WORK PLAN & BUDGET
FOR
FISCAL YEAR 2018

MORRO BAY NATIONAL ESTUARY PROGRAM
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Contents

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 2018 (FY18), which covers the period from October 1st, 2017 through September 30th, 2018.

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 (NEP) 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 FY18 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, restoration, 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 Previous Year's Program Accomplishments

This section reports on accomplishments from the second half of FY16 (April to September 2016) and the first half of FY17 (October 2016 to March 2017). During this reporting period, the Estuary Program completed a number of substantial workplan tasks. These accomplishments are also included in the semi-annual reports submitted to the EPA in May and November.

Highlighted Success Stories:

303(d) Update

Project Objective: Provide high quality data to support updating of the State Water Resources Control Board 303(d) process.

The Estuary Program's Monitoring Program strives to collect high quality data to inform the efforts of partners, agencies, and private citizens to increase our understanding of the health of the estuary and its watershed. One of these efforts is the update of the 303(d) list by the Central Coast Regional Water Quality Control Board (CCRWQCB). In Spring 2016, the CCRWQCB issued its 2014 Data Solicitation, calling for data to support the 303(d) update process. The Estuary Program had worked for the past year to submit all historic data from the past 15 years (over 36,000 data records) into the California Environmental Data Exchange Network (CEDEN), the State Water Resources Control Board (SWRCB) system for submitting data. Only data submitted through this portal would be incorporated into the process.

Estuary Program staff worked with the CCRWQCB to review the data, and we submitted comments to the draft 303(d) list. A number of changes occurred to the Morro Bay watershed listings, not due to worsening water quality conditions but because of directives from EPA to improve consistency between listings. Estuary Program data demonstrated that a segment of Chorro Creek proposed for an additional listing did not meet the listing criteria. This example demonstrates the value of Estuary Program data in informing regulatory decision making.

In December 2016, the CCRWQCB approved Water Board staff's recommended changes to the 303(d) list. The next step is State Water Board approval (expected in August 2017) and then EPA approval.

The effort supports the following CCMP Actions: MON-1 (support TMDL development), MON-5 (support partners).

Eelgrass Monitoring

Project Objective: Track the status of bay-wide eelgrass.

Eelgrass, a submerged aquatic vegetation, is a valuable habitat type in Morro Bay. It provides nursery habitat for juvenile species, dampens wave action, and helps hold the bay bottom in place. Precipitous declines in eelgrass acreage over the last ten years have been of great concern. The Estuary Program has been working closely with Cal Poly researchers as well as other eelgrass experts to increase monitoring of eelgrass to better track conditions and changes. During this reporting period, the Estuary Program was awarded grants from NOAA and California Department of Fish and Wildlife (CDFW) to fund eelgrass monitoring efforts. The Estuary Program worked with California Polytechnic State University, San Luis Obispo (Cal Poly) to develop detailed monitoring protocols, and the two organizations closely coordinate monitoring and data management efforts. The Estuary Program initiated a pilot restoration effort informed by these collaborative monitoring activities during this reporting period. The pilot effort will be completed in early FY18. These efforts have greatly strengthened local capacity to track eelgrass health, which will support efforts for restoration and management.

The efforts support the following CCMP Actions: MON-5 (Monitoring Partners), MON-6 (Support Research Activities), ECR-7 (Data and Research to Protect Eelgrass).

Roads Erosion Prevention Project

Project Objective: Reduce sediment runoff from rural roads by improving 11.4 miles of degraded roads in the upper watershed at 58 sites.

The *Morro Bay Watershed Road Erosion Prevention Project* was part of a long term, programmatic effort that directly benefited 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 amounts of sediment to nearby streams. The purpose of this project was to address high priority road erosion sites to prevent sedimentation from entering streams and tributaries. Through implementation of this project, excessive sediment yield was 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 reporting was completed and the project grant finalized. The numerous treatments 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 11.4 miles of combined road mileage were addressed on Cal Poly, Army Guard National Base Camp San Luis Obispo (Camp SLO), and US Forest Service properties. Fifty-eight individual sites (including stream crossings, headwall swales, headcuts, and points of road surface discharge) were treated to prevent future human- caused erosion and the delivery of sediment to watercourses. The treated sites will prevent the episodic, primarily storm-driven delivery of 1,985 cubic yards (yd^3) 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 yd^3 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. The initial planning and design efforts, in addition to successful completion of the project, led the Coastal San Luis Resource Conservation District to seek funding for additional road erosion prevention work in the neighboring watershed.

The effort supports the following CCMP Actions: BMP-2 (Rural Roads Erosion)

Community Grants

Project Objective: Provide support to community projects that address the goals of the Estuary Program.

The Estuary Program maintains an active community grant program, with two opportunities each year to apply. Three grant-funded projects were recently completed.

- SeaLife Stewards Program: In conjunction with the Central Coast State Parks Association and the Monterey Bay National Marine Sanctuary, the Morro Bay Natural History Museum created a kayak docent program to educate bay users on how to interact with wildlife. The Estuary Program grant provided some of the equipment start-up costs for the program. We also contributed to training materials and instructed some of the training sessions.
- Centennial Park Rainwater Harvesting Project: The Estuary Program awarded a grant to Morro Bay in Bloom for the design and construction of rainwater harvesting tanks at a park along our Embarcadero. Tanks capture rainwater from a nearby rooftop, and the water irrigates this city park. The project included an educational sign to show park visitors how rainwater catchment could be implemented in a home environment.
- Educational Film: A local filmmaker created a short film describing the history of the Estuary Program and the people who helped Morro Bay gain entrance to the National Estuary Program. The film also describes the water quality challenges faced by Morro Bay. The film was one of 75 accepted out of over 1,000 submissions to the San Luis Obispo International Film Festival, where it won an award for Best Documentary Short. The film will have additional local screenings and has been entered in other film festivals. The Estuary Program grant helped cover editing costs in developing the piece and provided guidance in the messaging.

The efforts support the following CCMP Actions: FWR-5 (Water Conservation), USE-1 (Recreational Uses), EO-1 (Public Education and Outreach).

3.0 Goals for CCMP Implementation in Fiscal Year 2018

This work plan describes the Morro Bay National Estuary Program's broad goals, specific projects, and planned budget for federal fiscal year 2018 (FY18), which spans from October 1, 2017 to September 30, 2018. This work plan will guide Estuary Program efforts in FY18 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 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 and manage the resources of Morro Bay.

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

4.0 Budget and Staff Elements

4.1 Budget Discussion

Tables 4.1 and 4.2 provide an overview of the budget for FY18. The Estuary Program 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 FY18

Category	Subcategory	FY18 Anticipated Request	Match	Total
Personnel	Salaries	$368,120	$6,800	$374,920
	Fringe	$49,129	$0	$49,129
	Management Conference		$16,000	$16,000
	Subtotal	***$417,249***	**$22,800**	***$440,049***
Travel	(category includes local mileage)	$11,100	$0	$11,100
Supplies	Computers, software	$2,800	$0	$2,800
	Monitoring supplies	$8,000	$0	$8,000
	Misc. office supplies	$6,700	$0	$6,700
	Subtotal	***$17,500***	***$0***	***$17,500***
Contractual	Audit/Taxes/Accounting	$14,320	$15,000	$29,320
	Education and Outreach	$16,634	$16,476	$33,110
	Monitoring and Research	$18,300	$41,500	$59,800
	Restoration and Protection	$24,863	$461,870	$486,733
	Subtotal	***$74,117***	***$534,846***	***$608,963***
Other	Rent	$54,440	$23,604	$78,044
	Utilities	$3,346	$0	$3,346
	Postage	$1,300	$0	$1,300
	Copying, Printing	$3,600	$0	$3,600
	Training, Prof. Dev.	$2,000	$0	$2,000
	Telephone, Internet	$7,116	$0	$7,116
	Repairs and Maintenance	$3,200	$0	$3,200
	Insurance	$3,032	$0	$3,032
	Vehicle maintenance, fuel	$2,000	$0	$2,000
	Community mini-grants	$0	$18,750	$18,750
	Subtotal	***$80,034***	***$42,354***	***$122,388***
	TOTAL	**$600,000**	**$600,000**	**$1,200,000**

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 A	Communications 1	$ 7,100	$ -	$ -	$ 7,100
	Community Projects 2	$ 984	$ -	$ 13,650	$ 14,634
	Bay Friendly Recreation	$ -	$ -	$ 2,000	$ 2,000
	Clean Boating 3	$ 500	$ -	$ -	$ 500
	State of the Bay	$ -	$ -	$ -	$ -
	Education and Nature Center 4	$ 7,050	$ -	$ 826	$ 7,876
	Other E&O Tasks 5	$ 1,000	$ -	$ -	$ 1,000
	Subtotal	***$ 16,634***	***$ -***	***$ 16,476***	***$ 33,110***
Monitoring and Research B	Benthic Invertebrate Monitoring	$ -	$ -	$ 6,500	$ 6,500
	Eelgrass Monitoring 1	$ 12,000	$ -	$ 10,000	$ 22,000
	Stats	$ 1,000	$ -	$ -	$ 1,000
	Water Quality Monitoring 2	$ 5,300	$ -	$ 25,000	$ 30,300
	Subtotal	***$ 18,300***	***$ -***	***$ 41,500***	***$ 59,800***
Habitat Protection and Restoration	CCER Planning	$ 2,863	$ -	$ 200,000	$ 202,863
	Land Conservation	$ -	$ 74,250	$ 140,020	$ 214,270
	Freshwater Flow	$ -	$ -	$ -	$ -
	Restoration Maintenance and Monitoring	$ 2,000	$ -	$ -	$ 2,000
	Eelgrass Restoration	$ 12,000	$ -	$ -	$ 12,000
	Other Restoration	$ 8,000	$ 10,000	$ 37,600	$ 55,600
	Subtotal	***$ 24,863***	***$ 84,250***	***$ 377,620***	***$ 486,733***
	TOTAL	***$ 59,797***	***$ 84,250***	***$ 435,596***	***$ 579,643***

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 FY18 Work Program. This table does not include Estuary Program staff time or overhead.

Education and Outreach Expenses (section A):

1. Communications expenses include graphic design work and printing for the annual report; pamphlets and publications; and ongoing maintenance expenses for our electronic newsletter, blog, and website.
2. Community projects includes support for partner education events such as Coastal Cleanup Day and Harbor Fest.
3. Clean boating expenses include materials for clean boating kits.
4. Education and Nature Center includes expenses such as aquarium maintenance, binoculars, display repairs and upgrades, watershed model demonstration supplies, handouts, microscopes, educational activity supplies, and coloring supplies.
5. Other E&O Tasks includes work on various community projects as opportunities arise. Includes costs such as printing, development of education materials, and conducting surveys of the public to determine changes in behavior and attitude.

Monitoring and Research Expenses (section B):

1. Eelgrass Monitoring expenses include supplies, contracts, analysis, and coordination with partner efforts to track eelgrass conditions in the bay.
2. Water Quality Monitoring expenses include analytical laboratory services (couriers, sample analysis, and data reporting), equipment servicing and repairs, and database support (technical support for maintaining our data management system).

Program Staffing Anticipated for FY18

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 Estuary Program staff. Principal liaison to other agencies and organizations. Principal liaison to EPA. Serves as the public face of the organization. Represents the Estuary Program 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, obtaining permits, 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 updates, 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 Estuary Program monitoring efforts. Under direction of Assistant Director, complete data analysis, 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. Submit data to state-wide data exchange network for use by agencies and the public.
- 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, data management, analysis, and outreach. These are part-time positions.

Fringe Details: $49,129

- Expenses:
    - Workers Compensation – Workers' compensation insurance as required by law and specific to each position.

- Health Insurance – Health insurance costs that the Bay Foundation of Morro Bay covers for eligible full-time employees.
- IRA Match – Bay Foundation match payments for eligible employees' IRA contributions.

Miscellaneous Office Supplies: $6,200

- Expenses:
  - Supplies (printer paper, toner, pens, checks, post-it notes, batteries, business cards, etc.)
  - Water delivery
  - Office furniture
  - Meeting space rentals and materials
  - Phone maintenance and repairs
  - Forms, checks, and employee policy posters and guides
  - First aid supplies and CPR training
  - Library supplies, such as shelving, boxes, bookshelves, and binders

Monitoring Program Supplies: $8,000

- Expenses:
  - Bacteria monitoring supplies – This includes the reagent, supplies, and other ancillary items needed to monitor bacteria levels. This includes supplies needed for health and safety and for quality assurance procedures.
  - Water quality monitoring supplies – Reagent, calibration supplies, small equipment, batteries, and other ancillary items for monitoring conventional water quality parameters in the estuary and creeks. This includes necessary items for health and safety and for quality assurance procedures.
  - Field gear – Protective gear to ensure that staff and volunteers can work effectively and safely.

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 and promote clean water in the bay. Over 4,000 acres of land have been protected through conservation easements and fee title acquisitions by the Estuary Program and partners. In FY18, the Estuary Program expects to work with the Land Conservancy of San Luis Obispo County 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 Morro Bay Open Space Alliance, California Department of Fish & Wildlife, California Coastal Conservancy, Wildlife Conservation Board, Morro Coast Audubon Society, California State Parks, and private landowners.
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 strong 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 a focus on the 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: 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, best management practice (BMP) effectiveness, and pre- and post-project restoration effectiveness. These efforts will continue as necessary. Currently, ongoing monitoring occurs on the Maino Conservation Easement, the Walters Creek Restoration Project, and the Roads Erosion Prevention Project. These will continue along with monitoring on the Chorro Creek Ecological Reserve Project.
Partners and Their Roles: Landowner partners include private landowners, Camp San Luis Obispo, CDFW, Cal Poly, PG&E, and US Forest Service. Their role is to permit land access and maintain project sites.
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 CCER.
Estimated Milestones: Maino Easement monitoring completed in Spring 2018. Road Erosion Prevention Project monitoring completed in Summer 2018. NEPORT submission completed by deadline provided by EPA, usually Summer 2018. CRAM data will be completed in Summer 2018 if the previous winter is an active one.
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.

5.1.3 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. Thus far, 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. These planting efforts did not

yield successful eelgrass growth, despite using well-tested methods that had demonstrated success in the bay and many other California locations. 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 eelgrass 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 experimental restoration work in FY2017 that will inform efforts in FY2018 (depending on funding available) and allow 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), the Black Grant Group (funding and field support), and the oysters farmers (monitoring support).
Outputs/Deliverables: Updated map of eelgrass distribution, density measurements, and other data and protocols.
Estimated Milestones: Final reports for CDFW grant for eelgrass monitoring and restoration that help us establish numeric targets are expected in Winter 2018.
Estimated Budget: Staff time and $12,000 towards restoration. Additional efforts depend 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.

5.1.4 Project Name: Chorro Creek Ecological Reserve Restoration Permitting and Implementation

Project Status: ***Ongoing***
Objective: Obtain funding, permits, and surveys for the Chorro Creek Ecological Reserve Restoration Project.

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. Conceptual Designs were completed in 2008 to address floodplain restoration and gully remediation, but it was agreed upon that the 2008 designs strayed from the overall goals of the site and the high implementation costs could have prevented project implementation. As a result of efforts in FY16 to obtain funding and begin planning, coordination with CDFW was conducted through early 2017 in developing designs for a restoration effort. The next phase of the project involves developing the surveys and permits required for implementation, as well as securing funding.
Partners and Their Roles: Project partners include CDFW as they are both a funder and the landowner. Other partners include the State Coastal Conservancy, who provides review and feedback as a potential funder, and EPA, who offers technical assistance. EPA and the Coastal Conservancy are also potential funders.
Outputs/Deliverables: Approved plans and permits for restoration project.
Estimated Milestones: Complete final restoration designs by Spring 2017. Apply for funding by Fall 2017. Complete project surveys by Spring 2018 and complete environmental review and permits by Spring 2019.
Estimated Budget: Staff time and $2,800 toward project surveys.
Long-term Outcomes: Completed restoration plan, permits and surveys to allow CCER restoration implementation to proceed in FY19.

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

5.1.5 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. Some examples include the boat haul out facility for Morro Bay, the Local Coastal Plan update for Morro Bay, the Los Osos Community Plan update, the Morro Bay Harbor master plan, riparian fencing, and the SLO County Integrated Regional Water Management Group. The Estuary Program will act as a partner on water conservation, habitat restoration, and steelhead projects as needed. Invasives species management will continue in the watershed, and the Estuary Program will continue to work with partners on these efforts.

Partners and Their Roles: Potential partners include San Luis Obispo County, the city of Morro Bay, the Los Osos Community Services District, Cal Poly, Camp SLO, 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 $8,000 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.

5.1.6 Project Name: Conservation and Restoration Project Development

Project Status: ***Ongoing***

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 FY18 include freshwater flow projects addressing conservation and steelhead habitat projects to address invasive management. The steelhead habitat project would include seeking funding for a pikeminnow management component.

Partners and Their Roles: The primary partners for freshwater flow projects could potentially include 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 potential landowners. 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. For conservation and steelhead projects, the milestones are TBD depending on funding and permitting.

Estimated Budget: TBD, depending on project opportunities.

Long-term Outcomes: Expand steelhead access to areas in the watershed with the habitat and water quality to support sensitive species. Expand water conservation efforts to protect surface flows.

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 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 as extensive a data set. 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, San Luis Obispo County, 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 2018. This includes an analysis of the sediment impacts to macroinvertebrate populations.
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. 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 sediment monitoring update is expected in Fall 2018. Data summaries are expected in Winter 2018.
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's 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 of restoration projects and monitoring the freshwater seeps in Los Osos. The seeps are expected to demonstrate reduced nitrate contamination of groundwater by septic systems since the Los Osos sewer system came online in 2016. The Cal Poly rainwater harvest project on Pennington Creek and a fish ladder and improved water diversion on Pennington Creek will also be monitored.

Partners and Their Roles: Project partners include landowners or responsible entities such as Cal Poly, Camp SLO, and San Luis Obispo County Office of Education. Project partners lending expertise and funding include Trout Unlimited, Central Coast Salmon Enhancement, the California Department of Public Health, 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 FY18. 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 FY18, 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 the monitoring approach and to seek funding to support research and monitoring (see more information under Task 5.1.3). 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, and bay sediment. The Estuary Program plans to conduct bay-wide eelgrass monitoring using aerial methods, 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, sediment impacts, etc. Other partners include CDFW, who is are 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 intertidal eelgrass map collected using aerial methods.

Estimated Milestones: The eelgrass report and bay-wide map will be completed in Winter2018.

Estimated Budget: Staff time and $12,000.

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 has begun collaborative efforts with partners such as Cal Poly. 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 and impacts to the biota using eelgrass habitat. Other potential efforts include sea level rise around the bay, bay sediment characteristics, and others.

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 FY18 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 FY18, 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. They are also shared via social media.
- **Social Media** –The Estuary Program utilizes Facebook, Instagram, 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 1,200 Facebook fans, 1,250 Instagram followers, and more than 480 Twitter followers. In FY18, the Estuary Program will continue to increase two-way communication using 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 created 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.
- **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 FY18, the Estuary Program will continue to promote the Clean Water campaign and Clean Water pledge. Currently, more than 750 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, State Parks, 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 2018. Website updates, social media posts, presentations, news releases, and brochures will be completed as needed.
Estimated Budget: $600 for printing and $3,300 for design of annual report. $1,200 for website maintenance, hosting and design. $2,000 for brochure and other outreach material printing. Total: $7,100.
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 FY18, 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 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 visitors and residents during community events.
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 on topics such as watersheds and the water cycle. Cal Poly faculty are also partners, bringing classes to the estuary to conduct research and fieldtrips. Staff also visit classroom from primary through college-level to present the results of our work.
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. $3,000 for Nature Center maintenance and repairs. $500 for clean boating materials.
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: ***Ongoing***
Objective: Update the content and displays in the Nature Center.

Description: About 30,000 visitors have stopped by the Estuary Program's Nature Center each year 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 FY18, 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. Others such as the Monterey Bay National Marine Sanctuary, the Historical Society of Morro Bay, and the UC Santa Cruz Seymour Marine Discovery Center lend advice and expertise.
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: $4,000 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 FY18.
Partners and Their Roles: Partners are past applicants, including most recently the Central Coast State Parks Association (which is affiliated with the Morro Bay Museum of Natural History) and a filmmaker who created a short film about the formation of the Estuary Program and the challenges facing Morro Bay.
Outputs/Deliverables: Deliverables include grant applications, contracts, and final reports. A final report will detail the grants completed in FY18.
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 FY18 will be compiled in Summer 2018.
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: 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 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: 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: $980 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 as needed 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 FY19 is due to EPA Region IX in May 2018. 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 2018), monthly Bay Foundation financial reports (monthly), biannual EPA grant reports (Winter 2018 and Summer 2018), annual financial statements (Spring 2018), audit and tax work (Spring 2018), attendance at the fall NEP Tech Transfer meeting (Fall 2017), and attendance at the spring NEP Tech Transfer meeting (Spring 2018).
Estimated Milestones: See above.
Estimated Budget: Staff time; accounting/auditing costs of $14,320; NEP Tech Transfer meeting travel costs of $4,500.
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, preparing audited financial statements, 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 2017), 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 2018 and Summer 2018), data summary reports (see other program area tasks), and NEPORT data (Summer 2018).
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.

5.4.5 Project Name: Management Plan Update/Revision

Project Status: *New*

Objective: Update the Comprehensive Conservation and Management Plan (CCMP) per EPA guidance.

Description: Assess guidance and current CCMP to determine areas to expand or update. Convene committees to prioritize actions and areas of focus. In FY18, will be assessing the CCMP and establishing an update plan. In FY19, the updating will occur, including the five-year focus areas and working toward measurable objectives.
Partners and Their Roles: The primary partners are the Bay Foundation board, the EC, the IC, advisory committees, and other project partners. All will contribute input and guidance throughout this process.
Outputs/Deliverables: The deliverables include a plan for updating of the CCMP (Summer 2018).
Estimated Milestones: See above.
Estimated Budget: Staff time.
Long-term Outcomes: Working toward a Management Plan that is up-to-date and relevant, per EPA's guidance.
CWA Core Programs the Project Supports: Support contribution toward all CWA core programs.

6 Completed Major Projects

This section reports on major projects that were completed or expected to be completed in FY17. These accomplishments are also included in the biannual reports submitted to the EPA in May and November.

Project Name: Chorro Creek Ecological Reserve

Objective: Restore riparian and special status species habitat in the watershed, while reducing sediment loading to the estuary.

Project Description: The Chorro Creek Ecological Reserve (CCER) is 580 acres acquired by the Estuary Program and CDFW in 2003. The proposed project area within the reserve is approximately 333 acres. The goals of the project are to grade the secondary channel to avoid further erosion, breech an existing levee to reconnect the creek to the floodplain, expand riparian vegetation, and improve an existing road crossing.

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 CDFW is a primary partner, as the landowner and a funder of the project.

Accomplishments and Deliverables: During Spring FY17, 100% designs for the project were completed. A grant for planning and permitting from CDFW will be completed this year. The property is visible within the watershed, and thus provides an excellent opportunity to demonstrate the impacts of floodplain and riparian restoration. The project is one of the actions included in the Morro Bay Climate Vulnerability Assessment report, which is to restore floodplains.

Amount of 320 Grant/Cooperative Agreement Funds Spent: Final invoices are still outstanding, but through February 2017, $144,000 of CDFW grant funds have been spent, along with $14,850 in match from 320 funds.

Expected Long-term Outcomes: Reduction in sediment loading to the watershed creeks and the estuary. Improved riparian and special status species habitat. Improved climate resiliency, as creek is reconnected to the floodplain.

CWA Core Program Project: The NEP played the central primary role in implementing CWA tools: Protecting wetlands. Protecting Coastal Waters through the National Estuary Program.

External Constraints: The CCER is a Workplan task and the 100% design deliverable was completed this spring. Completed designs were somewhat delayed from the initial schedule due to the need for a geotechnical analysis (completed in Fall 2016). However, this survey greatly helped identify project needs and restoration designs. A portion of restoration implementation funding will be requested from CDFW's Fisheries Restoration Grant Program. Through this funding source, the majority of the environmental review is covered but a portion of surveys needed (e.g., plant surveys) may not be conducted until Spring 2019 (after an agreement with CDFW is finalized). Other permitting efforts (e.g., county permitting) will begin in 2017 and continue into 2018.

Project Name: Eelgrass Restoration

Project Objective: Conduct experimental outplanting to help establish targets and metrics for future eelgrass restoration efforts.

Project Description: Morro Bay eelgrass has experienced a steep decline in acreage over the past ten years. Large scale restoration efforts (using methods previous successful in the bay) in 2012, 2013, and 2014 did not result in widespread eelgrass resurgence in the mid and back bay, where most of the eelgrass loss occurred. With funding from CDFW and NOAA, a small experimental outplanting effort was conducted in Spring 2017, with a possible second effort in Summer 2017. Various locations and planting methods were explored, and the planting is being intensively monitored. The results of this first effort will inform the effort later in 2017.

Lead Implementer, Partners and Their Roles: The Estuary Program was the lead implementer and recipient of the grant funds. The Estuary Program is responsible for grant management, project planning, permitting, and reporting. Cal Poly was a recipient of grant funds via the Estuary Program and an active partner in project planning, permitting, monitoring, and restoration. They also brought resources to the project including safety training, boats, and other equipment resources. NOAA and the California Department of Fish and Wildlife were funders of eelgrass restoration efforts.

Accomplishments and Deliverables: As a result of the planting, the Estuary Program will have additional information on the locations and methods which lead to successful eelgrass restoration. This information will inform establishment of eelgrass restoration targets and goals. The Estuary Program is meeting our deliverable and milestone goals at this time. Eelgrass restoration addresses climate adaptability and vulnerability through protection of biodiversity to maintain habitat and ecosystem function.

Amount of 320 Grant/Cooperative Agreement Funds Spent: Staff time.

Expected Long-term Outcomes: The expected outcome is a better understanding of the factors impacting eelgrass restoration success.

CWA Core Program Project: The Estuary Program played the central role in implementing a CWA tool: Protecting coastal waters through the National Estuary Program.

External Constraints: Eelgrass loss is likely due to a combination of factors, including changing water quality, changing bay substrate conditions, and predation. Many of these factors are beyond human control. Restored eelgrass may survive only to be lost if conditions shift. At this time, Estuary Program efforts are implementing the workplan and attaining objectives, and all milestones and deliverables are on schedule.

Project Name: State of the Bay Report Card and Event Planning

Project Objective: Assess the state of the Morro Bay estuary and its watershed, and share those results with the public through a report card and a series of events.

Project Description: The Estuary Program updates its environmental report card every three years. The report addresses common questions regarding the health of the bay and estuary using data collected by the Estuary

Program and its partners. A report is printed, along with a series of events targeting different portions of the public to spread a clean water message.

Lead Implementer, Partners and Their Roles: The Estuary Program is the lead implementer. Estuary Program staff collected and analyzed data, gathered data from partners, wrote and created the document, and shared it via our website. The Estuary Program also plans and coordinates events throughout the month of April 2017 to share the results of the report card. Partners include the Morro Bay Natural History Museum, ECOSLO, SWAP, the SLO Botanical Garden, and CCSTEM, which are organizations focused on environmental and educational missions. Many entities shared data and expertise for developing the indicators. These included USGS, the Central Coast Regional Water Quality Control Board, the California Department of Public Health, the National Audubon Society, the Morro Coast Audubon Society, US Fish and Wildlife Service, and University of San Francisco.

Accomplishments and Deliverables: Deliverables include a State of the Bay 2017 report, a summary State of the Bay 2017 brochure, and a series of talks, field trips, hikes, and other activities that share the results of the report. Accomplishments include the creation of a public-friendly environmental report card that supports a clean water message.

Amount of 320 grant/cooperative agreement funds: Through February 2017, $4,300 in 320 funding has been spent, along with staff time, to design and print the report card and brochure. Costs for the State of the Bay events are minimal and include space rental fees and honorariums for invited speakers.

Expected Long-term Outcomes: The expected long-term outcomes include a public-friendly publication to share with residents, visitors, partners, and others. It educates on the health of the estuary and watershed and informs individuals as to how they can make a difference, in particular as it relates to nonpoint source pollution.

CWA Core Program Project: The Estuary Program played a central role in implementing a CWA tool: Protecting coastal waters through the National Estuary Program.

External Constraints: Due to the expenses related to design and printing, the content of the report had to be limited. Not all available data and analysis could be shared. The objectives, milestones, and deliverables of the workplan are being met.

7 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.

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 the bioreactor. The water trickles through the reactor due to gravity. The treated water is discharged to Warden Creek. During times of low flow, the landowner is interested in diverting water from the creek through the bioreactor before returning it to the creek. He is working with local regulators to determine the feasibility of this approach.

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 completed in Spring FY16 and the final phase of sewer lateral connections are about to be completed. 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 were 16.7 mg/L, 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 exceeded 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 9.23 mg/L, the median was 7.8 mg/L, the minimum was 0.5 mg/L, and the maximum was 21 mg/L. The Estuary Program has continued 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.

Coastal Community Resiliency

A changing climate presents threats to coastal communities around the globe. The Estuary Program works with partners, agencies, and others to work to understand potential changes and how we can increase our resiliency to protect habitats and infrastructure.

Climate Vulnerability Assessment: To identify potential risks and adaptations, the Estuary Program developed a Climate Vulnerability Assessment according to the protocol developed by EPA. The effort included climate modeling, analysis of historic data, and analysis of associated risks. It also identified future actions to improve resiliency. Floodplain restoration is one of these identified actions, and the Estuary Program is moving forward with efforts to restore the Chorro Creek Ecological Reserve. By the end of FY17, 100% designs will be completed and the Estuary Program will have made progress on the surveys and permits required for the project.

USGS Tidal Marsh Study: Researchers at USGS recently published the results of a three-year study looking at tidal marsh vulnerability at eight estuaries along the California coast, including Morro Bay. USGS will continue to monitoring the sites, furthering our understanding of impacts to our vulnerable salt marsh. This information will be incorporated into Estuary Program efforts, and we will share the information with our partners.

7.1 Grants Awarded in prior year

Table 7.1: Community grant awards (Spring 2016 - Spring 2017):

FY Year	Applicant	Project Title	Purpose and Deliverables	Amount Expended
2014	Morro Bay in Bloom	Rainwater Harvesting Demonstration at Centennial Parkway	This project installed a rainwater harvesting system, connected to the park's irrigation, to demonstrate the concept and reduce the use of potable water for irrigation.	$751
2016	Central Coast State Parks Association	SeaLife Stewards Equipment	The grant purchased kayaks and other ancillary equipment for a kayak docent program.	$2877
2017	Simo Nylander	Of Marshes and Morros video documentary	This local filmmakers created a short film about the formation of the Estuary Program and the challenges facing the bay.	$3,480
Total Amount Expended:				**$7,108**

Table 7.1 summarizes the Community Grant awards that received funding over the last year (Spring 2016 – Spring 2017). 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.

7.2 Travel Expenses

Table 7.2: Travel expenses charged to 320 funds (October 1, 2016 – March 31, 2017)

Event	Location	Trip Purpose	Dates	Staff attended	Costs Included	Total Amount
Bioassessment Training	Redding, CA	Bioassessment data management and analysis	9/27/16 to 9/29/16	Karissa Willits	Mileage, meals, lodging, incidentals	$945
CCER Meeting	Morro Bay, CA	Consultant attend meeting with CDFW on CCER project	10/7/16	Andrew Collison	Lodging, mileage	$354
Bioassessment Training	Davis, CA	Bioassessment monitoring training to discuss field protocols, data analysis, and research	10/17/16 to 10/20/16	Karissa Willits	Mileage, meals, lodging, incidentals	$585
Marine Protected Area Conference	Asilomar, CA	Coordination meeting for MPA monitoring and education	10/27/16 to 10/28/16	Ann Kitajima	Mileage, meals	$212
NEP Tech Transfer Conference	New Orleans, LA	Information sharing and technology transfer between NEPs and partners	12/1/16 – 12/4/16	Lexie Bell	Mileage, meals, incidentals, lodging, airfare	$1,259
NEP Tech Transfer Conference	New Orleans, LA	Information sharing and technology transfer between NEPs and partners	12/1/16 – 12/4/16	Rachel Pass	Mileage, meals, incidentals, lodging, airfare	$1,578
West Coast NEP Tech Transfer meeting	San Francisco, CA	Coordination meeting for West Coast NEP directors	1/30/17 to 2/1/17	Lexie Bell	Mileage, meals, incidentals	$401
Elkhorn Slough Research Symposium	Moss Landing, CA	Presentation of Elkhorn Slough research efforts	1/23/17 to 1/24/17	Carolyn Doehring	Mileage, meals, incidentals	$261
TOTAL						**$5,595**

Table 7.2 details travel expenses incurred so far during FY17, including attendance at the biannual NEP meetings, professional development trainings, and conferences.

Table 7.3: Travel expenses planned for 320 funds (April 1, 2017 – September 30, 2017)

Event	Location	Trip Purpose	Dates	Staff attending	Costs Included	Total Amount
NEP Tech Transfer Conference	Washington, DC	Information sharing and technology transfer between NEPs and other groups	5/1/17 to 5/3/17	Lexie Bell	Airfare, lodging, per diem	$1,581
TOTAL						**$1,581**

7.3 Outreach Events and Field Trips

Table 7.4: Outreach Events and Field Trips for April 2016 through March 2017

Date	Organization	Presentation Topic	Audience Type	Audience Size
4/8/2016	Baywood Elementary School Kindergarten Classes	Watershed model, nonpoint-source pollution	Kindergarten students	62
4/16/2016	SeaLife Stewards Docents/CA State Parks	Estuary Program overview, how to help, benefits of bay, orientation to bay features	SeaLife Stewards docents	32
4/18/2016	Cuesta College	Nutrient measurements	College course	30
4/30/2016	Central Coast Aquarium	Estuary Program overview, bioassessment, health of Morro Bay watershed creeks	Beach cleanup participants	48
5/4/2016	SLO Newcomers group	Estuary Program overview, bioassessment, clean water pledge topics, steelhead	SLO Newcomer members	79
5/13/2016	Del Mar Elementary School 3rd grade class	Biodiversity, watershed overview, keeping watershed clean	3rd graders, parents, teacher	22
5/15/2016	Estuary Program with City of Morro Bay	Mutts for the Bay program, bacteria, water quality	Dog Owners & general public	250
6/20/2016	Small Wilderness Area Preservation (SWAP)	What is an estuary, watershed, water quality, Estuary Program overview	General public	5
6/25/2016	Central Coast State Parks Association (CCSPA) and California State Parks	Water cycle, nonpoint source pollution, what people can do to help	General public	77
6/30/2016	Delphinus School	Watershed model, nonpoint-source pollution	Summer camp students	13
7/21/2016	Delphinus School	Watershed model, nonpoint-source pollution	Summer camp students	9
7/27/2016	Los Osos Middle School Summer School Session	Estuary Program overview, nonpoint-source pollution, clean water pledge	Summer school students	60
8/4/2016	Delphinus School	Watershed model, nonpoint-source pollution	Summer camp students	16
9/23/2016	Cuesta College	Oceanography class - salinity and oxygen	College students	30
9/27/2016	Cal Poly Computer Engineering Capstone Class	Program overview and Nature Center kiosk content	College students	50
9/30/2016	Pacific Beach High School	Explore Restoration Project Manager Position at Sweet Springs, job shadowing	High school student	1
10/3/2016	Outdoor Writer's Conference	Estuary Program fundamentals, conservation efforts, eelgrass	Writers	12

Date	Organization	Presentation Topic	Audience Type	Audience Size
10/12/2016	Geomorphology Class, undergrad	Sedimentation restoration and monitoring	Undergrads	30
11/18/2016	Cuesta College	Oceanography class Nitrate measurements	Undergrads	30
12/12/2016	Restore America's Estuaries	Climate Vulnerability Assessment	Environmental professionals	15
1/3/2017	Through State Parks' Holidays at Museum	What is a watershed? Nonpoint source pollution. Watershed demo.	Public, 10 kids	16
1/12/2017	Central Coast Chapter of the Wildlife Society	Tabling, Estuary Program fundamentals, State of the Bay	Wildlife biologists	15
1/13/2017	Morro Bay Winter Bird Festival	What is a watershed, review of Estuary Program projects.	Bird Fest Participants	6
1/13/2017	Morro Bay Winter Bird Festival	Estuary Program fundamentals and 2017 State of the Bay update	Bird Fest Participants	15
1/19/2017	Pacific Beach High School	Explore Restoration Project Manager Position at Los Osos Restoration Project	High school student	1
1/26/2017	Cal Poly College of Social Sciences	Estuary Program fundamentals and bioassessment survey	Social science students	19
2/1/2017	Morro Bay High School	Sedimentation and the Estuary	High school students	28
2/2/2017	55+ Church Group	Estuary biodiversity, sediment and eelgrass update	Seniors	17
2/10/17	Cal Poly environmental planning class	Estuary, environmental management	Graduate students	15
3/13/2017	Cuesta College	Oceanography class Oxygen and salinity measurements	undergrads	30
3/19/2017	Central Coast Outdoors Kayak Guide Training session	Eelgrass	Kayak guides	10
3/21/2017	Monarch Grove Elementary	Watershed model, NPS pollution	Kindergarteners, 3rd graders, parents, aides	46
3/22/2017	SLO Symphony	Watershed and bay tour for SLO Symphony donors	General public	5

8.0 Glossary

The following terms and acronyms are used in this workplan:

Acronym	Explanation
ANEP	Association of National Estuary Programs. www.nationalestuaries.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
CCRWQCB	Cenral Coast Regional Water Quality Control Board
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

Acronym	Explanation
LIDAR	Light Detection And Ranging. LIDAR is an established method for collecting very dense and accurate elevation values using light pulses to determine distance.
LOCSD	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.
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/
SWRCB	State Water Resources Control Board
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