



MORRO BAY
NATIONAL ESTUARY PROGRAM

WORK PLAN & BUDGET
FOR
FISCAL YEAR 2017

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1.0 Introduction

The Morro Bay National Estuary Program (Estuary Program) works to protect and restore the Morro Bay estuary and its watershed through the implementation of our Comprehensive Conservation and Management Plan for Morro Bay, most recently updated in FY13. The three Estuary Program programmatic focus areas are: (1) habitat protection, and restoration, (2) environmental monitoring and research, and (3) public participation, education and outreach. This Work Program describes our planned efforts for Federal Fiscal Year 2017 (FY17), which covers the period from October 1st, 2016 through September 30th, 2017.

Morro Bay was accepted into the National Estuary Program in 1995 when the Administrator of the U.S. Environmental Protection Agency (EPA) accepted Governor Wilson's nomination of the program. With financial support from EPA, Estuary Program staff worked with government agencies, non-profits, businesses, and the local community to develop a watershed based management plan: the Comprehensive Conservation and Management Plan for Morro Bay (Management Plan). The Management Plan defines the priority issues facing the estuary and watershed, and identifies specific Action Plans to address them. It also defines the management structure of the organization, which is based on collaboration and partnerships between the many groups that make up the Estuary Program.

The EPA formally approved our Management Plan in January 2001 and has continued to provide significant grant funding to further the implementation of that plan. Almost every Management Plan action plan was initiated, and over a third are either complete or fully in place and ongoing. The Management Plan was revised in 2012 through a public process and approved by the Estuary Program's Management Conference in February 2013. Various action plans from the Management Plan are referenced in this workplan. The Estuary Program works with its many partners to implement these actions in the watershed.

Congress allocates funding for the National Estuary Program under Section 320 of the Clean Water Act. EPA provides a portion of those funds to each of the 28 National Estuaries. The expected funding available to the Estuary Program through these Section 320 funds for FY17 is \$600,000. This work program serves as the scope of work for those funds.

The Bay Foundation of Morro Bay, a 501(c)(3) non-profit corporation, will continue to serve as the legal and fiscal agent for the Estuary Program by employing staff, signing contracts, and applying for grants. The Estuary Program Executive Committee oversees the progress of the annual workplan and is the policy decision-making body for the Estuary Program. The Section 320 funding requires a non-federal match of at least one to one. The Estuary Program will meet that match through both direct expenditures of local and state funds awarded directly to the Estuary Program, and through tracking the funds that our many partner organizations are spending to help implement the Management Plan.

The Estuary Program is excited to continue our work to protect and restore the Morro Bay Estuary and watershed, and we are thankful for the financial and technical support of EPA, as well as the ongoing participation of so many partners in the Morro Bay watershed and beyond.

1.1 Management Conference Structure and Membership

Implementation Committee – The Implementation Committee (IC) advises the Executive Committee on the implementation of the Management Plan. Specific responsibilities include: collaborating and reviewing grant applications, investigating technical issues, providing advisory oversight to monitoring and education efforts, recommending changes to the Management Plan, and tracking and reporting on implementation. The IC meets quarterly. Membership on the IC is not limited to a specific number of seats. Organizations and agencies that are involved in the implementation of the Management Plan are invited to become members, or can apply on their

own. After such organizations and agencies are appointed to the IC through a majority vote, they may appoint a member and alternate to attend Committee meetings. Appointees serve at the pleasure of the governing boards of their organizations or agencies. The IC can have a number of subcommittees that the program calls “technical working groups.” Currently, there are three such groups addressing the three programmatic focus areas. These groups lend specific expertise to sections of the Estuary Program.

Executive Committee – The Executive Committee (EC) is the key decision-making body for the Morro Bay National Estuary Program. It provides broad policy direction, approves priorities for Management Plan implementation, seeks and develops funding sources, and approves Management Plan changes, as necessary. Specific responsibilities include: approving funding requests for the Morro Bay Restoration Fund, monitoring and evaluating the performance of the program, resolving disputes that may arise between committees and working groups, approving the annual workplan, and providing leadership and overall direction for the Estuary Program. The EC meets quarterly. Membership includes representatives from specific agencies and interest group seats that are appointed through a majority vote of the EC and serve three year terms.

2.0 Glossary

The following terms and acronyms are used in this workplan:

Acronym	Explanation
ANEP	Association of National Estuary Programs. www.nationalestuarines.org
Cal Poly	California Polytechnic State University, San Luis Obispo. www.calpoly.edu
CCC	California Conservation Corps
CCER	Chorro Creek Ecological Reserve
CCMP	Comprehensive Conservation and Management Plan
CEQA	California Environmental Quality Act
CSLRCD	Coastal San Luis Resource Conservation District
CWA	Clean Water Act, the enabling legislation for the National Estuary Program.
DFW/CDFW	California Department of Fish and Wildlife
EPA	Environmental Protection Agency www.epa.gov
GIS	Geospatial Information System
HCP	Habitat Conservation Plan
IS/MND	Initial Study/Mitigated Negative Declaration
LCSLO	Land Conservancy of San Luis Obispo County www.lcslo.org
LIDAR	Light Detection And Ranging. LIDAR is an established method for collecting very dense and accurate elevation values using light pulses to determine distance.
LOCSO	Los Osos Community Services District http://www.losososcsd.org/cm/Home.html
MBNEP	Morro Bay National Estuary Program. www.mbnep.org
NEPA	National Environmental Protection Act
NEPORT	National Estuary Program Online Report Tool. NEPORT is an online system where all Estuary Programs report annual habitat restoration and leveraging reports.
NPS	Non-Point Source
QAPP	Quality Assurance Project Plan. A QAPP describe the quality assurance procedures, quality control specifications, and other data collection and analysis details required to complete a project. Estuary Program maintains an up-to-date QAPP for the VMP.

Acronym	Explanation
QA/QC	Quality Assurance/Quality Control
RWQCB/CCRWQCB	Central Coast Regional Water Quality Control Board
SWAMP	Surface Water Ambient Monitoring Program – a program created to coordinate water quality monitoring collected by the State and Regional Water Boards. http://www.waterboards.ca.gov/water_issues/programs/swamp/
TMDL	Total Maximum Daily Loads. TMDL is the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.
VMP	Volunteer Monitoring Program

3.0 Goals for CCMP Implementation in Fiscal Year 2017

This work plan describes the Morro Bay National Estuary Program’s broad goals, specific projects, and planned budget for federal fiscal year 2017 (FY17), which spans from October 1, 2016 to September 30, 2017. This work plan will guide Estuary Program efforts in FY17, and provide a mechanism to measure our success over the coming year. It is important to recognize that the nature of a collaborative, non-regulatory program such as the Estuary Program demands flexibility; just as some planned projects may be delayed, other unforeseen opportunities and partnerships to further implementation of the Management Plan will surely present themselves. The program goals are summarized below.

Water Quality Protection and Enhancement: Water quality in the Morro Bay watershed and estuary supports diverse habitats and wildlife populations, safe recreation, clean drinking water, and well-balanced economic uses.

One of the main tenets of the National Estuary Program (NEP) is to protect and restore water quality, as the NEP is part of the federal Clean Water Act. This goal illustrates the aspiration for clean water that supports a variety of uses by people and wildlife in Morro Bay.

Ecosystem Restoration and Conservation: The Morro Bay watershed and estuary sustain a resilient community with high habitat connectivity, ample biological integrity, proper ecosystem function, and a vibrant economy.

This goal illustrates the Estuary Program’s interest in conserving and restoring habitats, biodiversity, and ecosystem processes, all of which affect the local economy. The goal also envisions a healthy ecosystem and economy even in the face of change.

Public Education, Outreach, and Stewardship: Citizens and visitors around Morro Bay understand basic estuary science and the impacts of specific actions on estuary health and are engaged stewards of the Morro Bay estuary and watershed.

This goal represents the importance of informed and engaged citizens for the future health of Morro Bay and a vision that community members will increasingly become stewards of the estuary.

Fostering Collaboration: Local citizens, local government, non-profits, state and federal agencies, and public and private landowners collaborate and leverage resources to facilitate effective management and increased scientific knowledge of the Morro Bay estuary and watershed.

Another core tenet of the NEP is collaboration, as described in the Clean Water Act. This goal showcases the Estuary Program's commitment to fostering collaboration to effectively understand & manage the resources of Morro Bay.

Actions to complete these goals are described in detail in Section 5.

4.0 Budget Overview for Fiscal Year 2017

4.1 Budget Discussion

Tables 4.1 and 4.2 provide an overview of the budget for FY17. MBNEP meets a portion of the EPA's fifty percent match requirement using the Estuary Program-controlled Morro Bay Restoration Fund. These funds are private, locally-controlled, and already committed and available for these projects. Other sources of match funds include local and state funds and private donations, volunteer time, and contributed services and facilities.

4.2 Budget Overview

Table 4.1: Budget Overview for FY17

Category	Subcategory	FY17 Anticipated Request	Match	Total
Personnel	Salaries	\$343,795	\$10,000	\$353,795
	Fringe	\$59,977	\$0	\$59,977
	Management Conference		\$12,000	\$12,000
	<i>Subtotal</i>	<i>\$403,772</i>	<i>\$22,000</i>	<i>\$425,772</i>
Travel	(category includes local mileage)	\$8,320	\$0	\$8,320
Supplies	Computers, software	\$1,500	\$0	\$1,500
	Monitoring supplies	\$8,000	\$0	\$8,000
	Misc. office supplies	\$ 8,000.00	\$0	\$8,000
	<i>Subtotal</i>	<i>\$17,500</i>	<i>\$0</i>	<i>\$17,500</i>
Contractual	Audit/Taxes/Accounting	\$10,000	\$4,000	\$14,000
	Education and Outreach	\$34,200	\$16,866	\$51,066
	Monitoring and Research	\$43,300	\$55,000	\$98,300
	Restoration and Protection	\$31,700	\$499,250	\$530,950
	<i>Subtotal</i>	<i>\$119,200</i>	<i>\$575,116</i>	<i>\$694,316</i>
Other	Rent	\$52,608	\$18,384	\$70,992
	Utilities	\$4,000	\$0	\$4,000
	Postage	\$2,000	\$0	\$2,000
	Copying, Printing	\$4,000	\$0	\$4,000
	Training, Prof. Dev.	\$2,000	\$0	\$2,000
	Telephone, Internet	\$6,500	\$0	\$6,500
	Repairs and Maintenance	\$3,500	\$0	\$3,500
	Insurance	\$5,000	\$0	\$5,000
	Vehicle maintenance, fuel	\$2,100	\$0	\$2,100
	Community mini-grants	\$0	\$15,000	\$15,000
	<i>Subtotal</i>	<i>\$81,708</i>	<i>\$33,384</i>	<i>\$115,092</i>
TOTAL		\$630,500	\$630,500	\$1,261,000

Note: \$10,000 of community mini-grants match comes from Restoration Fund. Remaining match is from grantees.

4.3 Detailed Budget

Table 4.2: Direct Expenses by Program Area

Program Area	Project	320 Grant Request	Match (non-federal)		Total
			MB Restoration Fund	Other	
Education and Outreach	Communications	\$ 10,000	\$ -	\$ -	\$ 10,000
	Community Projects	\$ 1,000	\$ -	\$ 1,000	\$ 2,000
	Bay Friendly Recreation	\$ -	\$ -	\$ 2,000	\$ 2,000
	Clean Boating	\$ 500	\$ -	\$ -	\$ 500
	State of the Bay	\$ 10,000	\$ -	\$ -	\$ 10,000
	Education and Nature Center	\$ 10,000	\$ -	\$ 13,866	\$ 23,866
	Other E&O Tasks	\$ 2,700	\$ -	\$ -	\$ 2,700
	Subtotal	\$ 34,200	\$ -	\$ 16,866	\$ 51,066
Monitoring and Research	Benthic Invertebrate Monitoring	\$ 6,500	\$ -	\$ -	\$ 6,500
	Eelgrass Monitoring	\$ 30,500	\$ -	\$ 30,000	\$ 60,500
	Stats	\$ 1,000	\$ -	\$ -	\$ 1,000
	Water Quality Monitoring	\$ 5,300	\$ -	\$ 25,000	\$ 30,300
	Subtotal	\$ 43,300	\$ -	\$ 55,000	\$ 98,300
Habitat Protection and Restoration	CCER Planning	\$ 16,500	\$ -	\$ 200,000	\$ 216,500
	Land Conservation	\$ -	\$ 74,250	\$ 150,000	\$ 224,250
	Freshwater Flow	\$ 5,000	\$ -	\$ 10,000	\$ 15,000
	Restoration Maintenance and Monitoring	\$ 2,000	\$ -	\$ -	\$ 2,000
	Other Restoration	\$ 8,200	\$ 10,000	\$ 55,000	\$ 73,200
	Subtotal	\$ 31,700	\$ 84,250	\$ 415,000	\$ 530,950
	TOTAL	\$ 109,200	\$ 84,250	\$ 486,866	\$ 680,316

Note: Total for Restoration Fund match is \$94,250 because it includes \$10,000 for community mini-grants (see note for Table 4.1).

Expenses shown combined contractual, supplies, and equipment expenses by Program Area to more clearly represent the resources devoted to these aspects of the Estuary Program FY17 Work Program. This table does not include Estuary Program staff time or overhead.

Program Staffing

All personnel are employees of the Bay Foundation of Morro Bay. As in any small organization, the roles of personnel are fluid enough to change with the needs of the organization.

- Executive Director
 - Leads the organization and Management Plan implementation. Responsible for Management Plan update. Manages CWA 320 grant, staffs committees and non-profit board. Oversees general operations – budgeting, accounting, records management, and human resources. Supervises NEP

staff. Principal liaison to other agencies and organizations. Principal liaison to EPA. Serves as the public face of the organization. Represents the NEP on local committees. Oversees Management Plan tracking, annual report, and workplan. Attends ANEP/EPA meetings.

- Assistant Director
 - Responsible for assisting the Executive Director with Management Plan implementation, managing CWA 320 and other grants, and staffing committees and non-profit board. Supports budgeting, accounting, records management, and managing NEP staff. Assists with Management Plan tracking, annual reports, and work plan. Coordinates project development and grant writing across the organization. Manages monitoring program strategy and other special projects, such as State of the Bay. Attends ANEP/EPA meetings.
- Restoration Projects Manager
 - Develops and implements restoration efforts. Oversees restoration projects, including coordinating with partner agencies as appropriate, securing grant funding, and procuring outside services. Manages monitoring and maintenance of restoration projects. Coordinates a diverse set of external experts to assist with technical aspects of specific projects.
- Communications and Outreach Coordinator
 - Responsible for public relations and marketing work to engage community, targeted outreach campaigns geared towards increasing environmental stewardship, weekly blog posts, website, and representing the Estuary Program at public events. Implements the Finance Plan with Executive Director and non-profit board. Other projects include field trips and tours, educational brochures, press releases, planning outreach efforts and various other public outreach projects.
- Monitoring Coordinators
 - Two coordinators conduct NEP monitoring efforts. Under direction of Assistant Director, complete data analysis and reports and protocols. Assist with volunteer recruitment, training and fieldwork. Review and update QAPP, monitoring protocols and indicators/baselines work. Manage QA/QC functions. Manage data and share with partners.
- Office Manager
 - Responsible for records management, bookkeeping, general office functions, front desk liaison to the public, and general administrative assistance. Handles payroll, insurance and payables.
- Intern(s) (as needed)
 - Assists with field work, as well as data management and analysis. These are part-time positions.

5.0 New and Ongoing Project Information

Where applicable, the estimated budgets include project and field costs. Staff time is excluded from these budget estimates.

5.1 Habitat Protection and Restoration Activities

5.1.1 Project Name: Land Conservation and Planning

Project Status: *Ongoing*

Objective: Conserve land to achieve Management Plan goals as opportunities arise.

Description: The Management Plan calls for protection of ecologically valuable habitats in part to help minimize nonpoint sources of pollution entering the estuary. Nearly 4,000 acres of land have

been protected through conservation easements and fee title acquisitions by the Estuary Program and partners. In FY17, the Estuary Program expects to work with the Land Conservancy to develop conservation easements with interested landowners in the watershed. Some easements may qualify for funding from Camp SLO to limit development encroachment on the base. In addition, the Estuary Program is participating in a community effort within Morro Bay to support open space preservation around the city. This task represents an anticipated share of staff time to develop these opportunities and support partner efforts.

Partners and Their Roles: The Land Conservancy is the recipient of funding to develop a buffer surrounding Camp SLO. Their role is to interface with landowners and the funders to develop easements and acquisitions. Other partners with interest in land conservation in Los Osos and Morro Bay include CDFW, California Coastal Conservancy, Wildlife Conservation Board, Morro Bay Open Space Alliance, and Morro Coast Audubon Society.

Output/Deliverables: The deliverable will be a map or similar documentation of acquisitions of easements. It is expected that hundreds of acres will be protected, as there has been initial interest from a few landowners in the Chorro and Los Osos watersheds.

Estimated Milestones: Easement timelines are dependent on landowner and funding timelines.

Estimated Budget: Depends on acquisition and easement opportunities.

Long-Term Outcomes: Achieve land conservation projects as opportunities arise, with five-year focus on Los Osos Valley.

CWA Implementation: Addressing diffuse Nonpoint Sources of Pollution. Protecting wetlands. Protecting coastal waters through the National Estuary Program.

5.1.2 **Project Name: Freshwater Flow**

Project Status: *Ongoing*

Objective: Identify projects in lower Chorro Valley and Camp San Luis Obispo area to promote water conservation.

Description: In FY17, the Estuary Program will continue addressing the issue of scarce freshwater resources and will work with partners to develop potential projects. The Estuary Program along with partners such as Trout Unlimited (TU) will identify projects with individual landowners in the lower Chorro Valley area that promote water conservation. Funding will be pursued once projects are identified. Estuary Program staff will also finalize the almost complete Chorro Flow Feasibility Study by soliciting comments from local stakeholders and incorporating comments as applicable.

Partners and Their Roles: TU is a major partner, with expertise in project development, water rights, and identification of appropriate funding. Private and public landowners within the watershed are project partners, with varying roles in the project depending on the project scope.

Outputs/Deliverables: Projects identified and scoped for funding opportunities.

Estimated Milestones: Ongoing through FY17.

Estimated Budget: Staff time and \$5,000 for initial project development.

Long-term Outcomes: Water conservation projects that help maintain or increase flow in Chorro Creek are identified and landowners engaged.

CWA Core Programs: Addressing diffuse, nonpoint sources of pollution. Protecting wetlands.

5.1.3 **Project Name: Restoration Maintenance and Monitoring**

Project Status: *Ongoing*

Objective: Complete monitoring for conservation easements and restoration projects, as necessary.

Description: The Estuary Program with its partners has implemented multiple complex restoration projects that require ongoing monitoring and maintenance. This work includes monitoring of conservation easement compliance, riparian fencing maintenance and effectiveness, BMP effectiveness, and pre- and post-project restoration effectiveness. These efforts will continue as necessary. Currently, ongoing monitoring occurs on the Maino Conservation Easement and the Walters Creek Restoration

Project. These will continue along with monitoring on the Chorro Creek Ecological Reserve project. Post-project monitoring for the Roads Erosion Prevention Project will also be conducted.

Partners and Their Roles: Landowner partners include the Maino family, Camp San Luis Obispo, CDFW, and Cal Poly. Their role is to permit land access.

Outputs/Deliverables: Annual compliance monitoring report for Maino Easement. Photo documentation for Road Erosion Prevention Project. Project data submitted into NEPORT database. CRAM results for the Walters Creek Restoration Project and for CCER.

Estimated Milestones: Maino Easement monitoring completed in Spring 2017. Road Erosion Prevention Project monitoring initiated in Summer 2014 and ongoing. NEPORT submission completed by deadline provided by EPA, usually Summer 2017. CRAM data completed in Summer 2017.

Estimated Budget: \$2,000 for supplies and gear.

Long-term Outcomes: Conservation easement monitoring is completed annually and landowner communications continue. Eelgrass restoration monitoring continues annually and informs restoration decisions.

CWA Core Program Project Supports: Addressing diffuse, nonpoint sources of pollution. Protecting coastal waters through the National Estuary Program.

5.1.4 Project Name: Eelgrass Restoration

Project Status: *Ongoing*

Objective: Identify eelgrass restoration goals based on ongoing monitoring and research activities with various partners.

Description: At the end of FY12, the Estuary Program entered into a partnership with local conservation groups to attempt to actively restore eelgrass beds in Morro Bay. A sharp decline in eelgrass acreage from 2007 to 2012 illustrated the need for an active restoration approach. In 2012, an adaptive strategy was initiated to promote eelgrass recovery. Back bay pilot plantings (approximately quarter to a half an acre), bay-wide submerged vegetation mapping, pilot plot monitoring, and two additional planting efforts have been completed to date. These planting efforts did not yield successful eelgrass growth, despite using well-tested methods. In FY16, the Estuary Program updated eelgrass monitoring protocols to better track restoration success rate and inform research efforts to begin to understand causes of the decline. The Estuary Program has increased engagement with federal agencies, researchers and local scientists to help develop a systematic approach to helping understand the stressors to eelgrass and what may be driving the decline and limited restoration success. The Estuary Program and partners will conduct monitoring and research through 2018 (depending on funding available). The data informs future eelgrass restoration efforts and allows for development of numeric targets for restoration. Estuary Program staff are actively pursuing multi-year funding opportunities to better understand eelgrass dynamics and identify a strategy for successful recovery of eelgrass in Morro Bay.

Partners and Their Roles: Partners include Cal Poly and California Sea Grant (research expertise and field support), NOAA (funding and technical expertise), CDFW (funding and monitoring), and the Black Grant Group (funding and field support).

Outputs/Deliverables: Updated map of eelgrass distribution, density measurements and other data, and protocols.

Estimated Milestones: Strategic plan that helps us establish numeric targets are expected in Fall 2018.

Estimated Budget: Depends on funding opportunities available.

Long-term Outcomes: Monitoring results inform future recovery actions and are comparable across years. Develop numeric targets for eelgrass restoration.

CWA Core Programs the Project Supports: Protecting coastal waters through the National Estuary Program.

5.1.5 Project Name: Chorro Creek Ecological Reserve Restoration Planning

Project Status: *Ongoing*

Objective: Update restoration plans and associated permits for the Chorro Creek Ecological Reserve to prepare for implementation.

Description: In 2003, the Chorro Creek Ecological Reserve (580-acre parcel at the base of Hollister Peak) was purchased with Estuary Program support and leadership to prevent future development. The property was transferred to the CA Department of Fish and Wildlife (CDFW) for ownership and management. Restoration plans were completed in 2008 to address floodplain restoration and gully remediation, but the plans were not approved by CDFW. As a result of efforts in FY16 to obtain funding and begin planning, coordination with CDFW is underway to facilitate a restoration effort. The effort involves updating the restoration plans, undergoing CEQA, working to secure necessary permits, and applying for implementation funding.

Partners and Their Roles: Project partners include CDFW as they are both a funder and the landowner. Other partners State Coastal Conservancy, who provides review and feedback as a potential funder, and EPA, who offers technical assistance.

Outputs/Deliverables: Approved plans and permits for restoration project.

Estimated Milestones: Preliminary designs (30%) by Spring 2017. Complete CEQA and permit applications and apply for funding by Spring 2017. Complete 65% designs in Winter 2017. In Spring 2017, complete 100% designs, complete CEQA, and secure all permits.

Estimated Budget: Staff time and \$16,500 toward project permitting.

Long-term Outcomes: Completed restoration plan informs CCER restoration implementation effort.

CWA Core Programs the Project Supports: Addressing diffuse, nonpoint sources of pollution. Protecting wetlands. Protecting coastal waters through the National Estuary Program.

5.1.6 Project Name: Other Restoration Efforts

Project Status: *Ongoing*

Objective: Engage in other restoration efforts that arise and help achieve Management Plan goals.

Description: Additional water quality and habitat restoration opportunities often arise in the course of the year that are worthy of immediate attention. This task reserves some staff time for these opportunities. For example, the Estuary Program is involved in discussions on water reclamation facility planning. The Executive Director sits on an Ad Hoc Committee considering a potential boat haul out facility for Morro Bay. The Estuary Program will act as a partner on water conservation habitat restoration and steelhead projects as needed. The Estuary Program will be engaged in the upcoming Local Coastal Plan update for Morro Bay, the Los Osos Community Plan update, and the Morro Bay Harbor master plan. The Executive Director also is a member of the San Luis Obispo County Integrated Regional Water Management Group. Invasives species management will continue in the watershed, and the Estuary Program will continue to work with partners on these efforts. The Estuary Program is also involved in the county's Coastal Regional Sediment Monitoring effort, which outlines sedimentation sources and potential projects to address them.

Partners and Their Roles: Potential partners include San Luis Obispo County, the city of Morro Bay, the Los Osos Community Services District, the Morro Bay Harbor Advisory Board, and others. These are partners in funding, planning and implementation.

Output/Deliverables: As opportunities arise.

Estimated Milestones: As opportunities arise.

Estimated Budget: Staff time for partnership support and participation on committees. Current year budget includes \$8,200 to support partner projects. Other expenses depend on opportunities that arise.

Long-term Outcomes: Restoration efforts support CCMP implementation and partner projects.

CWA Core Programs the Project Supports: Addressing diffuse. Nonpoint sources of pollution, protecting wetlands. Protecting coastal waters through the National Estuary Program.

5.1.7 Project Name: Conservation and Restoration Project Development

Project Status: *New*

Objective: To develop projects and funding for conservation and restoration.

Description: Often plans, permits and initial monitoring must be conducted before a project is eligible for funding. This task reserves some staff time to work with partners to conduct these initial efforts. Projects that are anticipated for FY17 include: (1) a stormwater management effort for Camp SLO; (2) low-impact development (LID) in the Baywood area of Los Osos to address nonpoint source runoff; (3) a steelhead habitat project, which includes elements to address invasive species, migration barriers and freshwater flows. The steelhead habitat project would include seeking funding for a pikeminnow management component.

Partners and Their Roles: The primary partners for the stormwater management effort are Central Coast Salmon Enhancement with the role of winning and managing funding and providing technical expertise; the California Conservation Corps who would contribute technical expertise, materials and field support; and Camp SLO who is the landowner for the project. For the LID project, the primary partner is Central Coast Regional Water Quality Control Board who lends technical expertise and assistance in obtaining funding. Another partner is the county of San Luis Obispo who has maintenance and oversight over county public works infrastructure. The primary partners for the steelhead habitat effort are Central Coast Salmon Enhancement with the role of providing technical expertise, California Conservation Corps who would contribute technical expertise, materials and field support, Stillwater Sciences who would contribute technical expertise and equipment, and the city of San Luis Obispo who would provide technical expertise. For conservation planning and invasive species management, primary partners include California Department of State Parks and SLO County, who provide technical expertise and field support.

Output/Deliverables: Depends on funding deadlines.

Estimated Milestones: Depends on funding deadlines. If funded as applied, the stormwater management on Camp SLO would begin permitting in Fall 2017 and construction would be completed in summer 2020. For LID and steelhead, the milestones are TBD depending on funding.

Estimated Budget: TBD for the stormwater management effort.

Long-term Outcomes: Expand steelhead access to areas in the watershed with the habitat and water quality to support sensitive species. Create a plan to address stormwater issues on Camp SLO, thus creating opportunities to seek funding and develop projects to address nonpoint source pollution.

CWA Core Programs the Project Supports: Addressing diffuse, nonpoint sources of pollution.

5.2 Environmental Monitoring and Research

Work for all Environmental Monitoring and Research tasks is aimed at achieving results for the following Outcomes:

1. Project by project effectiveness evaluations conducted in partnership with relevant agencies and parties are shared broadly.
2. Understanding of TMDL effectiveness and the actions needed to eventually de-list local waterbodies is improved.
3. Overall understanding of waterbody status for 303(d) listed waterbodies in the watershed is improved.
4. Increase understanding of the effectiveness of stormwater management efforts.
5. Understand the impact of implementation actions on long-term, watershed-wide trends.
6. Strengthen collaboration among watershed partners while implementing actions laid out in the CCMP.

5.2.1 Project Name: Monitoring Program Coordination

Project Status: *Ongoing*

Objective: Continue coordination of Volunteer Monitoring Program and collect data that meets

QAPP guidelines.

Description: The Estuary Program has an extensive and rigorous volunteer monitoring program. The Volunteer Monitoring Program (VMP) plays a lead role in the program's monitoring efforts. Without volunteers, the program could not collect the amount of data it has collected. The VMP will continue ongoing volunteer monitoring, tracking of key environmental indicators, and developing new efforts to monitor effectiveness of implementation projects. This task includes monitoring coordination, volunteer recruitment and training, equipment maintenance, and program management tasks.

Partners and Their Roles: Primary partners in the Estuary Program monitoring effort include the Central Coast Water Resources Control Board, whose Central Coast Ambient Monitoring Program lends technical advice, monitoring equipment and field support. Landowners such as State Parks, Cal Poly, Camp SLO, the city of Morro Bay and numerous private landowners are also partners, allowing access on their land for monitoring. Ocean Science Trust, the non-profit responsible for monitoring of the Marine Protected Areas, is a potential monitoring partner that might provide funding and expertise.

Outputs/Deliverables: The deliverable will be a quality dataset that meets the parameters outlined in the program QAPP.

Estimated Milestones: As appropriate, monitoring protocols are updated to reflect changes to sites, monitoring methodologies, etc.

Estimated Budget: Total budget is estimated to be \$8,000 for monitoring supplies, \$1,000 for laboratory analysis, \$6,500 for bioassessment lab analysis, \$1,300 for small equipment, for a total of \$16,800.

Long-Term Outcomes: An increase in understanding of the long-term trends in ambient water quality in the watershed and estuary. Identification of potential projects and assessment of existing projects.

CWA Core Programs the Project Supports: Identifying polluted waters and developing plans to restore them (TMDLs). Addressing diffuse, nonpoint sources of pollution. Protecting coastal waters through the National Estuary Program.

5.2.2 Project Name: Monitoring Program Reporting and Analysis

Project Status: *Ongoing*

Objectives: Analyze data and share results with grantors, partners, local land owners, and the public.

Description: The Estuary Program continuously compiles and analyzes program-generated data to assess long-term trends and project-specific effects on water quality and other indicators of environmental quality. These analyses are shared with program partners, local landowners, and the general public to help inform decision-making. A series of data summary memos will be completed in spring of 2017. This includes an analysis of the sediment impacts to macroinvertebrate populations. Stormwater data will be provided in a brief memo to share with municipalities.

Partners and Their Roles: Primary partners in the reporting and analysis of monitoring data include the Central Coast Water Resources Control Board, whose Central Coast Ambient Monitoring Program lend technical advice to the program. Public and private landowners make use of the data in their own land management and monitoring efforts. The city of Morro Bay, the county of SLO and the Los Osos CSD are project partners who make use of Estuary Program data in their own stormwater management efforts. Cal Poly lends technical expertise.

Outputs/Deliverables: The deliverables will be a series of memos summarizing sediment impact data, stormwater data, and other monitoring data to share with various audiences.

Estimated Milestones: A stormwater monitoring update is expected in Summer 2017, and a sediment monitoring update is expected in Fall 2017. Data summaries are expected in Winter 2017.

Estimated Budget: \$1,000 for statistical analysis.

Long-Term Outcomes: Outcomes include making analysis available for agencies, project partners, and others throughout the state to inform and improve their own efforts to protect and restore.

CWA Core Programs the Project Supports: Identifying polluted waters and developing plans to restore them (TMDLs). Addressing diffuse, nonpoint sources of pollution. Protecting coastal waters through the National Estuary Program.

5.2.3 Project Name: Monitoring Program Data Management

Project Status: *Ongoing*

Objectives: Maintain data in SWAMP-compatible format.

Description: This task includes the on-going maintenance of program-generated data in a SWAMP-compatible data format. SWAMP (Surface Water Ambient Monitoring Program) is a California State Water Resources Control Board program to increase usability and compatibility of water quality data from various sources. Data is quality controlled and entered into a SWAMP-compatible database to increase access for groups throughout the state.

Partners and Their Roles: Primary partners in the Estuary Program monitoring effort include the Central Coast Water Resources Control Board, whose Central Coast Ambient Monitoring Program lend technical advice and data management support to the program. The State Water Resources Control Board is a partner, providing support for the state's California Environmental Data Exchange Network (CEDEN). The Moss Landing Marine Lab is a partner in the project as they serve as the Regional Data Center for Region 3. They provide direct assistance in loading program data to the CEDEN system.

Outputs/Deliverables: The deliverable is Estuary Program data available via the CEDEN and/or SWAMP system.

Estimated Milestones: Continual input of data into SWAMP-compatible database. Semi-annual submittals of data to the CEDEN and/or SWAMP system.

Estimated Budget: \$1,000 for contractor support of data management system.

Long-term Outcomes: A high quality dataset available to the public and the state for use in TMDL analysis, 303(d) assessment, land management, etc.

CWA Core Programs the Project Supports: Identifying polluted waters and developing plans to restore them (TMDLs).

5.2.4 Project Name: Monitoring Program Quality Assurance

Project Status: *Ongoing*

Objective: Maintain an approved Quality Assurance Project Plan and implement necessary quality assurance methods.

Description: The monitoring program maintains a Quality Assurance Project Plan (QAPP), approved by EPA, which documents the program's monitoring methodologies, sites, and equipment. This task includes laboratory sample analysis to aid in assessment of quality assurance. In addition, some staff time is necessary to keep the QAPP up-to-date. The monitoring program collects scientifically rigorous data valued by many of our partners, and the QAPP ensures that the data collection and analysis methods maintain this high level of scientific quality.

Partners and Their Roles: The EPA Office of QA is a primary partner, providing oversight of the QAPP and technical assistance. The CCRWQCB QA Officer also provides review and oversight of the QAPP. Other partners include laboratories that analyze Estuary Program samples, and partners conducting monitoring in the area such as the CCRWQCB CCAMP, the Cooperative Ag Monitoring Program, and others.

Output/Deliverables: The deliverable will be an EPA and Water Board-approved QAPP document.

Estimated Milestones: The updated document is submitted on an annual basis. This is dependent upon the EPA approval schedule.

Estimated Budget: Total budget is estimated at \$1,000 for QA laboratory analysis.

Long-term Outcomes: A high quality data set with data supporting efforts throughout the watershed including 303(d) and TMDL assessment.

CWA Core Programs the Project Supports: Identifying polluted waters and developing plans to restore them (TMDLs).

5.2.5 Project Name: Project Effectiveness Monitoring

Project Status: *Ongoing*

Objective: Complete monitoring to show project effectiveness for various restoration projects.

Description: Many monitoring efforts to demonstrate effectiveness of restoration or other projects are conducted by program staff (rather than volunteers) due to safety concerns, technical challenges, or a landowner's request. This task encompasses protocol development and monitoring work that falls into this category. The data generated from these efforts will be analyzed and included in data summary memos. This task will include monitoring for restoration projects and monitoring the freshwater seeps in Los Osos. The seeps are expected to demonstrate reduced nitrate contamination of groundwater by septic systems once the Los Osos sewer system goes online.

Partners and Their Roles: Project partners include landowners or responsible entities such as Cal Poly, Camp SLO, San Luis Obispo County, and others.

Output/Deliverables: Monitoring data and reports will be compiled to support restoration projects, partner data requests, etc.

Estimated Milestones: Los Osos seeps monitoring data will be compiled in the fall of FY17.

Monitoring and data reports will be compiled as needed.

Estimated Budget: \$1,000 for laboratory analysis of seeps samples.

Long-term Outcomes: Conduct monitoring and develop analysis that informs future management and restoration efforts.

CWA Core Programs the Project Supports: Identifying polluted waters and developing plans to restore them (TMDLs).

5.2.6 Project Name: Eelgrass Monitoring and Research

Project Status: *Ongoing*

Objective: Conduct research and monitoring efforts for eelgrass to determine distribution in the bay as well as bed health.

Description: Seasonal eelgrass monitoring is conducted to aid efforts to protect and restore eelgrass habitat. In FY17, the Estuary Program will continue to monitor according to the robust approach designed to maximize data quality. The effort is engaging experts and agency participants to help inform monitoring approach and seek funding to support research and monitoring (see more information under Task 5.1.4). This task also involves a component of research collaboration with partners to understand eelgrass stressors and gain insights needed for successful restoration efforts. Parameters monitored include water clarity, water depth, water temperature, eelgrass bed health, eelgrass genetics, fish species utilizing the estuary, and bay sediment. Through a grant from EPA, the Estuary Program will conduct bay-wide eelgrass monitoring using sonar, to determine where eelgrass is currently present.

Partners and Their Roles: Project partners include Cal Poly, whose expertise is supporting expanded monitoring and research efforts. They are actively seeking funding to conduct research to understand eelgrass genetics, bay hydrodynamics as it relates to eelgrass beds, etc. Other partners include CDFW, who is also conducting eelgrass monitoring and are potential funders for the effort. NOAA, USFWS, and others have provided funding and technical support for the effort. Merkel & Associates provide match and monitoring expertise, and the Black Brant Group has provided field support. EPA provides both funding and technical support. Secondary partners with an interest in eelgrass in Morro Bay include USFWS, the California Coastal Conservancy, the city of Morro Bay, State Parks, local oyster farms, and other local businesses.

Output/Deliverables: The deliverables include an eelgrass monitoring report as well as reporting required by funders for research efforts. This includes a bay-wide eelgrass map collected using sidescan sonar.

Estimated Milestones: The eelgrass report and bay-wide map will be completed in Fall 2017.
Estimated Budget: Staff time. \$30,500 for sonar work to map bay-wide eelgrass.
Long-term Outcomes: To better understand eelgrass dynamics and stressors, thus enabling the Estuary Program to develop restoration strategies and numeric goals for acres restored.
CWA Core Programs the Project Supports: Protecting coastal waters through the National Estuary Program.

5.2.7 Project Name: Partner Research Efforts

Project Status: *Ongoing*

Objective: Support science partners in pursuing research efforts relevant to the goals of the Estuary Program.

Description: The Estuary Program's has begun collaborative efforts with partners such as Cal Poly University. This task captures staff support to help facilitate research projects through data sharing, the pursuit of funding, and contributed time. Anticipated projects include research into causes of eelgrass decline (biological and physical factors) and related water quality issues; eelgrass genetics in different regions of the bay; and social science surveys of human uses around the bay.

Partners and Their Roles: Cal Poly, due to its nearby location, is a primary partner in these joint efforts. Other research collaboration partners have included University of San Francisco, Southern California Coastal Water Research Program, USGS, and others.

Output/Deliverables: Deliverables include reports and results as made available by researchers.

Estimated Milestones: Variable, depending on funding sources.

Estimated Budget: Staff time.

Long-term Outcomes: Improve understanding of resources in order to better target efforts such as monitoring and restoration.

CWA Core Programs the Project Supports: Protecting coastal waters through the National Estuary Program.

5.3 Public Participation, Education and Outreach

5.3.1 Project Name: Communications

Project Status: *Ongoing*

Objective: Communicate with a variety of audiences using presentations, printed materials, online presence, social media, and other venues.

Description: The Estuary Program's Education and Outreach program conducts regular communication with a variety of audiences. Several channels will be employed during FY17 to reach these audiences with meaningful information to educate the public about the program's efforts. These efforts include the following:

- **Website** – The Estuary Program website (www.mbnep.org) will be updated with content on a regular basis.
- **Blog** – In FY17, the Estuary Program will continue the Estuary Program blog. Posts are made about once a week and can be viewed on the website or by subscription.
- **Social Media** – The Estuary Program utilizes Facebook and Twitter extensively; these have proven to be important tools to communicate with the community. Photos and status updates are posted to the Facebook page multiple times a week (<https://www.facebook.com/mbestuary>). Posts are strategic and integrated with messages posted on our website and in the blog. Messages cover a variety of topics, such as project and field work highlights, volunteer opportunities, community events, presentations given by Estuary Program staff, the Estuary Program's Clean Water Campaign, and other information related to the Estuary Program mission. Currently, the Estuary

Program has more than 1,000 Facebook fans and more than 300 Twitter followers. In FY17, the Estuary Program will continue to increase two-way communication of social media tools.

- **Annual Report** – The annual report summarizes the reach and impact made by the Estuary Program across all programs (Education and Outreach, Restoration and Conservation, and Research and Monitoring). The report is published annually and is available online and in limited print.
- **Speaking and Exhibit Engagements** – Estuary Program staff present watershed and estuarine information for interested groups throughout the area.
- **News Releases** – News releases will be distributed for news-worthy activities or milestones, such as the State of the Bay, Annual Bioassessment Monitoring, and others. Key messages will be drafted and incorporated in the news releases. These key messages will be integrated to other communication channels, too.
- **Brochures** – Brochures about the Estuary Program, volunteer opportunities, Clean Water campaign, and formal educational opportunities will be distributed at the Estuary Nature Center, community events, and presentations in which Estuary Program staff participate. They will also be made available online when possible.
- **Clean Water Campaign** – In FY17, the Estuary Program will continue to promote the Clean Water campaign and Clean Water pledge. Currently, more than 630 people have taken the Clean Water Pledge.

Partners and Their Roles: Partners in Estuary Program communication efforts include the city of Morro Bay, the county of San Luis Obispo, the Morro Bay Natural History Museum, and others. These partners provide resources and expertise, promote Estuary Program events, and share our materials and message with the public.

Output/Deliverables: Deliverables include website updates, blog and social media posts, an annual report, presentations, news releases, and brochures.

Estimated Milestones: The blog is posted weekly. The annual report will be completed in Winter 2017. Website updates, social media posts, presentations, news releases and brochures will be completed as needed.

Estimated Budget: \$1,500 for printing and \$1,500 for design of annual report. \$800 for website maintenance, hosting and design. \$1,500 for brochure and other outreach material printing. Total: \$5,300.

Long-term Outcomes: Residents and visitors better understand their roles as stewards of the Morro Bay estuary. They practice behaviors that help keep our waters clean.

CWA Core Programs the Project Supports: Protecting coastal waters through the National Estuary Programs.

5.3.2 **Project Name: Education**

Project Status: *Ongoing*

Objective: Develop formal education partnerships and services and continue to maintain the Nature Center and other education efforts.

Description: In FY17, the Estuary Program will continue working with partners to integrate estuary-focused activities into existing formal educational programming. Activities include watershed model demonstrations in classrooms, integrating the watershed model into partner efforts (Morro Bay Museum of Natural History and One Cool Earth are potential partners), and supporting watershed education by partners. The Estuary Program will also continue to provide field trips as requested, primarily to college-level classes. In addition, the Estuary Program will maintain the Estuary Nature Center, which is visited by approximately 5,200 individuals monthly during the high season. The Nature Center Docent Program will continue to reach summertime visitors.

Partners and Their Roles: Partners include the Morro Bay Museum of Natural History, a direct collaborator in creating education programs. Teachers, parents, and volunteers from local schools reach out to the Estuary Program for direct support in developing education programs such as the

watersheds and the water cycle. Cal Poly faculty are also partners, bringing classes to the estuary to conduct research and fieldtrips.

Outputs/Deliverables: The deliverable will be Nature Center promotional materials and statistics, watershed model demonstration statistics, and fieldtrip and presentation statistics.

Estimated Milestones: The Nature Center promotional materials and statistics will be ongoing. The statistics on watershed model demos and fieldtrips will be included in the semi-annual report.

Estimated Budget: \$50 for watershed model and other classroom activity materials. \$3,950 for Nature Center maintenance.

Long-term Outcomes: Formal educational partnerships disseminate estuary-related messages to local students. The Estuary Nature Center serves as a learning center about the Estuary with updated and engaging exhibits.

CWA Core Programs the Project Supports: Addressing diffuse, nonpoint sources of pollution. Protecting coastal waters through the National Estuary Program.

5.3.3 Project Name: Nature Center Update

Project Status: *New*

Objective: Update the content and displays in the Nature Center.

Description: More than 30,000 visitors have stopped by the Estuary Program's Nature Center since it was established in 2005. Two tanks, a watershed mural, and stereoscopic photo images are some of the most popular exhibits. After more than a decade of heavy use, the Nature Center needs replacement and updates of worn displays. In FY17, the Estuary Program will seek funding for this update effort and engage local partners in developing exhibits and funding.

Partners and Their Roles: The Morro Bay Museum of Natural History will be a partner in this effort, lending their expertise in the development of exhibits and seeking funding for such efforts.

Output/Deliverables: Deliverables include grant applications and any deliverables for funders.

Estimated Milestones: The update is expected to be finished at the end of FY20.

Estimated Budget: \$6,000 for display updates and planning tasks, as well as additional grants which are still to be determined.

Long-term Outcomes: The Estuary Nature Center serves as a learning center about the Estuary, with updated and engaging exhibits.

CWA Core Programs the Project Supports: Addressing diffuse, nonpoint sources of pollution. Protecting coastal waters through the National Estuary Program.

5.3.4 Project Name: Community Grants

Project Status: *Ongoing*

Objective: Provide support for community projects that further the goals of the Management Plan and engage the community. Community Grants allow community members to be active participants in conservation efforts by generating their own project ideas that help implement the Management Plan. The Community Grants program has a special focus on projects that engage the community, and a maximum request amount of \$5,000 per grant. The Estuary Program staff publicizes the availability of grants, meets with applicants, reviews applications, prepares contracts, and monitors and evaluates products. The Estuary Program will continue to oversee current grants and accept new applications in FY17.

Partners and Their Roles: Partners are past applicants, including most recently the Central Coast State Parks Association (who is affiliated with the Morro Bay Museum of Natural History) and Morro Bay in Bloom.

Outputs/Deliverables: Deliverables include grant applications, contracts, and final reports. A final report will detail the grants completed in FY17.

Estimated Milestones: Grant applications are due in March and September and will be included in the semi-annual reports. A final report for grants completed in FY17 will be compiled in Summer 2017.

Estimated Budget: Staff time.

Long-term Outcomes: All projects funded meet grant guidelines on community involvement and Management Plan nexus.

CWA Core Programs the Project Supports: Addressing diffuse, nonpoint sources of pollution. Protecting wetlands. Protecting coastal waters through the National Estuary Program.

5.3.5 **Project Name: Outreach for Boating and Harbor Best Management Practices**

Project Status: *Ongoing*

Objective: Conduct outreach to boaters about responsible waste disposal practices and other clean boating best management practices.

Description: To address one source of bacterial contamination in the bay, the Estuary Program will engage in focused outreach to the boating and live-aboard community about responsible waste disposal practices. This effort was started in FY14 and will be continued in FY17 with the distribution of educational materials and an emphasis on reaching regular boaters through the waterfront slip leases.

Partners and Their Roles: These outreach efforts will occur in conjunction with interested partners, including live-aboard and boating organizations, the City of Morro Bay Harbor Department, and slip and mooring lease holders.

Outputs/Deliverables: Deliverables include outreach materials developed for boater education, and statistics such as number of materials distributed and lease renters reached.

Estimated Milestones: The statistics on outreach will be included in our semi-annual reports.

Estimated Budget: \$500 for clean boating kit materials.

Long-term Outcomes: Boaters reached have a clearer understanding of best management practices and resources available to facilitate clean boating in the bay.

CWA Core Programs the Project Supports: Addressing diffuse nonpoint sources of pollution. Protecting coastal waters through the National Estuary Program.

5.3.6 **Project Name: Bay Friendly Recreational Uses**

Project Status: *Ongoing*

Objective: Support partner efforts to disseminate messages to the public about recreating on the bay while minimizing impacts to wildlife and other competing uses.

Description: The Estuary Program will support partner efforts to educate people engaged in a variety of on-water activities about minimizing impacts to wildlife (particularly birds and marine mammals) and encouraging positive interactions with other competing uses (such as oyster farms and commercial fishing). Issues to be addressed include: approaching wildlife, getting too close to wildlife, minimizing impacts to habitat, appropriate use of navigation channels, and keeping appropriate distances from other competing uses. This effort includes a kayak docent program through the Morro Bay Museum of Natural History, with trained volunteers spreading information to bay users about safe wildlife viewing.

Partners and Their Roles: A primary partner will be the Central Coast State Parks Association, who will administer a kayak docent program and their role will include recruiting and training volunteers, overseeing their work, and managing the data collected. Other partners include the Monterey Bay National Marine Sanctuary, Pacific Wildlife Care, and others who would lend technical and logistical support.

Outputs/Deliverables: Deliverables include educational materials developed for docent programs and summary statistics from outreach efforts.

Estimated Milestones: Timing of deliverables and statistics depends on the timing of implementation.

Estimated Budget: Staff time.

Long-term Outcomes: Outreach efforts successfully share messages about best practices for on-water recreation.

CWA Core Programs the Project Supports: Addressing diffuse nonpoint sources of pollution. Protecting coastal waters through the National Estuary Program.

5.3.7 Project Name: State of the Bay Analysis and Planning

Project Status: *Ongoing*

Objective: Analysis and report planning for triennial State of the Bay report and events.

Description: Every three years, the Estuary Program hosts a State of the Bay (SOTB) conference/event to share knowledge about the status of the estuary and watershed in terms of clean water and healthy habitats. In FY16, the Estuary Program began planning for the State of the Bay to occur in Spring 2017. In addition, work began on data analysis and publication preparation for the triennial report card, which is generally released a few months prior to the State of the Bay. This report provides data and summary information on the state of the estuary and watershed according to a suite of environmental indicators.

Partners and Their Roles: Project partners include the monitoring partners who share their data and expertise with the Estuary Program. These include the California Department of Public Health, the Central Coast Ambient Monitoring Program, the Cooperative Agricultural Monitoring Program, the California Department of Fish and Wildlife, Cal Poly, Audubon, the California Conservation Corps, environmental consultants, and private citizens.

Outputs/Deliverables: The deliverables include a printed report and an electronic version for the web.

Estimated Milestones: Both the electronic and print versions of the report card will be completed by the Spring 2017.

Estimated Budget: Costs include report printing for \$3,700, report card printing for \$1,000, graphic design for \$3,800 and \$6,200 for hosting SOTB events. Total: \$14,700.

Long-term Outcomes: To share the results of monitoring by the Estuary Program and its partners, with the goal of increasing education on nonpoint source pollution, restoration, etc.

CWA Core Programs the Project Supports: Identifying polluted waters and developing plans to restore them (TMDLs). Addressing diffuse, nonpoint sources of pollution. Protecting wetlands. Protecting coastal waters through the National Estuary Program.

5.3.8 Project Name: Other E&O Tasks/Community Partner Projects

Project Status: *Ongoing*

Objective: Support outreach projects in the community that further the Management Plan goals.

Description: Opportunities for various community projects will be maximized throughout the year as they arise. Some of these projects will be pursued as a result of the Community Grants program. Other activities include event planning for State of the Bay 2017, conducting behavior and attitude change surveys with the public, and supporting a SWRCB Drought Response Outreach Program for Schools (DROPs) project with Rancho El Chorro Outdoor School and Trout Unlimited, for which funding was awarded in FY16.

Partners and Their Roles: Survey partners include California State Parks through their SeaLife Stewards program, the city of Morro Bay's Harbor Department, and local recreational boating business owners. Partners for the E&O tasks for the DROPs project include the Rancho El Chorro Outdoor School, who is the landowner and the entity receiving the funding. Trout Unlimited's role is to offer technical expertise and legal advice for the effort. The California Conservation Corps are responsible for project construction.

Outputs/Deliverables: The deliverables for the project include E&O materials and curriculum.

Estimated Milestones: Materials are completed as projects develop.

Estimated Budget: \$3,700 is allocated for partner projects and other opportunities as they arise.

Long-term Outcomes: Coordinate with partner organizations about key messages associated with each community project. Rollout of the messages and education and outreach material will be closely tied to the project implementation.

CWA Core Programs the Project Supports: Addressing diffuse, nonpoint sources of pollution.

5.4 Program Management

Work for all Program Management tasks is aimed at achieving results for the following Outcomes:

1. Morro Bay National Estuary Program will maintain good standing with the EPA and ANEP.
2. Morro Bay National Estuary Program will continue to improve administration and program management to successfully support environmental goals and manage resources in a fiscally responsible manner.

5.4.1 Project Name: Manage Committees and Build Partnerships

Project Status: *Ongoing*

Objective: Hold quarterly committee meetings and support partnerships.

Description: The Estuary Program will continue to staff and coordinate the Executive Committee and Implementation Committee on a quarterly basis. Staff provides notice, meeting materials, and helps facilitate the meetings. The Estuary Program also manages three working groups that provide input and advice for restoration, monitoring, and education. In addition to maintaining active Committees, staff spends time building partnerships, bringing new stakeholders and interested parties together, and collaborating with other entities on projects and funding.

Partners and Their Roles: The Executive Committee and Implementation Committee are made up of representatives from various economic, environmental, and educational organizations. The advisory committees that support monitoring, restoration and education are made up of local experts who can advise the Estuary Program in these various programmatic areas.

Outputs/Deliverables: Deliverables include meeting minutes, agendas, staff reports, and other materials for each quarterly meeting.

Estimated Milestones: These deliverables are produced quarterly.

Estimated Budget: Staff time.

Long-term Outcomes: Committees meet quarterly to provide input and direction for the Estuary Program and to ensure that other partnerships are well supported.

CWA Core Programs the Project Supports: Support contribution toward all CWA core programs.

5.4.2 Project Name: Grants and Contracts Administration and Financial Management

Project Status: *Ongoing*

Objective: Develop workplan, administer grants, and complete annual financial management tasks.

Description: Each year we must evaluate our prior year's progress, anticipate the upcoming year's potential, and develop a work program and budget. The work plan for FY18 is due to EPA Region IX in April 2017. Other grants and financial management tasks include reporting and tracking for grants, preparing financial reports for the Bay Foundation and management committees, and completing year-end financial statements and an annual audit.

Partners and Their Roles: Partners include the Bay Foundation, the board that serves as the bursar for the Estuary Program. EPA is a primary partner, providing oversight and guidance for the program.

Outputs/Deliverables: The deliverables include the work program and budget (Spring 2017), monthly Bay Foundation financial reports (monthly), biannual Executive Committee reports (Winter 2017 and Summer 2017), annual financial statements (Spring 2017), audit and tax work (Spring 2017), attendance at the fall ANEP meeting (Fall 2016), and attendance at the spring ANEP meeting (Spring 2017).

Estimated Milestones: See above.

Estimated Budget: Staff time; accounting/auditing costs of \$10,000; ANEP meeting travel costs of \$5,220.

Long-term Outcomes: Grant administration and financial management tasks are completed in a timely and accurate manner.

CWA Core Programs the Project Supports: Support contribution toward all CWA core programs.

5.4.3 **Project Name: General Administration and Human Resources Management**

Project Status: *Ongoing*

Objective: Maintain accurate financial and human resource records and manage personnel.

Description: The Estuary Program requires ongoing financial and administrative functions, including record keeping and filing, bookkeeping, equipment and office space upkeep, as well as interacting with the general public. In addition, the Director spends time managing staff performance and workplan progress. Other HR tasks include training and professional development, recruitment when applicable, managing interns, and keeping all personnel policies and procedures up to date.

Partners and Their Roles: The primary partner for this task is the Bay Foundation board. As the employer of Estuary Program staff, they set the policies and procedures for the organization.

Outputs/Deliverables: Deliverables include the Program Management Tasks above, up-to-date bookkeeping records (ongoing), public-friendly office space (ongoing), orderly and properly operating office and field equipment (ongoing), annual staff performance reviews (Fall 2016), staff meetings (bi-weekly) and updated policies and procedures (as needed).

Estimated Milestones: See above.

Estimated Budget: Staff time and professional development costs of \$2,000.

Long-term Outcomes: Policies and procedures must remain up to date so that the organization can function smoothly, allowing staff to focus on attaining the goals of the organization.

CWA Core Programs the Project Supports: Support contribution toward all CWA core programs.

5.4.4 **Project Name: Tracking Implementation of the Management Plan and Work Plan**

Project Status: *Ongoing*

Objective: Keep track of workplan and Management Plan implementation.

Description: The Estuary Program tracks progress on the Management Plan Action Plans on a biannual basis. Work Plan implementation is tracked with biannual reports on deliverables.

Tracking project and program effectiveness is ongoing and includes biannual reports, NEPORT reporting, grant reporting, monitoring, and general project management.

Partners and Their Roles: The primary partner is the Bay Foundation board who oversees the organization's finances.

Outputs/Deliverables: The deliverables include biannual Executive Committee Reports (Winter 2017 and Summer 2017), data summary reports (see other program area tasks), and NEPORT data (Summer 2017).

Estimated Milestones: See above.

Estimated Budget: Staff time.

Long-term Outcomes: Management Plan and Work Plan tracking occurs to ensure that tasks are completed in a timely and accurate manner.

CWA Core Programs the Project Supports: Support contribution toward all CWA core programs.

6 Areas of Special Interest: Nutrient Management and Control Activities

Elevated nutrient levels is identified as one of the priority problems facing the Morro Bay estuary and its watershed. The monitoring, restoration and education efforts of the Estuary Program and its partners often focus on this issue. Multiple efforts are on-going and planned to specifically address nutrient management.

Stormwater Management on Camp SLO: Central Coast Salmon Enhancement and the Estuary Program are partnering to apply for a State Water Resources Control Board Proposition 1 Storm Water Program planning grant. The primary partner for the stormwater management effort is Central Coast Salmon Enhancement (CCSE), a local non-profit partner who will serve as the applicant and will manage the grant if funding is awarded. CCSE will also provide technical expertise. Other partners include the California Conservation Corps who would contribute technical expertise, materials and field support, and Camp SLO who is the landowner for the project and would provide project match. Projects are not eligible for state funding unless storm water planning has already occurred. If this funding is won, then the necessary planning can occur that will allow implementation of future projects. A pre-proposal was submitted in April 2016. If invited to apply, the full proposal will be due in July 2016.

Bioreactor Pilot Project: As part of a CWA Section 319(h) grant, the Coastal San Luis Resource Conservation District (CSLRCD) partnered with a local landowner to design and install a denitrifying woodchip bioreactor. The system captures runoff from tile drains and removes nitrates from the water as it flows through the system. The bioreactor provides the right conditions for natural bacteria to take nitrates in the water and break them down into something less harmful to the environment. The wood chips provide a carbon source and under anaerobic conditions, denitrification occurs, thus reducing the nitrate loading from the runoff.

The landowner has 30-acres of agricultural fields tiled into three outlet points. These outlets were re-directed into a cistern. A windmill lifts water out of the cistern and into bioreactor. The water trickles through the reactor due to gravity. The treated water is discharged to Warden Creek.

After a long dry period, nitrate builds up in soil. With the first big rain of the year, often referred to as first flush, nitrates leaving the tile drains were at 40 to 45 ppm nitrate as nitrogen. After passing through the bioreactor, the nitrate levels dropped to 3 to 4 ppm nitrate as nitrogen. Funding for the project was from a Conservation Innovation grant through NRCS and a SWRCB grant. This pilot project effort demonstrated that with the appropriate design, very little land goes out of production and due to the gravity-fed system, little energy is required. The system demonstrates the potential to reduce nitrate levels in highly contaminated water to levels below the drinking water standard. A goal of the project is for this pilot demonstration to educate other landowners and eventually expand the application of this technology.

Los Osos Wastewater Treatment Project: Construction was recently completed and the first of three phases of sewer lateral connections are about to begin. Within a year, the community of Los Osos will be connected to the treatment plant, and septic systems will be decommissioned. The goals of the project were to reduce water shortage and groundwater pollution. In November 2015, 22 wells were sampled to establish the groundwater conditions prior to the treatment project coming online. The average nitrate as nitrogen results (in mg/L) were 16.7, with a median value of 18.1 mg/L, a minimum of 1 mg/L and a maximum of 32.6 mg/L. In 15 of the 22 wells, nitrate levels exceed the drinking level of 10 mg/L.

The Estuary Program is conducting monitoring of freshwater seeps along the Los Osos shoreline that empty into the bay. Sampling began in April 2014 and will continue on a monthly basis for at least a year following the treatment plan coming online. Of the data collected to date, the nitrate as nitrogen results were on average 9.13 mg/L, the median was 7.95 mg/L, the minimum was 0.5 mg/L, and the maximum was 21 mg/L. In FY17, the Estuary Program expects to continue seeps monitoring to document reductions in nitrate concentrations following the wastewater treatment project coming online. The Estuary Program has a long history of

involvement in the effort, serving on the Technical Advisory Committee that made project-related decisions when the effort began in 2007. Since then, the Estuary Program created a fund of \$100,000 to help low-income Los Osos residents defray the cost of connecting their homes to the treatment plant distribution system.

7 Summary of Accomplishments in Fiscal Year 2015/2016

7.1 Completed Major Projects

This section reports on major projects that were completed from the second half of FY15 (April-September 2015) and the first half of FY16. During this reporting period, the Estuary Program completed a number of substantial work plan tasks. These accomplishments are also included in the biannual reports submitted to the EPA in May and November.

Project Name: Roads Project Implementation

Project Description: The *Morro Bay Watershed Road Erosion Prevention Project* is part of a long term, programmatic effort that directly benefits water quality objectives by reducing the amount of road-related sediment delivery to the watershed's streams and the estuary. Addressing erosion issues at the top of the watershed helps reduce and prevent unstable sediment from entering waterways that eventually flow to Morro Bay. Steep terrain, erosive soils, poor road design, and flashy rain events contribute to failure along many of the dirt roads in the Morro Bay Watershed, thereby delivering significant sources of sediment to nearby streams. The purpose of this project is to address high priority road erosion sites to prevent sedimentation from entering streams and tributaries. Via implementation of this project, excessive sediment yield has been addressed through the reduction of both fine sediment inputs associated with chronic surface erosion on the roads, as well as episodic inputs of road related sediment during storm and flood events at stream diversions, wash-outs, and stream bank erosion.

During this reporting period, the construction phase has been completed. The types of treatments were numerous and included: excavating fill material from the road prism at locations where material was likely to deliver to a channel; replacing fill at stream crossings with upgraded culverts and armored fills; installing road drainage structures (rolling dips and critical dips); outsloping the road surface to improve drainage and drivability; and lowering fill volume at stream crossing axes where armored fills were installed. Between October 2014 and March 2016, approximately 11.2 miles of combined road mileage on Cal Poly, Camp SLO, and USFS properties, as well as 57 individual sites (38 stream crossings, 2 headwall swales, 2 headcuts, and 15 points of road surface discharge) were treated to prevent future human-caused erosion and the delivery of sediment to watercourses. As of the draft final report, results estimated that treatment of the 57 sites will prevent the episodic, primarily storm-driven delivery of 1,985 cubic yards (yd³) of sediment to Morro Bay tributaries over the coming decades. In addition, the project consultant estimates that treating the hydrologically connected road reaches will prevent 7,495 yd³ of roadbed-derived sediment delivery per decade.

The success of these efforts has inspired one of the project landowners, Camp San Luis Obispo, to take a look at their stormwater and grazing management practices, and initial steps are underway to secure funding for these types of projects.

Lead Implementer, Partners and Their Roles: The Estuary Program served as the lead implementer and was the partner that applied for the funding and managed the grant and the project work. The SWRCB, as the funder, was a project partner. Cal Poly and Camp SLO were the primary landowners where roads work took place. US Forest Service and Pacific Gas & Electric were landowners where some project work occurred. The Coastal San Luis Resource Conservation District contributed funds to the project from a CWA Section 319(h) Ag WQ Enhancement Grant that they received from the SWRCB. Pacific Watersheds Associates (PWA) was a project partner, lending technical advice and design expertise.

Accomplishments and Deliverables: Pending final numbers, approximately 11.2 miles of combined road mileage on Cal Poly, Camp SLO, and USFS properties, as well as 57 individual sites were treated. Draft results estimate that this project will prevent 9,480 yd³/yr (1,121 tons/year) of sediment from entering our creeks and eventually the estuary.

Amount of 320 grant/cooperative agreement: Final invoices are still outstanding, but through February 2016, \$353,330 of grant funds have been spent, along with \$157,600 in match from both the Restoration Fund and staff time.

Expected Long-term Outcomes: Reduction in sediment loading to the watershed creeks and the estuary.

Primary or Significant Role: The Estuary Program played a primary role in the Roads Project, which included writing and managing the grant and providing in-kind support.

External Constraints: Some of the challenges in implementing the project were as follows. A lack of a clear entity to take on the CEQA lead role was an initial challenge. Access constraints of working on a military facility were not initially factored into the schedule. Working with the dispersed scope was challenging. Staff turnover in the permitting agencies made the permitting process less efficient. Additional oversight during the planning, including re-assessing of sites, would have increased efficiency. Access to the upper watershed was difficult for heavy equipment. Selection of a non-local heavy equipment operator made implementation more challenging.

Project Name: 20th Anniversary Events

Project Objective: Celebrate the 20th anniversary of the Morro Bay National Estuary Program by engaging community members and recognizing those who helped establish the Estuary Program.

Project Description: The 20th anniversary of the establishment of the Estuary Program in Morro Bay is a milestone to be celebrated. Rather than a single event that might not reach all parts of the community, we planned events throughout the 20th year to reach different interest groups. These events included:

- A poetry contest was held for estuary-inspired poetry, with adult and youth categories and guest judges. A public poetry reading was held to honor the winners and to celebrate the estuary.
- In FY15, the Estuary Program recruited a variety of community members to tell stories of the bay – memories of growing up on the bay, recreating on the bay, working to create the National Estuary Program, and engaging with the community around the bay. The Bay Stories video and podcast project was completed, with 20 videos and podcasts featured on the Estuary Program website. Podcasts were broadcast on local radio. A viewing party was held to release the videos, and they are also available on our program's YouTube Channel.
- 20th Anniversary art exhibit began at the Art Center Morro Bay and rotated through the County. The exhibit focused on the estuary (art and historical photos) and included educational materials. Bay Stories videos were also showcased at each venue.
- We hosted an Open House event for the community to recognize the people who helped establish the Estuary Program. The event featured naturalist activities for youth, speeches, and a photo booth.
- We created a Give a Day campaign, which involved partnering with local non-profits to promote their volunteer events. This campaign involved six partners who got 192 people to donate time to benefit the bay and watershed.
- We hosted a community event to share program-generated data. Staff gave two scientific talks. One focused on water quality in the bay and creeks, and the other focused on eelgrass monitoring and restoration efforts.

- In conjunction with the city of Morro Bay, we hosted a Dogfest event that helped educate people about the importance of picking up after their dogs throughout the watershed. The event included a “dog poo” quiz, and other fun and information activities.

Lead Implementer, Partners and Their Roles: The Estuary Program was the lead implementer and organized all of the events listed above.

Accomplishments and Deliverables: As a result of the events, the Estuary Program has access to estuary-focused poetry, art and videos to use in their education and volunteer recruitment efforts. We have three new high-quality presentation posters that can be used at education and outreach events to share important data. These events reached approximately 1,000 people at various venues throughout the year.

Amount of 320 grant/cooperative agreement funds spend: \$315 was spent for the community science talk venue and presentation posters. \$9,300 went to create the bay story videos and podcasts.

Expected Long-term Outcomes: The opportunity to reach so many members of our community helped spread our messages of protection, restoration and conservation. This effort attracted volunteers and monetary support, strengthened our existing partnerships, and introduced us to new potential partners.

Primary or Significant Role: The Estuary Program played a primary role in this project, providing the funding and staff time for all events.

External Constraints: Our small community is wonderful in that it allows us to form close partnerships. However, the limited population in our watershed and the surrounding area can be a constraint in that it limits attendance at Estuary Program events.

Project Name: Clean Water State Revolving Funding Monitoring Project

Project Name: CWSRF Monitoring Project

Project Objective: The Estuary Program won CWSRF monies through a competitive application process in 2011, with funds spent from FY13 through FY16 to support our monitoring efforts. CWSRF monies paid for staff time, monitoring equipment and supplies, and consultant services such as laboratory analysis and statistical analysis. The goals of the monitoring effort were 1) to collect a long-term ambient data set, and 2) to collect project-specific monitoring data to assess the effectiveness of these implementation efforts. The project focused on quality assurance to ensure that data would be usable to users throughout the state. A Quality Assurance Project Plan was updated each year and approved by the EPA’s Office of Quality Assurance as well as the CCRWQCB’s QA Officer. The program’s data was managed in a system compatible with the California Environmental Data Exchange Network (CEDEN), and data was submitted to the regional data center for review and upload to the system. The project also focused on technology transfer, which included the development of technical reports and presentations, as well as public-friendly videos and brief publications.

Lead Implementer, Partners and Their Roles: The Estuary Program was the lead implementer. Estuary Program staff applied for the funding, managed the funds, and directed all data collection, data management and analysis. Program partners included the CCRWQCB, Cal Poly, the CSLRCD, the CDFW and the CDPH, who lent their technical expertise to our effort. Partners who made use of our data included the CCRWQCB, the CSLRCD, the CDFW, the CDPH, the city of Morro Bay, the county of San Luis Obispo, and the community of Los Osos. EPA’s Office of QA lent expertise in reviewing QA protocols and procedures, as did the CCRWQCB.

Accomplishments and Deliverables: Deliverables include technical reports, presentations, videos, and brief publications that showcased program-generated monitoring data. Accomplishments include the collection of a high quality data set that supports TMDL assessment, 303(d) assessment, project effectiveness assessment, and other efforts by partners to protect and restore Morro Bay and its watershed.

Amount of 320 grant/cooperative agreement funds: Through March 31, 2016, \$367,910 of CWSRF monies have been spent, along with \$128,860 in 320 funds as match.

Expected Long-term Outcomes: The expected long-term outcomes include a long-running, high quality data set to support various assessment, regulatory, and implementation efforts.

Primary or Significant Role: The Estuary Program played a primary role in this effort, including securing and managing the funding, directing all monitoring activities, and creating all products with the data.

External Constraints: Drought was a limiting factor for the monitoring and analysis that occurred. Lower than normal rainfall totals in all three winters reduced the number of sites that could be monitored and the analysis that could be conducted. Although this funding was extremely helpful in maintaining a robust monitoring effort, the Estuary Programs are no longer eligible for funding from this source.

7.2 Grants Awarded in prior year

Table 7.1: Community grant awards (Spring 2015 - Spring 2016):

FY Year	Applicant	Project Title	Purpose and Deliverables	Amount Expended
2014	Morro Bay in Bloom	Rainwater Harvesting Demonstration at Centennial Parkway	This project will install a rainwater harvesting system, connected to the park's irrigation, to demonstrate the concept and reduce the use of potable water for irrigation.	\$1,647
2015	Central Coast State Parks Association	Upgrade Video Microscope Systems	The grant purchased an updated video microscope system with a compound microscope and cameras that allow for projecting color images and capturing digital images for future use.	\$4,500
Total Amount Expended:				\$6,147

Table 7.1 summarizes the Community Grant awards that received funding over the last year (Spring 2015 – Spring 2016). All grants help implement the Comprehensive Conservation and Management Plan with an emphasis on engaging the community in the project. All grants are funded through the Morro Bay Restoration Fund, a match source to the EPA 320 funding.

7.3 Travel Expenses

Table 7.2: Travel expenses charged to 320 funds (October 1, 2015 – March 31, 2016)

Event	Location	Trip Purpose	Dates	Staff attended	Costs Included	Total Amount
Bioassessment Training	Davis, CA	Bioassessment monitoring training to discuss field protocols, data analysis and research	10/20/15 – 10/21/15	Karissa Willits	Mileage, meals, lodging, incidentals	\$685
ANEP West Coast meeting	Santa Monica, CA	Coordination meeting for west coast ANEP directors	10/26/15	Adrienne Harris	Mileage, meals, incidentals, lodging	\$882
ANEP Conference	San Juan, PR	Information sharing and technology transfer between NEPs and partners	12/1/15 – 12/4/15	Jen Nix	Mileage, meals, incidentals, lodging, airfare	\$1,670
ANEP Conference	Washington, D.C.	Information sharing and technology transfer between NEPs, EPA and other partners	2-22-16 – 2/25/16	Lexie Bell	Mileage, meals, incidentals, lodging, airfare	\$1,576
TOTAL						\$4,813

Table 7.2 details travel expenses incurred so far during FY16, including attendance at the biannual NEP meetings, professional development trainings, and conferences.

Table 7.3: Travel expenses planned for 320 funds (April 1, 2016 – September 30, 2016)

Event	Location	Trip Purpose	Dates	Staff attending	Costs Included	Total Amount
National Water Quality Monitoring Conference	Tampa, FL	Conference to gather information on monitor methods, data analysis techniques and volunteer management	5-2-16 to 5-6-16	Karissa Willits	Mileage, meals, incidentals, lodging, airfare	\$2,000
ANEP Conference and RAE	New Orleans, LA	Information sharing and technology transfer between NEPs and other groups attending RAE	12-9-16 to 12-15-16	Lexie Bell and Rachel Pass	Registration and airfare (other costs will occur in FY17)	\$3,000
California Adaptation Forum	Long Beach, CA	Share strategies and network with climate adaptation professionals in CA	9-7-16 to 9-8-16	Lexie Bell and Jen Nix	Mileage, meals, incidentals, lodging	\$900
San Francisco EPA meetings	San Francisco, CA	Lexie as new Executive Director to meet EPA Region 9 partners, as well as other agency partners in the area	TBD	Lexie	Mileage, meals, incidentals, lodging	\$400
TOTAL						\$6,300

Attachment 1. Outreach Events and Field Trips for April 2015 through March 2016

Date	Organization	Presentation Topic	Audience Type	Audience Size
4/27/2015	Cuesta College Oceanography Class	Nutrients	College students	30
5/13/2015	Baywood-Los Osos Kiwanis Club	Estuary Program overview and Bay Story videos	Kiwanis club members	20
5/14/2015	SLO County Libraries	Estuary Program overview and Bay Story videos	Community & visitors	8
6/18/2015	Delphinus School	Watershed model, what is an estuary, etc.	Delphinus school students	11
6/20/2015	Morro Bay State Parks	Macroinvertebrates, water quality, steelhead videos	Community & visitors	48
6/26/2015	Delphinus School	Watershed model, what is an estuary, etc.	Delphinus school students	5
7/6/2015	Morro Bay Kids' Camp	Watershed model, what is an estuary, etc.	Students ages 6-12 & 5 HS counselors	55
8/12/2015	Delphinus School	Watershed model, what is an estuary, WQ testing, program goals	Delphinus school students	12
9/25/2015	Cuesta College Oceanography Class	Salinity and oxygen	College students	30
11/6/2015	UCSB env sci graduate class	MBNEP overview, watershed management	graduate students	20
11/9/2015	Soil science seminar class - Bwayla Malama	Watershed overview, priorities issues, volunteering	Junior and senior students	20
11/13/2015	Pacific Beach High School seniors	MBNEP overview, pacific garbage patch, community service options	HS students & librarian	8
11/20/2015	Cuesta College Oceanography Class	Nutrients	College students	30
12/3/2015	Social Security Admin workers	MBNEP overview, macro survey and water quality	Social Security Administration	21
1/13/16	Harbot Department Safety Training	Clean boating awareness	Recreational boating businesses	25
1/15/2016	Morro Bay Winter Bird Festival	History and ecology of Morro Bay, important conservation actions	Birders/attendees	12
1/15/2016	Morro Bay Winter Bird Festival	MBNEP overview, eelgrass	Birders/attendees	15

Date	Organization	Presentation Topic	Audience Type	Audience Size
		conservation, monitoring efforts		
2/5/2016	Cal Poly planning graduate class - Adrienne Greve	MBNEP overview, conservation easements, planning	graduate students	13
2/18/2016	Land Conservancy	MBNEP overview, conservation easements	landowners	4
3/7/2016	Cuesta College	Dissolved oxygen and salinity measurements	College course	30
3/8/2016	Harbor Dept/Lois Capps Office	MBNEP overview, eelgrass, clean marinas	Congressional rep and staff	5
3/25/2016	Central Coast Chapter of The Wildlife Society	Practitioner's Guide to Adaptive Management (Eelgrass)	Symposium	>100