



Semi-Annual Report: April 2018 – September 2018

The Morro Bay National Estuary Program (Estuary Program) has continued to move forward on completing new and ongoing tasks in the Fiscal Year (FY) 2018 workplan. All workplans are approved by the Environmental Protection Agency and the Estuary Program's Implementation and Executive Committees. The budget report shows that our Section 320 expenses under the current grant in the second half of the fiscal year were \$339,191. As of September 30, we have expended 80% of our current 320 grant (started in FY17), with a remainder of approximately \$253,362. The Estuary Program has met 170% of its match requirement for the cumulative grant with cash match and estimated current in-kind contributions (at approximately \$1,426,950).

The Estuary Program requests EPA's continued participation on the Executive Committee and assistance with meeting relevant administrative and programmatic grant conditions. During this reporting period, the Estuary Program continued to work to meet the requirements of the final program evaluation letter, which was completed in FY16. The Estuary Program also requests participation from the EPA Project Officer in providing feedback as the update process for the Comprehensive Conservation and Management Plan (CCMP) moves forward and providing feedback on Management Conference restructuring.

The following summarizes activities and deliverables completed during the semi-annual report period.

Habitat and Water Quality Protection and Restoration

Land Conservation

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

Status: Ongoing task

Progress to Date: The Estuary Program has worked with the Land Conservancy of San Luis Obispo County (LCSLO) to further easement and acquisition projects in the watershed. Staff time has been spent to develop these opportunities and support Land Conservancy efforts. An easement was completed with a private landowner in the Los Osos Valley. The Estuary Program provided Restoration Fund monies to support these efforts. LCSLO also completed another easement on a ranch in the watershed in November 2017, which was not funded by the Estuary Program Restoration Fund. Additional land conservation deals are underway in the watershed.

Deliverables: Map highlighting conservation and restoration projects. Acreage and habitat information was reported in NEPORT.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to coordinate with the Land Conservancy and other partners on potential land conservation efforts.

Restoration Maintenance and Monitoring

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

Status: Ongoing task

Progress to Date: The Estuary Program continued monitoring of flows in Pennington Creek to assess the impacts of a rainwater catchment project and coordinated with the Central Coast Salmon Enhancement on monitoring and data analysis approaches. Staff collected habitat project information and submitted it to the NEPORT system. Staff conducted conservation easement photo monitoring.

Deliverables: NEPORT database submittal.

Pending Deliverable: Flow data results for Pennington Creek.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to work with partners to address any needed restoration maintenance.

Eelgrass Restoration

Objective: Develop eelgrass restoration goals based on ongoing monitoring, restoration, and research efforts with various partners.

Status: Ongoing task

Progress to Date: Estuary Program staff coordinated with local partners, including California Polytechnic State University at San Luis Obispo (Cal Poly), the city of Morro Bay, the California Department of Fish and Wildlife (CDFW), and the National Oceanographic and Atmospheric Administration (NOAA). Small-scale experimental eelgrass plantings were conducted in February and March 2018, where eelgrass was harvested from healthy beds and transplanted in various areas at different elevations. Post-project monitoring indicates that the forebay and midbay eelgrass plots continue to do well and are at densities similar to the donor beds. The back bay plots survived and are expanding from the original plots although are not as healthy as the forebay and midbay plots. All planting was conducted in the winter and spring based on the results of the 2017 planting (higher survival from the March effort than the July effort). A new method of anchoring eelgrass transplants using rebar was also tested in the mid-bay and back-bay. Initial results indicate this method is also successful for anchoring eelgrass. Staff also monitored eelgrass restoration locations from plantings in March and July of 2017. Staff compiled a report for 2017 and one for 2018 with the results of the restoration efforts. Staff compiled and submitted to CDFW the permit application to conduct restoration work in 2019.

The Estuary Program was awarded a grant from CDFW Duck Stamp to support restoration and restoration monitoring efforts for 2019 to 2020.

Deliverables: CDFW reports on 2018 eelgrass transplant effort. CDFW reports on 2017 eelgrass transplant effort. 2017 map of eelgrass distribution. NEPORT submittal.

Pending Deliverables: Eelgrass restoration monitoring data and analysis.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to transplant eelgrass at multiple locations throughout the bay in February and March. Staff will monitor the transplant areas from 2017, 2018, and 2019 restoration efforts. Staff will also communicate restoration results with project partners to support future research and restoration efforts. Staff will complete the PSMFC grant and create a final project report. Staff will seek additional funding to support restoration and restoration monitoring.

Chorro Creek Ecological Reserve Restoration and Planning

Objective: Obtain funding, permits, and surveys for the Chorro Creek Ecological Reserve to prepare for implementation. Establish contracts for project implementation.

Status: Ongoing task

Progress to Date: The Estuary Program worked with CDFW to set up the contract for the CDFW Fisheries Restoration Grant Program (FRGP) grant for just over \$1,000,000 to support project implementation. Communication continues with the California Coastal Conservancy regarding additional funding to support the project. Estuary Program staff continues to coordinate with CDFW and SLO County on permitting and planning for the project. The permit and survey status is as follows:

- Coordinated on CCER plant survey completion (June 2018).
- Coordinated on CCER archeology and paleontology surveys completion (August 2018).
- Completed Lake and Streambed Alteration permit in July 2018. Permit is now in review.
- Submitted San Luis Obispo County Minor Use Development permit (August 2018). Permit is now in review.

Staff coordinated with the State Coastal Conservancy on getting project information for their board's review, which will take place in December 2018. Staff is also working to develop the bid packages to solicit qualified bidders.

Deliverables: List of approved plans and permits (see above).

Pending deliverables: Final Request for Proposals package.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to work with the California Coastal Conservancy on funding and to conduct the permitting and planning required for implementation in Summer 2019.

Other Restoration Efforts

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

Status: Ongoing task

Progress to Date: The Estuary Program participated in numerous efforts to meet Management Plan goals. These included participation in the following efforts:

- Public process for wastewater treatment facility in Morro Bay.
- City of Morro Bay Harbor Advisory Board subcommittee on eelgrass.
- City of Morro Bay Harbor Advisory Board subcommittee on boatyard facility.
- General outreach on invasive species as part of watershed tours and presentations.
- County Stormwater Resource Plan development through Regional Water Management Group meetings, providing project recommendations to the County of San Luis Obispo. The Estuary Program is serving on the stakeholder committee for our region, which encompasses Morro Bay and Los Osos. Staff met with the city of Morro Bay and SLO County staff to plan the effort.
- SLO County and Caltrans effort to replace the bridge over Los Osos Creek on South Bay Boulevard.
- Los Osos Basin Management Committee.
- Integrated Regional Water Management (IRWM) stakeholder meetings.
- Water Board working group on bioreactor meetings.
- SLO County Weed Management Area meetings.
- Partnership with Morro Bay State Park and California Marine Sanctuary Foundation to obtain funding from California Ocean Protection Council for a stormwater improvement project at the Morro Bay State Park Marina parking lot. Funding was approved and the project should be initiated in FY19.

Staff continued progress with a habitat Conservation Planning Initiative to identify and prioritize habitat conservation efforts throughout the watershed. Efforts in this half of the fiscal year focused on establishing measurable targets and future implementation and assessment projects. Staff consulted experts for advice on this process.

Pikeminnow are an invasive fish that are thought to be impacting the recovery of steelhead in the watershed, as they prey on juvenile steelhead and compete with adults for habitat and food. This spring, the Estuary Program oversaw a study to assess pikeminnow gut contents and presence of pikeminnow in surface waters using environmental DNA (eDNA) analysis. These analyses will help to determine the level of pikeminnow predation on steelhead for future management efforts and the feasibility of fish barrier removal. Staff also conducted a small scale pikeminnow removal effort in September.

The Coastal San Luis Resource Conservation District (CSLRCD) is working with a private ranch to implement a riparian habitat enhancement project. The Estuary Project contributed funding to the effort, which will be completed in the beginning of FY19.

Deliverables: Activities described in Semi-annual report (see above).

Pending Deliverables: Draft conservation planning document. Updated IRWM plan. County Stormwater Resource Plan. eDNA results report. Final engineering plans for Morro Bay State Park Marina parking lot stormwater project.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to share the results of the eDNA fieldwork and pikeminnow management with project partners, continue work on the Conservation Planning Initiative, and continue to participate in the local restoration and management efforts listed above.

Conservation and Restoration Project Development

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

Status: New task

Progress to Date: Staff continues to participate in the Integrated Regional Water Management (IRWM) effort at the county level, which covers issues of stormwater management, water supply issues, water quality issues, and potential implementation projects. Staff attend the quarterly meetings of the Central Coast Water Conservancy, a collaborative group working together to bring resources and projects to the Central Coast.

Deliverables: Activities described in this Semi-annual report (see above).

Pending Deliverables: Depends on project opportunities.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to work with partners to further the progress of stormwater management and water conservation projects.

Environmental Monitoring and Research

Monitoring Program Coordination

Objective: Continue coordination of Monitoring Program and collect data that meets Quality Assurance Project Plan guidelines.

Status: Ongoing task

Progress to Date: Staff conducted monitoring and coordinated volunteers for work in the watershed and estuary to track long-term ambient trends and project implementation effectiveness. During the second of FY18, the following occurred:

- Staff conducted ongoing coordination tasks, including training and recruiting volunteers, maintaining and calibrating equipment, overseeing two labs, and coordinating with monitoring partners.
- In the second half of FY18, 48 volunteers contributed 400 hours to the monitoring program and supported eelgrass monitoring and restoration. Between staff and volunteers, there were 42 monitoring trips for bay water quality, 85 for bacteria, and 158 for creek water quality.
- Staff coordinated with the California Department of Public Health and local shellfish growers on monitoring related to toxic plankton blooms, storm flows, and bacteria. This includes monitoring of freshwater seeps along the bay to track improvements in bacteria and nitrates since the Los Osos Water Reclamation Facility has come on line.
- Staff continued long-term partnership with Cuesta College, teaching two oceanography laboratory and lecture sessions on water quality topics.
- Staff conducted a bioassessment monitoring effort. Staff recruited and trained volunteers, coordinated monitoring at ten sites, analyzed the data, and submitted a final report to the funder.

- Staff analyzed suspended sediment samples collected during the winter of 2018.
- Staff monitored sites watershed-wide for nutrients on a quarterly basis to track long-term trends.

Deliverables: A quality dataset that meets the parameters outlined in the QAPP. 2017 data submitted to CEDEN (see www.CEDEN.org). Activities described in Semi-annual report (see above).

Pending Deliverables: Sediment monitoring report.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to conduct the following types of monitoring: creek water quality, creek and bay bacteria, bay water quality, suspended sediment concentration, seeps water quality, and plankton. Staff will conduct bacteria and suspended sediment lab work.

Monitoring Program Reporting and Analysis

Objective: Analyze data and share results with grantors, partners, local landowners, and the public.

Status: Ongoing Task

Progress to Date: Estuary Program staff compiled data in formats appropriate for various audiences, including academic classes, landowners, and the general public. Staff compiled a monthly bacteria memo for landowners and agencies, as well as responded to numerous requests for program-generated data. Several blog posts on monitoring-related topics were created over the year, including popular monthly “Field Updates” posts which provide a rundown of what staff have been up to in the estuary and watershed. Analysis is underway of sediment data, bioassessment data, seeps data, and creek and bay water quality data.

Deliverables: Monthly bacteria memos: Example Bacteria Memo. 2017 Bioassessment Memo. 2018 Seeps data memo. Activities described in Semi-annual report (see above).

Pending Deliverables: 2017 Sediment Report. 2018 Bioassessment Memo. Creek Health Memo for 2017. Bay Health Memo for 2017.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to respond to requests for data, create blog posts to share data, issue monthly bacteria memos, and compile sediment, bioassessment, and water quality data to share the results.

Monitoring Program Data Management

Objective: Maintain data in SWAMP-compatible format.

Status: Ongoing task

Progress to Date: 2017 data could not be submitted to CEDEN due to funding and contracting issues at the Regional Data Center. These issues were resolved last fall, and the Estuary Program is now caught up with data submittal to CEDEN. The six-month data solicitation time period for the Central Coast Regional

Water Quality Control Board for their 303(d) update is about to begin, and Estuary Program data is submitted to CEDEN and ready to be incorporated into the Water Board's analysis.

Deliverable: Activities described in Semi-annual report (see above). Submittal to CEDEN of 2017 data.

Pending Deliverables: Submittal to CEDEN of 2018 data.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to work with the Regional Data Center to upload data from the second half of FY18 to CEDEN. Staff will also coordinate with Water Board staff to support the 303(d) update process.

Monitoring Program Quality Assurance

Objective: Maintain an approved Quality Assurance Project Plan (QAPP) and implement necessary quality assurance measures.

Status: Ongoing task

Progress to Date: Staff updated the QAPP for 2018 and submitted it to EPA's Office of QA for review. EPA approval was received on March 30, 2018. The document was then submitted to the Central Coast Regional Water Quality Control Board (CCRWQCB) QA Officer for review. The Estuary Program continues to implement the quality assurance measures contained in the QAPP, including the Sediment Lab QA testing.

Deliverables: Activities as described in this Semi-annual report (see above).

Pending Deliverables: CCRWQCB approval of QAPP.

Upcoming Activities: In the first half of FY19, the Estuary Program will update the QAPP for submittal to EPA's Office of QA. Staff will also conduct the QA measures needed to ensure the quality of program-generated data.

Project Effectiveness Monitoring

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

Status: Ongoing task

Progress to Date: The Estuary Program conducted suspended sediment monitoring at one sampling site throughout the winter and spring of 2018. Staff recently completed processing the 2018 samples. A statistician conducted analysis of the results and created a predictive model for the sediment loading. The data was shared with Cal Poly's Sea Grant project team to support a bay hydrodynamic and circulation study, including a modeling effort. Staff conducted monitoring of the freshwater seeps at the bay's edge to assess the impacts of the recently completed Los Osos Wastewater Water Reclamation Facility. The Estuary Program conducts monitoring of water levels for two projects on Pennington Creek. One is to assess the impact of a rainwater harvesting project. This project concluded during the summer of 2018 and analysis by Central Coast Salmon Enhancement is pending. The second project is to assess

an upcoming effort to address a fish passage barrier and water diversion. Staff also conducted monitoring of eelgrass restoration beds.

Deliverables: Monthly bacteria memos: Example Bacteria Memo. Eelgrass Restoration Monitoring: CDFW permit reports. Seeps memo for 2018. Activities as described in the Semi-annual report (see above).

Pending Deliverables: Sediment monitoring report. CCSE analysis of Pennington Creek water level data.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to continue monitoring the seeps and the fish passage project on Pennington Creek. Staff will also communicate with project partners to share data results and coordinate efforts.

Eelgrass Monitoring and Research

Objective: Monitor eelgrass to determine distribution in the bay.

Status: Ongoing Task

Progress to Date: Estuary Program staff coordinated with Cal Poly and other partners on research and monitoring efforts. The Estuary Program coordinated an eelgrass symposium with Cal Poly that included attendees from CDFW, NOAA, Cuesta College, and other project partners. Worked with Cal Poly on baywide eelgrass map. Cal Poly conducted a baywide drone survey during the same time period as the December flight, and we are working with Cal Poly and the mapping contractor to resolve any difference between the two maps. Conducted fieldwork to assist in this process. Continued to manage a NOAA eelgrass grant administered through the Pacific States Marine Fisheries Commission (PSMFC) for 2017 to 2018 to support Morro Bay eelgrass monitoring and experimental planting efforts. Staff compiled a monitoring report to summarize all work conducted in 2017. Staff is developing a request for cost estimates for a baywide bathymetry effort. The Estuary Program received grants from EPA and from USFWS to support the bathymetry survey effort. The results would provide information for the Sea Grant hydrodynamic model and provide valuable elevation data to guide future eelgrass restoration efforts. The Estuary Program received two grants that support the bathymetry effort.

Deliverables: 2017 Morro Bay Eelgrass Report, including 2017 baywide eelgrass map.

Pending Deliverables: PSMFC Grant Final Report. Sea Grant project reports.

Upcoming Activities: In the first half of FY19, the Estuary Program will continue to monitor the progress of eelgrass restoration efforts conducted in 2017 and 2018. Staff will coordinate with project partners to share our findings. Staff is developing the request for cost estimates for a baywide bathymetry survey that utilizes sonar and LiDAR. Staff will complete a report summarizing all eelgrass related efforts in 2018.

Partner Research Efforts

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

Status: Ongoing task

Progress to Date: Estuary Program staff coordinated and collaborated with Cal Poly, CDFW, NOAA, Army Corps of Engineers (ACOE), the city of Morro Bay, and other project partners to research the causes of eelgrass decline and related water quality issues. Studied eelgrass monitoring and restoration methods in other areas, and reached out to other researchers. Sought results of research efforts in Morro Bay related to nutrients, sedimentation, and other water quality data. Cal Poly and the Estuary Program were selected to receive a Sea Grant to study sedimentation in the bay and its past and future impacts on eelgrass. The project has begun, with the Estuary Program supporting fieldwork, modeling, and other efforts related to the effort. Held an information exchange with the Elkhorn Slough National Estuarine Research Reserve on eelgrass, sharing information on restoration, monitoring, and research at each of our organizations. We are planning a second collaborative exchange on the topic of tidal marsh habitat.

Research efforts conducted in the Morro Bay estuary and watershed include:

- USGS water quality characterization study.
- USGS tidal marsh elevation impacts from SLR.
- Cal Poly paper on Morro Bay hydrodynamics published in the journal *Estuarine, Coastal, and Shelf Science*.

We also track research that is occurring elsewhere but is relevant to Morro Bay, including nutrient target development in Elkhorn Slough and pathogen TMDL development in Southern California.

Deliverables: 2017 eelgrass report.

Pending Deliverables: Summary of eelgrass monitoring results for 2018. USGS report on water quality sampling effort results. Summary of results of Cal Poly research related to eelgrass.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to continue to coordinate with monitoring and research partners to share data, methods, and knowledge. These partners include Cal Poly, NOAA, CDFW, USGS, EPA, the Water Board, and Elkhorn Slough NERR.

Public Participation, Education and Outreach

Communications

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

Status: Ongoing task

Progress to Date: Estuary Program staff regularly conducted the following communications tasks:

- Created weekly blog posts which were shared via email, website, and social media. 248 subscribers receive the blog via email each week. The blog is posted on Facebook and Instagram. Popular blog posts may have as many as 1,500 reads. Local docents and educators

are actively using blog content for educational activities. The Estuary Program has also received a number of positive comments from subscribers that are enjoying the content on the blog.

- Updated the website to share program news and upcoming events.
- Conducted 18 presentations and fieldtrips that reached 781 individuals in person and installed an educational display in the main branch of the San Luis Obispo County library that reached 21,121 individuals over a one-month period.
- Continued to increase the number of followers on Facebook to 1,458 users. Utilized two-way communication with these users, such as giveaways for rain gauge network participants.
- Maintained a Twitter feed that currently has 545 followers.
- Maintained an Instagram feed that currently has 1,658 followers.
- Nine news articles were published that covered Estuary Program-specific content and projects in the watershed. This included a front page article in the regional newspaper detailing the EPA Regional Administrator Mike Stoker's visit to Morro Bay during the summer to learn more about the program and meet local partners.
- Created new outreach materials for display in our Nature Center.
- Began development of the 2018 Annual Report, to be released in early 2019.
- Issued five news releases promoting Estuary Program events and accomplishments.

Deliverables: Blog posts at www.mbnep.org/blog Website and Facebook statistics (see above).

Pending deliverables: FY18 Annual Report: MBNEP 2018 Annual Report. Updated printed materials about the Estuary Program and the Nature Center.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to continue the communications tasks outlined above.

Education

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

Status: Ongoing task

Progress to Date: Efforts to support Education included the following:

- Maintained the Nature Center and its exhibits. The Nature Center received a total of 24,289 visitors during FY18, with 13,231 people visiting between April 1, 2018, and September 30, 2018. During the second half of FY18, our touchscreen Estuary Science Kiosk, which includes interactive educational content related to estuarine science, received an estimated 989 page visits at its physical location in our Nature Center. The Estuary Science Kiosk content is also available online, and another 733 unique visitors logged 20,900 page views during the same time period.
- Applied for and was awarded a private foundation grant to support development of a new exhibit on weather, tides, and climate change.
- Funded two Floating Lab field trips. Continued to partner with Central Coast Aquarium, a local nonprofit focused on marine education for visitors and residents, to provide funding for Floating Lab field trips for K-12 students. This funding is prioritized for schools with Title I status. One of

these trips served youth in foster care from across San Luis Obispo County. This field trip allows students to experience the bay and its wildlife, learn about water quality measurements, and practice scientific fieldwork methods.

- Continued to manage a grant for the Marine Protected Areas to develop a kids' activity workbook. Seven watershed model demonstrations completed in grades K through 6, reaching 151 students.
- Created new interactive educational activity focused on estuary wildlife adaptations and the scientific method. Used new educational activity with 380 individuals.
- Created Nature Center advertisement for a popular local magazine with 10,000 copies in circulation.

Deliverables: Nature Center statistics (see above). Fieldtrip and presentation statistics (see above).

Pending Deliverable: Completed Marine Protected Areas kids' activity workbook.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to continue the Education tasks outlined above.

Nature Center Update

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

Status: New task

Progress to Date: The Estuary Program applied for and was awarded a grant from a local foundation to support development of a new exhibit focused on weather, tides, and climate change. Staff is developing an updated wildlife viewing station, which includes an interpretive panel and viewing scopes. This exhibit should be installed in early FY19.

Deliverables: Wildlife viewing station exhibit panel. User statistics for the Nature Center kiosk (see above).

Upcoming Activities: In the first half of FY19, the Estuary Program will be implementing the private foundation grant to create an exhibit on weather, tides, and climate change. Staff also will develop content and seek funding to update additional exhibits in the Nature Center.

Community Projects

Objective: Provide support for Community Projects that further the goals of the Management Plan and engage the community.

Status: Ongoing task

Progress to Date: Three Community Projects are currently underway. Sea Otter Savvy is wrapping up design and printing of a brochure to provide information to divers on how to observe wildlife respectfully. Once the printed materials are completed, the applicant will work with local dive shops to distribute the information. The city of Morro Bay Harbor Department is implementing a project to

purchase small spill kits to be located at each slip area on the waterfront. Distributing these kits helps reduce spill response time, leading to cleaner water. Dr. John Perrine of Cal Poly was awarded funding to purchase and maintain a network of wildlife cameras in the watershed. The goal is track wildlife movement to target areas for conservation and restoration. All equipment for the project was purchased. A technical advisory committee met to determine the best locations for deployment. The cameras will be redeployed to new locations a few times per year during this two-year project. Staff worked with multiple local applicants on projects to be considered in the next round of funding in early FY19.

Deliverables: Activities described in the Semi-annual report (see above).

Pending Deliverables: Educational materials for Community Project to educate divers on minimizing wildlife disturbance and to educate boaters on spill cleanup. Final reports for three Community Projects.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to continue to work on ongoing Community Projects. Applications for the current round of funding will be reviewed and contracts will be developed for the selected projects in early FY19. Staff will also work with applicants on developing future Community Project ideas for the application round in the second half of FY19.

Other E&O Tasks/Community Partner Projects

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

Status: Ongoing task

Progress to Date: Efforts to support outreach projects in the community included:

- Collaborative creation of content for Marine Protected Areas educational workbook for kids with other members of San Luis Obispo Marine Protected Area Collaborative (SLOMPAC).
- Established Morro Bay National Estuary Program as the institution to house two mini-ROVs donated to the SLOMPAC. Estuary Program staff will manage the checkout and check-in procedures for these ROVs and coordinate with researchers and educators who want to use them.
- Partnered with ECOSLO, the county-wide coordinators for California Coastal Cleanup Day 2018, to lead cleanups at two sites in Morro Bay. The Estuary Program provided logistics and registration support as well as day-of-event management for cleanups on the Morro Bay sandspit, which provides habitat to threatened Western snowy plovers, and a new site on Morro Bay's Embarcadero. Thirty volunteers at these two sites picked up more than 40 pounds of trash over a period of three hours. Though the total poundage wasn't high, much of the trash picked up consisted of very lightweight items including bottle caps, scraps of plastic, fishing line, etc. In total, crews picked up 888 cigarette butts from the Embarcadero site alone.

Deliverables: Outreach statistics (see above).

Pending Deliverables: Final MPA Kids' Educational Workbook, mini-ROV checkout statistics.

Upcoming Activities: In the first half of FY19, the Estuary Program will work with the Harbor Department on distributing information on Clean Boating.

Program Management

Manage Committees and Build Partnerships

Objective: Hold quarterly meetings and support partnerships.

Status: Ongoing task

Progress to Date: Staff compiled meeting materials and coordinated quarterly meetings of the Implementation Committee (IC) and Executive Committee (EC) throughout the year. Working group meetings were held as needed for review of grant applications or technical plans. Membership was updated for both committees as needed.

Staff and committee members considered ways to restructure the Management Conference so that it remains relevant and valuable for the Estuary Program and for our partners. Stakeholder and partner engagement is a central tenet of the Estuary Program. Our goal in making these changes is to promote engagement and participation by engaging people in more efficient and specific ways. Our EPA Project Manager is involved in this process. We developed an IC restructuring proposal that was approved by the EC and the IC. Rather than a centralized committee, the revised structure will include a series of Technical Advisory Committees (TACs) with different technical focus areas. We began compiling lists of potential members to invite to the TACs. This new structure will be implemented in FY19.

Deliverables: Minutes, agendas, staff reports, and materials completed for each meeting. Final approved description of TAC, TAC bylaws, and revised EC bylaws.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to continue to coordinate quarterly meetings and work with Management Conference members. We will form the TACs and convene meetings to develop projects, funding, and collaborations.

Grants and Contracts Administration and Financial Management

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

Status: Ongoing task

Progress to Date: Staff worked on financial reporting, progress reports to the EPA and the Management Conference, and participation in NEP conference calls and committees. We coordinated with EPA to provide required materials for oversight of the 320 grant and managed numerous grants to the Estuary Program to support our project work. We submitted the FY19 grant application and Workplan.

Deliverables: Semiannual report for the first half of FY18. Annual FFR and MBE-WBE submitted to EPA Region 9 Grants Office. Competency statement. FY19 Workplan.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to implement the FY19 Workplan and complete all required reporting for the FY18 grant.

General Administration and Human Resources Management

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

Status: Task ongoing

Progress to Date: Staff maintained the ongoing financial and administrative functions, including recordkeeping, filing, bookkeeping, and equipment and office space upkeep, as well as interacting with the general public. In addition, the Director spent time managing staff performance and Workplan progress. Other HR tasks included training, professional development, recruitment, and keeping all personnel policies and procedures up to date. We hired a Monitoring Coordinator and a Monitoring Technician during the second half of FY18.

Deliverables: Summary of task activities (see above). Bookkeeping and other recordkeeping tasks contribute to the completion of the deliverables included for the previous tasks (financial management).

Upcoming Activities: In the first half of FY19, the Estuary Program plans to hire a Monitoring Technician, a Communications Specialist, and a Planning Intern. Staff will conduct all bookkeeping and recordkeeping tasks required for grant management. Staff will conduct all HR tasks including training and professional development.

Tracking Implementation of the CCMP and Workplan

Objective: Keep track of Workplan and Comprehensive Conservation and Management Plan (CCMP) implementation.

Status: Ongoing task

Progress to Date: Tracked progress on CCMP implementation through biannual reports to the Executive Committee and through NEPORT data submissions.

Deliverables: Semi-annual reports to EPA submitted spring 2018. Biannual Executive Committee reports. Staff compiled data and submitted it to NEPORT.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to report to the Executive Committee on workplan progress.

Management Plan Update/Revision

Objective: Update the CCMP per EPA guidance.

Status: Ongoing task

Progress to Date: Worked with an Environmental Planning Intern to assist with review of Action Plans. A database was compiled to track Action Plan status and document how the climate vulnerability assessment has been incorporated into the Action Plans.

Pending Deliverables: Plan for updating the CCMP. Management plan update to be completed in FY20.

Upcoming Activities: In the first half of FY19, the Estuary Program plans to complete tracking of the status of Action Plan tasks and develop a plan for updating them.

Budget Overview

Table 1: Costs expended during this semi-annual report period (April 1, 2018 through September 30, 2018) and cumulative since the beginning of the grant in October 2016.

Category	Subcategory	FY18 Period 2 320 Funds	FY18 Period 2 Cash Match	FY18 Period 2 TOTAL	Cumulative 320 Funds	Cumulative Cash Match	Cumulative TOTAL
Personnel	Salaries	\$194,621	\$4,437	\$199,058	\$623,075	\$42,494	\$665,569
	Fringe	\$18,248	\$110	\$18,358	\$64,944	\$197	\$65,141
	Management Conference	\$0	\$0	\$0	\$0	\$0	\$0
	<i>Subtotal</i>	\$212,868	\$4,548	\$217,416	\$688,019	\$42,691	\$730,710
Travel		\$1,349	\$0	\$1,349	\$13,814	\$0	\$13,814
Supplies	Computers, software	\$1,929	\$0	\$1,929	\$3,756	\$79	\$3,835
	Vehicle maintenance, fuel	\$1,271	\$0	\$1,271	\$3,443	\$0	\$3,443
	Monitoring supplies	\$5,237	\$67	\$5,304	\$19,575	\$347	\$19,921
	Misc. office supplies	\$2,983	\$0	\$2,983	\$9,919	\$0	\$9,919
	Rent	\$32,274	\$0	\$32,274	\$109,644	\$0	\$109,644
	Utilities	\$2,069	\$0	\$2,069	\$5,850	\$0	\$5,850
	<i>Subtotal</i>	\$45,764	\$67	\$45,830	\$166,000	\$426	\$166,426
Contractual	Audit/Taxes/Accounting	\$14,434	\$3,340	\$17,773	\$22,938	\$12,799	\$35,736
	Education and Outreach	\$13,034	\$2,882	\$15,915	\$27,941	\$15,357	\$43,298
	Monitoring and Research	\$29,196	\$6,987	\$36,183	\$70,242	\$17,336	\$87,578
	Restoration and Protection	\$16,994	\$159,061	\$176,055	\$27,511	\$198,063	\$225,574
	<i>Subtotal</i>	\$73,657	\$172,269	\$245,927	\$148,632	\$243,555	\$392,187
Other	Postage	\$537	\$0	\$537	\$2,491	\$643	\$3,133
	Copying, Printing	\$1,438	\$0	\$1,438	\$4,439	\$0	\$4,439
	Training, Prof. Dev.	\$1,473	\$0	\$1,473	\$3,087	\$0	\$3,087
	Telephone, Internet	\$1,860	\$0	\$1,860	\$7,521	\$0	\$7,521
	Repairs and Maintenance	\$245	\$0	\$245	\$3,414	\$445	\$3,859
	Insurance	\$0	\$0	\$0	\$3,534	\$0	\$3,534
	<i>Subtotal</i>	\$5,552	\$0	\$5,552	\$24,486	\$1,088	\$25,574
	TOTAL	\$339,191	\$176,883	\$516,074	\$1,027,138	\$287,759	\$1,314,897

Table 2: Costs by program area and task. Match numbers do not include in-kind match.

Program Area	Project	FY18 Period 2 320 Funds	FY18 Period 2 Match	FY18 Period 2 TOTAL	FY18 Overall TOTAL
Education and Outreach	Communications	\$1,331	\$0	\$1,331	\$11,885
	Community Projects	\$0	\$2,798	\$2,798	\$4,906
	Bay Friendly Recreation	\$702	\$0	\$702	\$702
	Education and Nature Center	\$8,912	\$0	\$8,912	\$9,638
	Community Volunteer Program	\$2,279	\$0	\$2,279	\$2,984
	Other E&O Tasks	\$0	\$84	\$84	\$416
	<i>Subtotal</i>	\$13,225	\$2,882	\$16,106	\$30,531
Monitoring and Research	Benthic Invertebrate Monitoring	\$655	\$6,987	\$7,642	\$7,642
	Stats	\$4,084	\$0	\$4,084	\$4,084
	Water Quality Monitoring	\$6,561	\$0	\$6,561	\$10,906
	Eelgrass Monitoring & Analysis	\$23,134	\$0	\$23,134	\$25,952
	<i>Subtotal</i>	\$34,434	\$6,987	\$41,421	\$48,584
Habitat Protection and Restoration	Restoration & Conservation Planning	\$0	\$0	\$0	\$0
	Eelgrass Restoration	\$0	\$0	\$0	\$0
	Chorro Creek Ecological Reserve	\$12,243	\$0	\$12,243	\$12,243
	Restoration Project Maintenance	\$265	\$0	\$265	\$337
	Other Restoration	\$4,454	\$159,061	\$163,514	\$171,947
	<i>Subtotal</i>	\$16,962	\$159,061	\$176,023	\$184,527
Program Administration		\$0	\$0	\$0	\$0
	TOTAL	\$64,620	\$168,929	\$233,549	\$263,642