Bay watershed into a habitat condition evaluation for each of the major habitats in the Bay. Indicators for each habitat were developed and combined into the evaluation of the condition of that habitat. As part of the report, data gaps and priority monitoring efforts were identified.

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. These monitoring efforts will contribute directly to implementation of the CMP and to the habitat condition assessments in the next SotB Report. In FY18, in coordination with the CMP update, SMBRC and TBF will continue to work with the TAC to refine the indicator matrix, and identify and compile existing and new data sources to be incorporated into the next SotB Report in 2020.

Task Description	Engaged SMBNEP Entities		Partners	Key Action(s) / Deliverable(s)
	Entities	Role		
3.3b Support comprehensive monitoring of Bay health				
** *NEW*: Update CMP and develop implementation mechanisms	SMBRC, TBF	Lead	SCCWRP, State Water Quality Monitoring Council, SCCOOS, SCMI	Work with TAC to incorporate suggestions from 2015 SotB Report
Design and implement pilot deep reef survey	SMBRC, TBF	Lead	LACSD, City of LA Bureau of Sanitation, LARWQCB, SCCWRP, MPA Monitoring Enterprise, SCMI	Seek funding package for survey implementation; conduct surveys
Assess offshore eelgrass beds in Santa Monica Bay	TBF	Lead	NMFS, NOAA	One SCUBA and ROV survey of north SM Bay; additional surveys pending funding
State of the Bay Report development	SMBRC, TBF	Lead	SCCWRP, NPDES permit holders, MPA Monitoring Enterprise, other monitoring entities	Ongoing; periodic meetings; TAC engagement

** Project lead*
*** New for FY18*

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

Completed Projects

Fish Larvae Study
As a follow up to the collaborative effort initiated in 2014, the LACSD and the City of LA made two efforts to investigate a viable approach to fill the data gap in fish larvae monitoring. The first effort, initiated by LACSD staff, focuses on examining the temporally and spatially extensive pelagic monitoring data collected under the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program, include sampling of multiple water parameters, fish larvae, and zooplankton. The second effort is a special study under the NPDES permits to assess the applicability of ichthyoplankton meta-barcoding for routine monitoring aimed at developing a framework for cost-effective and informative ichthyoplankton monitoring. SMBRC will evaluate the applicability of the results from these studies and incorporate long-term fish larvae recommendations into the updated CMP accordingly.

Environmental Results: Outputs: Environmental data generated from implementation of the monitoring program, State of the Bay Report, database of environmental monitoring, and program evaluation.

Environmental Results: Outcomes: Better, more comprehensive assessment of environmental conditions and the progress being made. More exposure and awareness of SMBNEP's accomplishments at the national level, maintenance or increase of SMBNEP's funding level. Better informed decision-makers and other stakeholders who will be in a better position to act.

Performance Measures: Incorporation of monitoring requirements into NPDES permits and amount and quality of monitoring data collected to fill data gaps identified by the CMP. Also, feedback provided by USEPA's program evaluation team, number of SMBNEP successes highlighted in reports or other publications used to market the National Estuary Program and number of hits on SMBNEP websites, etc. Extent of environmental improvement demonstrated by the State of the Bay Report; SMBNEP successes highlighted in reports or other publications used to market the National Estuary Program.

3.3c Support organizational management

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.

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. In FY18, 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 State of the Bay Report in 2020.

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. SWRCB and TBF staff will compile the information and prepare and submit the GPRA report by September 1, 2018 for the reporting period October 1, 2017 - September 30, 2018. Geographic reference information for habitat restoration actions will also be provided.

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.

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:

- ~~TBF, with assistance from~~ SMBRC with assistance from TBF develops the SMBNEP's annual work plan
- ~~and~~ 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				
Track BRP implementation progress through semi-annual reporting	SMBRC, TBF	Lead	Many	Semi-annual reports
Track BRP implementation progress through annual GPRA reporting	SMBRC, TBF	Lead	Many	Complete and submit GPRA report by September 1, 2018
Support SMBRC GB meetings	SMBRC	Lead	n/a	Meet bi-monthly
Support SMBRC EC meetings	SMBRC	Lead	n/a	Meet bi-monthly
Support SMBRC TAC meetings	SMBRC	Lead	n/a	Meets quarterly
Support SMBRC WAC meetings	SMBRC	Lead	n/a	Meets annually to review / contribute to work plan
Support SMBRA board meetings	SMBRA	Lead	n/a	Meets quarterly or as needed
Support TBF board meetings	TBF	Lead	n/a	Meets quarterly
Conduct general management and reporting activities	SMBRC, SMBRA, TBF	Lead	n/a	Annual work plan, QAPP updates infrequently

** Project lead*

Linked BRP Objectives and Milestones: All

<u>Environmental Results: Outputs</u>: Semi-annual progress reports, GPRA report, financial status reports, annual progress report; meeting notices, agendas, staff reports, minutes, and resolutions; presentations; reports on attendance at national meetings, trainings, workshops, etc.

<u>Environmental Results: Outcomes</u>: Program functioning (e.g., all reporting requirements are met and on time); program fiscal responsibility (e.g., annual reporting and tax filing, conformance to Board-

approved internal controls, etc.); functioning meetings planned with proper public notice; high level of participation by members and the public; and transparent and streamlined decision-making processes.

Performance Measures: Results of evaluation provided by USEPA Regional and headquarters staff, results of financial review or audit findings, etc.

IV. US EPA 320 GRANT BUDGET SUMMARY

A. Funding Authorization

FY 1~~7~~8 Funding Authorization (October 1, 2017 – September 30, 2018)	
EPA FY17 Base Funding	$ 600,000
SWRCB – Match	$ 375,000
Bay Foundation – Match	$ 175,000
Loyola Marymount University – Match	$ 50,000
Authorized Funding Total	$ 1,200,000

B. Detailed Budget

Category	Subcategory	FY18 Budget Request	Match	Total
Personnel	Salaries	346,819	297,619	644,438
	Fringe	90,173	77,381	167,554
	Subtotal	**436,992**	**375,000**	**811,992**
Travel	National Conferences	7,000	----	7,000
	State and Local travel	10,200	----	10,200
	Subtotal	**17,200**	**----**	**17,200**
Equipment	None	----	----	----
Supplies	Small Equipment	9,000	----	9,000
	Project & Field & Lab Supplies	6,000	----	6,000
	Office Supplies	6,016	----	6,016
	Subtotal	**21,016**	**----**	**21,016**
Contractual	Government Relations	29,106	----	29,106
	ReThink Disposables/Others	5,000	----	5,000
	Subtotal	**34,106**	----	**34,106**
	Communications	4,800	----	4,800
	Printing and Design	10,200	----	10,200
	Conferences & Trainings	7,200	----	7,200
	SMBRC Meeting costs	600	----	600
	IT & Software & Upgrades	3,600	----	3,600
	LMU–Space & Admin Match	----	50,000	50,000
	SWRCB-Space & Admin Match	----	175,000	175,000
	Subtotal	**26,400**	**225,000**	**251,400**
Indirect	@ 12%	64,286	----	64,286
TOTAL	**TOTAL**	**600,000**	**600,000**	**1,200,000**

~~C. Detailed Budget~~

~~Category~~	~~Subcategory~~	~~FY17 Budget Request~~	~~Match~~	~~Total~~
~~Personnel~~	~~Salaries~~	~~321,847~~	~~297,619~~	~~619,466~~
	~~Fringe~~	~~83,680~~	~~77,381~~	~~161,061~~
	~~**Subtotal**~~	~~**405,527**~~	~~**375,000**~~	~~**780,527**~~
~~Travel~~	~~National Conferences~~	~~6,000~~	~~----~~	~~6,000~~
	~~State and Local travel~~	~~9,000~~	~~----~~	~~9,000~~
	~~**Subtotal**~~	~~**15,000**~~	~~**----**~~	~~**15,000**~~
~~Equipment~~	~~None~~	~~----~~	~~----~~	~~----~~
~~Supplies~~	~~Small Equipment~~	~~3,600~~	~~----~~	~~3,600~~
	~~Project & Field & Lab Supplies~~	~~6,000~~	~~----~~	~~6,000~~
	~~Office Supplies~~	~~4,800~~	~~----~~	~~4,800~~
	~~**Subtotal**~~	~~**14,400**~~	~~**----**~~	~~**14,400**~~
~~Contractual~~	~~Government Relations~~	~~12,000~~	~~----~~	~~12,000~~
	~~ReThink Disposables~~	~~5,000~~	~~----~~	~~5,000~~
	~~**Subtotal**~~	~~**17,000**~~	~~**----**~~	~~**17,000**~~
~~Other~~	~~SubAward (CRI)~~	~~60,000~~	~~----~~	~~60,000~~
	~~Communications~~	~~4,800~~	~~----~~	~~4,800~~
	~~Printing and Design~~	~~10,200~~	~~----~~	~~10,200~~
	~~Conferences & Trainings~~	~~5,787~~	~~----~~	~~5,787~~
	~~SMBRC Meeting costs~~	~~600~~	~~----~~	~~600~~
	~~IT & Software & Upgrades~~	~~2,400~~	~~----~~	~~2,400~~
	~~LMU–Space & Admin Match~~	~~----~~	~~50,000~~	~~50,000~~
	~~SWRCB Space & Admin Match~~	~~----~~	~~175,000~~	~~175,000~~
	~~**Subtotal**~~	~~**83,787**~~	~~**225,000**~~	~~**308,787**~~
~~Indirect~~	~~@ 12%~~	~~64,286~~	~~----~~	~~64,286~~
~~TOTAL~~	~~**TOTAL**~~	~~**600,000**~~	~~**600,000**~~	~~**1,200,000**~~

V. TRAVEL DOCUMENTATION

With respect to participation in federal NEP activities, SWRCB and TBF 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 training 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 FY17 travel summary table, below, provides summary details for events and travel from the last fiscal year. The FY18 table, below, provides an estimate of similar information for this fiscal year Work Plan.

FY17 Travel Summary				
Date	**Event/Trip Purpose**	**Location**	**Staff Traveling**	**Cost**
Dec 09-11, 2016	NEP Tech Transfer Conference. Information sharing and technology transfer among NEPs and partners.	New Orleans, LA	Tom Ford, Melodie Grubbs	$ 2,525.20
October 2016	CalRecycle Conference. Annual used oil and hazardous waste training and conferencing. Award recipient.	Sacramento, CA	Grace Lee TBD	$ 481.05
TOTAL	----	----	----	**$ 3,006.25**

FY18 Anticipated Travel				
Date	**Event/Trip Purpose**	**Location**	**Staff Traveling**	**Estimated Cost**
Oct – Dec 2017	NEP Tech Transfer Conference. Information sharing and technology transfer among NEPs and partners.	TBD	Tom Ford, TBD	$ 3,000
February - May 2018	ANEP/EPA National Conference. Conference for NEPs, EPA, and partners.	Washington, D.C.	Tom Ford, TBD	$ 3,000
All Year, multiple dates	TAC, MRAC	Los Angeles	Staff, TAC members	$ 1,000
All Year, multiple dates	Staff & Stakeholder Meetings and conferences travel	Various CA Locations	Various Staff	$ 8,000
TOTAL	----	----	----	**$ 15,000**

VI. SMBNEP STAFFING

SMBNEP is a partnership of 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 coordinates programs that support and supplement the BRP, and many of its programs are implemented entirely by TBF employees. SMBRC is staffed by its ratified Executive Director, Los Angeles Regional Water Resources Control Board (LARWRCB) assigned personnel, and TBF assigned personnel to SMBRC. SMBRA is staffed by the County of Los Angeles assigned personnel and by SMBRC assigned staff. All SMBNEP staff, whether TBF employees, SWRCB employees, or SMBRA staff, contribute to the implementation of the Work Plan by carrying out its described tasks. The following section describes the entity affiliation(s) and responsibilities of each SMBNEP staff.

THE BAY FOUNDATION (as of 4~~3~~/1/2017):

Executive Director, Tom Ford

Foundation Responsibilities:

- 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;
- 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 External Affairs, Scott Valor

Foundation Responsibilities:

- Assist and coordinate outreach to elected officials and agency representatives
- Monitor legislative updates
- Confer with legal counsel
- Execute TBF activities as assigned by ED.

Director of Watershed Programs for TBF, Karina Johnston

Foundation Responsibilities:

- Manage grants and conduct activities and projects to support watershed and wetland programs to support implementation of the BRP;
- Apply for grants and funding to support the activities of the watershed and wetland programs to support implementation of the BRP;
- Direct research and monitoring activities and implement projects, including fieldwork and data management;
- Develop partnerships, collaborations, and outreach strategies to facilitate BRP implementation;
- Engage in scientific forums and advisory committee(s) to further the development and implementation of policies, research, and restoration goals tied to BRP implementation;
- Author technical documents, memoranda, and publications;
- Supervise staff, interns, students, and volunteers;
- Participate in organizational development, reporting, and other activities at the request of the ED.

Senior Watershed Advisor for TBF, Mark Abramson

Foundation Responsibilities:

- 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 for TBF, Grace Lee

Foundation Responsibilities:

- 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.

Communication Director for TBF, Julie Du Brow

Foundation Responsibilities:

- 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.

Administrative Director, Marcelo Villagomez

Foundation Responsibilities:
- Oversee TBF's finances, including increase cash reserves and stabilize and diversify income;
- Oversee administration, accounting, budgeting, invoicing, purchasing, grant management, and audit preparations;
- 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;
- Promote opportunities for program impact and organizational cohesion.

Marine Programs Manager and Executive Assistant for TBF, Heather Burdick

Foundation Responsibilities:
- Manage grants and conduct activities and projects to support marine programs to support 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;
- 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.

Watershed Programs Manager for TBF, Melodie Grubbs

Foundation Responsibilities:
- Manage watershed and wetland habitat restoration projects including, but not limited to, restoration and scientific monitoring of wetlands, dunes, coastal strand, and upland habitats;
- Manage external grants, subcontracts, and budgeting for multiple projects;
- Apply for grants and funding to support the activities of watershed and wetland programs to support implementation of the BRP;
- Data entry, QAQC, analyses, and data management;
- Assist the Director of Watershed Programs in authorship of technical documents, memoranda, and publications;
- Supervise and manage part- or full-time staff, interns, and/or students;
- Perform additional tasks as required by TBF's Director of Watershed Programs or TBF's ED.

Water Quality Programs Manager for TBF, Victoria Gambale

Foundation Responsibilities:

- 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;
- Assist TBF staff with implementation of additional programs and projects to support the implementation of the BRP, including water quality projects.

Marine Biologist and Project Manager for TBF, Ariadne Reynolds

Foundation Responsibilities:

- Manage grants and conduct activities and projects to support marine programs to support implementation of the BRP;
- Apply for grants and funding to support the activities of marine programs to support 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;
- Support activities of the watershed program as well as general office assistance;
- Assist Administrative Director with TBF administrative work, including updating policies and procedures, and producing reports.

Watershed Programs Coordinator for TBF, Rodney Abbott

Foundation Responsibilities:

- Conduct field work, surveys, and research to support the implementation of watershed and wetland programs in the BRP;
- Coordinate and lead field teams, supervise volunteers, internship students, and paid interns;
- Provide support to restoration projects, including, but not limited to wetlands, dunes, beaches, streams, and marine programs;
- Data entry, QAQC, analyses, and data management;
- Plan and coordinate public outreach events, stakeholder meetings, and other events in support of BRP implementation;
- Assist the Director of Watershed Programs in authorship of technical documents, memoranda, and publications;
- Perform additional tasks as required by TBF's Director of Watershed Programs or TBF's ED.

Marine Program Field Coordinator for TBF, Armand Barilotti

Foundation Responsibilities:

- 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;
- Perform additional tasks as required by TBF's Marine Program Manager and ED.

Marine Program Field Technician for TBF, Parker House

Foundation Responsibilities:
- 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;
- Perform additional tasks as required by TBF's Marine Program and as requested by ED.

Aquarist for TBF, Ben Grimes

Foundation Responsibilities:
- 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.

Community Engagement Coordinator for TBF, Georgia Tunioli

Foundation Responsibilities:
- 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;
- Perform additional tasks as required by TBF's Director of Outreach or TBF's ED.

SMBRC STAFF (as of ~~43~~/1/2017):

Executive Director, Tom Ford

Commission Responsibilities:

- Serve as principal staff spokesperson and representative for SMBRC;
- Provide policy and technical guidance to SMBRC staff in their work assignments including supervising staff activities;
- Carry out other duties as required by the Governing Board (GB) or Technical Advisory Committee (TAC);
- Provide policy recommendations to the GB and discuss with TAC;
- Develop and implement programs and projects that restore and enhance the ecological values of 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.

Deputy Director/Staff Scientist, Guangyu Wang (State employee)

Commission Responsibilities:

- Assist the Executive Director in developing the annual work plan, carrying out annual work plan tasks, and conducting general operations;
- Coordinate the activities of the TAC, including research and review of new scientific findings, and oversee program activities related to scientific and technical studies;
- Contribute to program activities related to tracking, assessing, and reporting Bay Restoration Plan implementation progress and on the Bay's environmental conditions;
- Oversee development and implementation of the Quality Assurance Program Plan (QAPP) in the daily activities of the organization;
- Represent SMBRC on agencies' technical or policy advisory panels and committees and provide expert policy and regulation advice;
- Conduct other tasks at the request of the ED.
- Contact for California Public Records Act requests

Director of External Affairs, Scott Valor

Commission Responsibilities:

- Coordinate with legal counsel of SMBRC;
- Coordinate ~~of~~ FPPC issues;
- Assist Executive Director as requested

Administrative Director, Marcelo Villagomez

Commission Responsibilities:

- Assist SMBRC with administrative support, including ~~budget preparation~~ reports preparation, and meeting logistics;
- Support SMBRC with administrative activities, including communications and public requests for documents.

Communications Director, Julie Du Brow

Commission Responsibilities:

- Assist ED and conduct SMBRC communications activities upon request, including working with media;
- Arrange and facilitate speaking engagements and presentations;
- Coordinate, research, and prepare materials for distribution related to SMBRC.

Environmental Scientist, Jack Topel (State employee)

Commission Responsibilities:

- 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.

Administrative and Project Support, (as assigned)

Commission Responsibilities:

- Assist Environmental Scientist with state grant management, request(s) for proposal(s), grant selection processes, and report writing;
- Assist Environmental Scientist with invasive control programs and research activities including, mud snail surveys, California red-legged frog habitat assessment, crayfish trapping and other projects as requested;
- Assist with SMBRC GB activities and meeting logistics.

Administrative Support, (as assigned)

Commission Responsibilities:

- Assist TAC on its activities, including planning, following up on action items, and meeting logistics;
- Assist SMBRC with programmatic and administrative support, and assist with GB activities and meeting logistic.

SMBRA STAFF (as of ~~43~~/1/2017):

Executive Officer (SMBRC Executive Director), Tom Ford

- Serve as principal spokesperson and representative for SMBRA;
- Develop and implement programs and projects that restore and enhance the ecological values of Santa Monica Bay and its watersheds in support of the BRP.

Administrative Director (SMBRC), Marcelo Villagomez

- Assist SMBRA with administrative support, including budget preparation, reports, audits, and meeting logistics;
- Coordinate grant and contracts applications and invoicing.

Deputy Officer (SMBRC), Guangyu Wang

- Serve as Deputy Officer for Executive Officer;
- Coordinate with Executive Officer, Government Affairs, and Administrative Director.
- 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.

(County of Los Angeles), Josh Svensson

- Assist SMBRA with administrative support and compliance.

(County of Los Angeles), Amelia Chlebek

- Review SMBRA invoicing for compliance and approve for payment.

(County of Los Angeles), Frank Wu

- Assist SMBRA with projects and compliance.

Appendix A. Prop. 84: details of completed projects from FY17.

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	Oxford Retention Basin Water Quality and Multi-Use Enhancement Project	Improve water and habitat quality, aesthetics, and passive recreational activities at Oxford Basin in Marina del Rey.	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.

Appendix B. Prop. 84: details of ongoing projects.

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
Milton Street Park Project	Improve water quality in Ballona Creek through Capture, treatment, and infiltration of all dry-weather, and a portion of the wet-weather runoff along a 1,000' section of Milton Street in Los Angeles, in the Ballona Creek watershed.	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.	MRCA*	Complete design plans and cost estimates, submit native plant pallet, install vegetated stormwater curbs.	$655,000	Contribute to TMDL compliance in Ballona Creek.

Appendix B (continued). Prop. 84: details of newly awarded projects in FY17.

Name	Objectives	Description	Partners	Milestones	Budget	Long-term Outcomes
Culver Boulevard Realignment and Stormwater Infiltration/Retention Regional 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 ~~Hydrolic~~ 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 Estates in the Palos Verdes Peninsula sub-watershed	Rancho Palos Verdes*, Palos Verdes Estates, Rolling Hills Estates	Complete MOU with partner agencies. Issue RFP for construction and installation, Project construction. Performance monitoring.	$1,012,000	Compliance with Santa Monica Bay Trash TMDL of zero trash.
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.

Name	Objectives	Description	Partners	Milestones	Budget	Long-term Outcomes
Gates Canyon Park Project	Prevent pollutants from reaching Las Virgenes Creek that drains to the Malibu Creek and ultimately the North Santa Monica Bay.	The Gates Canyon Park Project includes construction of a diversion from an existing storm drain to the proposed underground cistern at Gates Canyon Park. The Project will capture the runoff for up to the 85th percentile storm and provide infiltration. The stored water will be utilized to irrigate Gates Canyon Park during the dry season. The Project will also include hydrodynamic separators for pretreatment and flow meters to determine the diversion rate.	County of Los Angeles Department of Public Works*	Complete project design. Complete CEQA. RFP for construction. Construct project. Performance monitoring.	$3,125,000	Improved water quality in Las Virgenes Creek, Malibu Creek, and Norther 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.

* Lead grantee

Appendix C. Groups for which SMBNEP staff provide technical support.

Group Name	Engaged SMBNEP entities	Partners	Frequency
GLAC IRWMP	SMBRC	Member entities and agencies	Bi-monthly
State Aquatic Species Task Force	SMBRC	CDFW* other resource management agencies	As needed
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
Southern California Academy of Sciences (SCAS), Board of Directors	TBF	SCAS* and many participating scientists and universities	Monthly, during school year
Environmental Life Science Committee	TBF	American Academy of Environmental Scientists*	Monthly or as needed

Group Name	Engaged SMBNEP entities	Partners	Frequency
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
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