Morro Bay National Estuary Program 320 Base Funding Grant
Fiscal Year 2025 Annual Report: October 1, 2024 to September 30, 2025

The Morro Bay National Estuary Program (Estuary Program) is a locally driven, non-regulatory program established under Section 320 of the Clean Water Act (CWA) and further supported by the Protect and Restore America's Estuaries Act (PRAE Act) of 2021. As one of 28 National Estuary Programs (NEPs) across the country, the Estuary Program works in partnership with federal, state, and local agencies, as well as community stakeholders, to protect and restore the health of Morro Bay and its watershed. The program operates under the guidance of its Comprehensive Conservation and Management Plan (CCMP) which serves as a strategic framework for addressing key water quality, habitat, and resource management challenges in the region.

The Estuary Program is moving forward on completing new and ongoing tasks in the Fiscal Year (FY) 2025 320 base funding workplan. All workplans are approved by the Environmental Protection Agency (EPA) and the Estuary Program's Executive Committee. The budget report shows that our Section 320 base funding expenses under the grant (Grant Number 98T25101) in FY25 were $670,076. As of September 30, we have expended 83% of the 320 base funding grant that started in FY22. The Estuary Program has met approximately 222% of its match requirement for the cumulative grant with cash match and estimated current in-kind contributions (at approximately $6,985,824).

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 completed the 2025 Program Evaluation process.

The following report summarizes activities and deliverables completed during the annual report period for FY25. As the Estuary Program does not have any subawards under this federal grant, a reporting of subaward monitoring activities carried out under 2 CFR 200.331(d) does not apply.

The Estuary Program received federal grants to implement Infrastructure Investment and Jobs Act (IIJA) funding in January 2023, February 2024, and April 2025. Some of the organization's work is funded by IIJA but supported and implemented by staff funded through the Estuary Program's 320 base funding grant. Thus, the status of IIJA-funded efforts are included in this annual report. Deliverables for efforts with project costs other than staff time directly funded by IIJA will be reported in the IIJA annual report.

Habitat & Water Quality Protection and Restoration

The Habitat & Water Quality Protection and Restoration tasks directly support the Core Programs of Section 320 of the CWA by "protecting wetlands," "addressing diffuse, nonpoint sources of pollution," and "developing the relationship between in place loads and point and nonpoint loading of pollutants to the estuarine zone and the potential uses of the zone, water quality, and natural resources." These efforts also align with the PRAE Act by supporting habitat restoration projects that "address the effects of recurring extreme weather events on the estuary, including the identification and assessment of vulnerabilities in the estuary and the development and implementation of adaptation strategies."

Through these habitat restoration and protection initiatives, the Estuary Program continues to fulfill its mandate under the CWA and PRAE Act – ensuring that estuarine and watershed ecosystems are resilient, ecologically healthy, and well-managed for the benefit of both natural communities and human use.

Land Conservation

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

Status: Ongoing task

Progress Toward Milestones: The Estuary Program provided support to local nonprofit Save Cuesta Inlet, contributing technical support and funding for the purchase of Cuesta Inlet, a 13-acre bayfront property. The Estuary Program continues to work with The Land Conservancy of San Luis Obispo County (LCSLO) to explore potential easement projects in the watershed. The Coastal San Luis Resource Conservation District (CSLRCD) is conducting a conservation easement planning effort in conjunction with the State Coastal Conservancy (SCC) to look at Chorro Flats and actions needed to protect nearby critical infrastructure. The CSLRCD is also in contact with private landowners and the City of Morro Bay regarding potential easements. Staff conducted reporting and submitted to the SCC for an existing easement that they funded in the Morro Bay watershed. Staff conducted National Estuary Program Online Reporting Tool (NEPORT) reporting of habitat projects. Staff updated the map tracking protected lands for the 2026 State of the Bay (SOTB) report.

Leads, Partners, and Their Roles: The Estuary Program typically plays a supporting role, providing expertise, funding, or other support for this task. LCSLO is experienced in working with landowners to develop easements and acquisitions, obtaining funds for these deals, and overseeing the monitoring and management of the protected lands. Their role is to serve as the lead, interfacing 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 and Wildlife (CDFW), SCC, Wildlife Conservation Board, Morro Coast Audubon Society, California State Parks, CSLRCD, and private landowners.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: These efforts directly support the task outcome of completing land conservation projects as opportunities arise.

Problems Encountered: None.

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

Activities Planned for Next Six Months: The Estuary Program plans to coordinate with the LCSLO and other partners to continue outreach to landowners and support new easements as opportunities arise.

Pending Deliverables: None.

CCMP Action Plans Addressed: LP-1 (Protect Special Habitats/Species), LP-3 (Direct Urban Development)

Restoration Maintenance and Monitoring

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

Status: Ongoing task

Progress Toward Milestones: The Estuary Program conducted flow monitoring on Pennington Creek following a project to remove a fish passage barrier and improve a water diversion. Data are submitted to Trout Unlimited on a regular basis to manage the flow diversion and comply with water rights.

Staff are assessing conditions at Chorro Creek Ecological Reserve (CCER) following the storms of winter 2023 that caused significant shifts at the site. Staff hired a contractor to conduct channel surveys and drone flights in September 2024 to better understand conditions at the site and support planning for adaptive management efforts. A final report was completed in December 2024, which highlighted areas needing adaptive management for continued fish passage under low flow conditions. Staff visited the site with CDFW representatives and are planning next steps. The California Conservation Corps (CCC) continues to conduct annual site maintenance such as weed management and annual plant monitoring to track plant success rate.

Leads, Partners, and Their Roles: The Estuary Program often plays a lead role in these efforts, providing expertise and funding. Past partners have included Army National Guard Base Camp San Luis Obispo (Camp SLO), CDFW, California Polytechnic State University San Luis Obispo (Cal Poly), Pacific Gas & Electric, California State Parks, and US Forest Service. Their role is to permit land access and maintain project sites.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The accomplished tasks directly support the outcomes of conducting easement monitoring and maintaining landowner communications.

Problems Encountered: None.

Deliverables: Pennington Creek data submitted to the California Environmental Data Exchange Network (CEDEN) and shared with partners.

Activities Planned for Next Six Months: The Estuary Program is conducting planning efforts to address impacts to CCER from the 2023 winter storms and will design needed adaptation actions. We will also work with partners to address needed restoration maintenance.

Pending Deliverables: None.

CCMP Action Plans Addressed: BMP-1 (Agricultural and Grazing BMPs), BMP-2 (Rural Road Erosion), ECR-1 (In-Stream Habitat), ECR-2 (Riparian Corridors), ECR-3 (Wetland Protection and Enhancement)

Other Restoration Efforts

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

Status: Ongoing task

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

- San Luis Obispo (SLO) County and Caltrans effort to replace the bridge over Los Osos Creek on South Bay Boulevard.
- Collaboration and support of CSLRCD restoration of their Los Osos Wetland project, including management of invasives.
- Local invasive management efforts in the estuary, including managing eradication of an invasive sea lavender within tidal marsh habitat and iceplant on the sandspit.
- Partnering with University of California, Santa Barbara (UCSB) on a Climate Adaptation grant to understand state-wide dune vulnerability and restoration, with Morro Bay acting as a pilot project for dune restoration efforts.
- Collaboration with SLO County on management of *Arundo* (giant reed) and mapping invasive riparian species in the Chorro Creek watershed. Surveys of riparian areas in the Chorro Creek watershed were conducted in spring 2024 to map and prioritize invasive species management. Next steps include obtaining funding for invasive removal efforts, with an initial focus on *Arundo* removal.
- Coordinated with Cal Poly to identify future floodplain enhancement and restoration projects along Walters Creek. Staff partnered with Trout Unlimited to develop and implement low-tech process-based restoration projects for middle and upper Walters Creek. Project installations could include beaver dam analogs, post-assisted log structures, and gully erosion repair. Permitting for the project was completed. A prospective floodplain restoration project at the confluence of Walters and Chorro Creeks is also being explored with partners.

Leads, Partners, and Their Roles: The Estuary Program often serves as lead for these types of projects, providing funding, expertise, and oversight. Potential partners include SLO County, the City of Morro Bay, the Los Osos Community Services District (LOCSD), CSLRCD, Cal Poly, Camp SLO, the Morro Bay Harbor Advisory Board, CDFW, State Parks, Climate Action Initiative Dune Grant Team (which includes CA Sea Grant, UCSB, Point Blue Conservation Science, US Fish and Wildlife Service (USFWS), the United States Geological Survey (USGS), etc.), and others. These partners provide funding, planning, and implementation.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The Estuary Program met the anticipated outputs and outcomes by staying involved in partner efforts related to the estuary and watershed as opportunities arise that support CCMP implementation and partner projects.

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

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program plans to continue to participate in the local restoration and management efforts listed above.

Pending Deliverables: None.

CCMP Action Plans Addressed: Depending on project opportunities that arise, work could impact the following Action Plans: BMP-1 (Agricultural and Grazing BMPs), ECR-1 (In-stream Habitat), ECR-2 (Riparian Corridors), ECR-3 (Wetlands Protection and Enhancement), ECR-14 (Support Recovery Plans), ECR-15 (Steelhead Barriers and Habitat), ECR-16 (Invasive Species Action Plan), FWR-5 (Water Conservation)

Conservation and Restoration Project Development

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

Status: Ongoing

Progress Toward Milestones: Staff works closely with multiple partners from the watershed and beyond to develop conservation and restoration efforts to help meet CCMP goals.

In FY19, the Estuary Program completed a grant from the Resource Legacy Fund to work with the CSLRCD to educate private landowners on conservation practices such as rotational grazing, keyline ploughing, etc. and to identify potential projects. With support from the Estuary Program, the CSLRCD was awarded a state grant to implement a subset of these projects. The Estuary Program is working with partners to evaluate future projects to address stormwater runoff quality, volume, and rates to mitigate downstream impacts in a section of Chorro Creek watershed. This evaluation focuses on developed areas of Army National Guard Base Camp San Luis Obispo (Camp SLO) including the CCC Center and Cuesta College, which ultimately discharge to Chorro Creek and Pennington Creek. As part of the evaluation, a hydrology and geotechnical report was completed.

The Estuary Program partnered with the San Luis Obispo Council of Governments (SLOCOG) on a transportation planning grant to study protection of important infrastructure from extreme weather events on South Bay Boulevard (the only road directly connecting the City of Morro Bay and the community of Los Osos) and adjoining roads that ring the estuary. The grant also supports extending the existing baywide circulation/flooding model. The Estuary Program developed a match contract with the CSLRCD in fall 2025 for an SCC grant to model lower Chorro Creek flooding due to extreme weather events. The project will also consider potential solutions to flooding in the lower Chorro Creek area. Staff are engaged in ongoing stakeholder meetings associated with both projects.

Estuary Program staff also coordinated with the LCSLO on a potential easement to ensure coastal access in Los Osos.

Estuary Program staff are working with San Francisco Estuary Institute (SFEI) to complete a historical ecology study of the lower Morro Bay watershed and areas surrounding the bay. The project will document landscape conditions prior to recent Euro-American modification, providing information to inform management and restoration planning that will enhance habitat resilience. SFEI has compiled 32 maps such as U.S. coastal survey T-sheets that have been georeferenced for the study. SFEI has also reviewed an extensive range of archival institutions and online databases for material on ecological patterns and processes. Through these archive visits and database searches, SFEI compiled approximately 75 maps, 130 textual accounts, and 300 photos and sketches. A draft map of habitat conditions and a draft report have been completed. A Technical Advisory Committee (TAC) and local partners are reviewing, with a final report planned for fall/winter 2025.

Staff have partnered with Caltrans and SLO County to address two fish passage barriers on San Luisito Creek at Highway 1 and Adobe Road. Staff hired a consultant to complete a geomorphic report, hydrology report, and two alternative conceptual designs. Materials have been shared with project partners. Extensive utilities were found at the site during the feasibility study. These challenges will be summarized and reviewed with project partners to determine next steps.

Researchers at Cal Poly are monitoring the presence of native Olympia oysters within Morro Bay. In addition, through a partnership with Grassy Bar Oyster Company, Cal Poly researchers are continuing to track survival and growth of native Olympia oysters in an estuarine shellfish aquaculture setting.

The Estuary Program partnered with Trout Unlimited and the CCC to implement a floodplain improvement project along Walters Creek. Forty structures were installed including beaver dam analogs, post-assisted log structures, and headcut treatments to support sediment capture and groundwater recharge. Staff also supported all project planning, contracting, and permitting efforts.

Staff also worked with Cal Poly to begin surveys for a road crossing improvement project within the Walters Creek watershed. A consultant was hired to complete designs in fall 2025.

Leads, Partners, and Their Roles: The Estuary Program often serves as a lead for these types of efforts, including the historical ecology study and the San Luisito Creek fish passage barrier work. The primary partners for landowner best management practices are the CSLRCD and the National Resource Conservation Service. Instream flow projects could potentially include Creek Lands Conservation with the role of winning and managing funding and providing technical expertise; the CCC, who would contribute technical expertise, materials, and field support; and potential landowners. The primary partners for the steelhead habitat efforts are the city of SLO, and CDFW with the role of providing technical expertise; the CCC, who would contribute technical expertise, materials, and field support; and the city of SLO who would provide technical expertise. For conservation planning and invasive species management, primary partners include California State Parks, UCSB, and SLO County, who provide technical expertise and field support. Partners for stormwater projects include Camp SLO, the CSLRCD, and the CCC. Partners on energy-related projects include the City of Morro Bay, SLO County, and the Coastal Commission. These entities take on the role of providing guidance and oversight as these efforts develop. Partners on oyster restoration projects include Sea Grant, Cal Poly, The Nature Conservancy, and Elkhorn Slough National Estuarine Research Reserve as technical resources, and local oyster farms as research partners. Camp SLO, as a landowner and funding partner, will be involved in developing stormwater projects on the base. Potential partners for water conservation efforts include Creek Lands Conservation (technical resource) and Camp SLO and Cal Poly as potential partners and landowners.

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

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Working with partners such as the CSLRCD to provide resources and support to private landowners and agency partners with the end goal of implementing projects to improve water quality.

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program plans to work with partners to further the progress of stormwater management and water conservation projects. The Estuary Program will work with partners to review and finalize the historical ecology habitat map.

CCMP Action Plans Addressed: Depending on project opportunities that arise, work could impact the following Action Plans: BMP-1 (Agricultural and Grazing BMPs), ECR-1 (In-stream Habitat), ECR-2 (Riparian Corridors), ECR-3 (Wetlands Protection and Enhancement), ECR-14 (Support Recovery Plans), ECR-15 (Steelhead Barriers and Habitat), ECR-16 (Invasive Species Action Plan), FWR-5 (Water Conservation)

Fisheries Management

Objective: To implement projects to benefit native species and other opportunities as they arise.

Status: Ongoing

Progress Toward Milestones: Staff conducted planning for a fall 2025 management effort for invasive pikeminnow, which prey on steelhead populations.

A steelhead growth and tracking study has continued in Chorro Creek. Passive Integrated Transponder (PIT) tags were inserted into netted steelhead, and antennae arrays were set up in lower Chorro Creek. The movement of steelhead are tracked as they move from Chorro Creek into the estuary and back again. This movement of steelhead was measured during the storms of late 2024 and early 2025, which indicated that steelhead in Chorro Creek were making their way out to the estuary and then returning to the creek. Fish that are re-captured after the initial PIT tagging are measured to assess growth rates over time. Monitoring will continue with partners through winter 2025. Staff conducted contracting and planning for pikeminnow management work in Chorro Creek during fall 2025.

Staff reviewed the results of the 2023 to 2024 bay fish monitoring efforts and shared results with partners and the public. The data will be highlighted in the 2026 SOTB report.

Leads, Partners, and Their Roles: The Estuary Program has been the lead for these efforts, providing funding and project oversight. The primary partners for this work include Stillwater Sciences who holds the permit for implementation; the CCC who provides technical input and field support; CDFW who provides technical support; and USFWS who offers project oversight and issues the permit for the work. CDFW is a landowner in the watershed and has funded fish-related work in the past.

Deliverables: None.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Control of the invasive pikeminnow population and a better understanding of sustainable ratios of pikeminnow to steelhead that support steelhead recovery. Improved understanding of steelhead use of lower Chorro Creek helps inform locations for future potential management actions that improve flows, fish passage, and water quality.

Problems Encountered: None.

Activities Planned for Next Six Months: Continue tracking of tagged steelhead movement in Chorro Creek. Conduct pikeminnow management work in Chorro Creek.

Pending Deliverables: None.

CCMP Action Plans Addressed: ECR-14 (Support Recovery Plans), ECR-15 (Steelhead Barriers and Habitat), ECR-16 (Invasive Species Action Plan)

Environmental Monitoring and Assessment

The Environmental Monitoring and Assessment tasks directly support the Core Programs of the Section 320 CWA, including "establishing water quality standards," "identifying polluted waters and developing plans to restore them," "addressing diffuse, nonpoint sources of pollution," "protecting wetlands," and "protecting coastal waters through the National Estuary Program." These efforts also align with the mandate of the PRAE Act by "addressing the effects of recurring extreme weather events on the estuary, including the identification and assessment of vulnerabilities in the estuary and the development and implementation of adaptation strategies," and by "increasing public education and awareness of the ecological health and water quality conditions of the estuary." Through these monitoring and assessment initiatives, the Estuary Program fulfills its role under Section 320 of the CWA – providing critical information to protect water quality, manage natural resources, and support the long-term health of the Morro Bay estuary and watershed.

Monitoring Program Coordination

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

Status: Ongoing

Progress Toward Milestones: Staff conducted monitoring in the watershed and estuary to track long-term ambient trends and project implementation effectiveness. During FY25, the following occurred:

- Staff continued to work with long-time volunteers and trained new volunteers to conduct monitoring to support understanding of bay and creek health. Staff and volunteers were able to conduct the following monitoring in FY25: 82 monitoring trips for bay water quality, 206 for bacteria, 339 for creek water quality, 31 for recreational use, 34 for phytoplankton, 10 for eelgrass, 11 for macroalgae, 4 for toxicity, 2 for eDNA, and 10 for bioassessment.
- Staff coordinated with the California Department of Public Health (CDPH) and local shellfish growers on monitoring related to storm flows and bacteria. This included monitoring bacteria in Chorro Creek, Upper Los Osos Creek, and Warden Creek. Staff also monitored nitrates in the freshwater seeps along the bay shoreline to track improvements in water quality following the Los Osos Water Reclamation Facility coming online.
- Staff continued a long-term partnership with Cuesta College, providing lecture and class materials for an oceanography course.
- Staff continued a bacteria monitoring effort in partnership with the Cuesta College Biology Department. Cuesta students completed their fall 2024 and spring 2025 semesters of monitoring and began the fall 2025 semester work. The partnership continues the Estuary

Program's long-running ambient bacteria data set while providing monitoring and research opportunities for local community college students.

- Staff monitored sites watershed-wide for nutrients every other month to track long-term trends.
- Staff monitored water quality conditions monthly at three sites to assess impacts from agricultural land use.
- Staff maintained a network of water depth sensors to track flows year-round. Staff and volunteers conducted spring and summer low flow monitoring to determine if adequate water was present for fish passage during crucial periods in the life cycle.
- Staff conducted bay macroalgae monitoring to track macroalgae abundance over time and space. This is particularly of interest due to the potential of macroalgae to crowd out eelgrass.
- Staff conducted the annual fall eelgrass transect monitoring and annual spring bed condition eelgrass transect monitoring to assess long-term eelgrass health.
- Staff trained and coordinated volunteers for phytoplankton monitoring in the bay in partnership with a Cal Poly researcher to better understand phytoplankton dynamics and the impacts on local shellfish farms.
- Staff managed a monitoring effort to track recreational use at popular spots around the estuary. This data helps in estimating the economic value of recreational use of the bay.
- Staff deployed continuous monitoring sensors to measure temperature, dissolved oxygen, pH, chlorophyll-a, and conductivity at watershed sites.
- Staff conducted spring bioassessment monitoring throughout the watershed at ten sites. Macroinvertebrate samples were collected and submitted to a taxonomy lab for sorting, counting, and identification. The data was received in August, and creek health scores were calculated for further analysis.
- Staff coordinated with the city of SLO and Cal Poly on bioassessment monitoring in the SLO watershed. Staff lent technical expertise and guidance in data analysis and reporting.

Leads, Partners, and Their Roles: The Estuary Program served as the lead for all monitoring efforts other than two efforts. The first was bacteria monitoring for shellfish farming where CDPH served as the lead and the Estuary Program provided funding. The second was the SLO watershed bioassessment effort, where Cal Poly served as the lead and the Estuary Program provided technical support. Primary partners in the Estuary Program monitoring efforts include the Central Coast Regional Water Quality Control Board (CCRWQCB), whose Central Coast Ambient Monitoring Program (CCAMP) lends technical advice, monitoring equipment, and field support. Landowners such as California State Parks, Cal Poly, Camp SLO, SLO County, the City of Morro Bay, and numerous private landowners are also partners, allowing access on their land for monitoring. Cuesta College provides technical support, access to their property, and lab space. Partners on work with Watershed Stewards Program (WSP) members include the CCC, Creek Lands Conservation, the city of SLO, and AmeriCorps. CDPH is responsible for water quality in shellfish growing areas, and the program utilizes Estuary Program data to support their work. Program coordination follows the approved QAPP and data is submitted to the CEDEN database.

Deliverables: A quality dataset that meets the parameters outlined in the Quality Assurance Project Plan (QAPP). Activities described in Semi-annual report (see above).

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Activities for this task involved collecting and sharing data, resulting in an increased understanding of the long-term trends in ambient water quality in the watershed and estuary.

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program plans to conduct the following types of monitoring: creek water quality (including continuous monitoring, bimonthly nutrient monitoring, and monthly agricultural site monitoring), creek and bay bacteria, bay water quality, seeps water quality, water toxicity, streamflow, phytoplankton, recreational use, and eelgrass monitoring.

Pending Deliverables: A high quality dataset submitted to CEDEN for widespread use.

CCMP Action Plans Addressed: MON-1 (Support Development of TMDLs), MON-2 (Monitor Environmental Indicators), MON-3 (Monitor Project Effectiveness), MON-4 (Maintain VMP), MON-5 (Support Partners), MON-6 (Support Research Activities)

Monitoring Program Reporting and Analysis

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

Status: Ongoing

Progress Toward Milestones: Estuary Program staff compiled data in formats appropriate for various audiences, including academic classes, researchers, regulators, landowners, and the general public. Staff responded to requests for program-generated data. Several blog posts on monitoring-related topics were created over the year, including popular "Field Updates" posts that provide a rundown of what staff have been up to in the estuary and watershed. Analysis is underway on creek water quality, bioassessment, and sediment data.

Leads, Partners, and Their Roles: The Estuary Program is the lead on these efforts, compiling and analyzing data and documenting it in memos and reports. Primary partners in the reporting and analysis of monitoring data include the CCRWQCB, whose CCAMP lends technical advice to the program. Public and private landowners make use of the data in their own land management and monitoring efforts. Cal Poly also lends technical expertise.

Deliverables: Activities described in Semi-annual report (see above). Example monthly bacteria memo. Bay Health Memo for Water Year (WY) 2024. Creek Health Memo for WY2024. Bioassessment Memo for WY2024. Sediment Report for WY2023. Eelgrass Report for 2023.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Activities conducted under this task involved analyzing and sharing data and results with partners, landowners, and the general public. These activities directly support the task outcome of making analysis available for others to support their own efforts to protect and restore Morro Bay and its watershed.

Problems Encountered: None.

Upcoming Activities: The Estuary Program plans to respond to requests for data, create blog posts to share data, and compile bioassessment, bacteria, and water quality data to share monitoring results.

Pending Deliverables: Sediment report for WY24. Creek Health and Bay Health memos for WY25. Bioassessment memo for WY25. Eelgrass report for 2024.

CCMP Action Plans Addressed: MON-1 (Support Development of TMDLs), MON-2 (Monitor Environmental Indicators), MON-3 (Monitor Project Effectiveness), MON-4 (Maintain VMP), MON-5 (Support Partners), MON-6 (Support Research Activities)

Monitoring Program Data Management

Objective: Maintain data in Surface Water Ambient Monitoring Program (SWAMP)-compatible format.

Status: Ongoing

Progress Toward Milestones: Estuary Program staff prepared monitoring data and completed submittal to CEDEN. Staff attended CEDEN working group meetings to help prepare for upcoming changes to the data management system. Data through the end of WY24 has been submitted to CEDEN. Staff are preparing WY25 data for submittal to CEDEN. Staff conducted follow-up with CCRWQCB and State Water Resources Control Board (SWRCB) staff on the incorporation of program data into the Integrated Report (IR) process. That data is being incorporated into the Region's IR process.

Leads, Partners, and Their Roles: The Estuary Program has the lead role in data management efforts. Primary partners in the Estuary Program monitoring effort include the CCRWQCB, whose CCAMP lends technical advice and data management support to the program. The SWRCB is a partner, providing support for the state's CEDEN system.

Deliverable: Activities described in Semi-annual report (see above). Data submittal to CEDEN.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Activities such as storing and submitting data accomplished the outcome of making available to the public and state a high-quality data set that supports Total Maximum Daily Load (TMDL) analysis, 303(d) assessment, land management, etc.

Problems Encountered: In fall 2025, the SWRCB had a backlog of update requests for CEDEN, delaying the implementation of Estuary Program updates required for data submittal for the IR process. Staff worked with CCRWQCB staff to resolve the issue so that all current Estuary Program data could be submitted.

Activities Planned for Next Six Months: The Estuary Program will continue to manage data and work with the SWRCB to upload data to CEDEN.

Pending Deliverables: Submittal of WY25 data to CEDEN.

CCMP Action Plans Addressed: MON-1 (Support Development of TMDLs), MON-2 (Monitor Environmental Indicators), MON-3 (Monitor Project Effectiveness), MON-4 (Maintain VMP), MON-5 (Support Partners), MON-6 (Support Research Activities)

Monitoring Program Quality Assurance

Objective: Update and submit a Quality Assurance Project Plan, work with reviewers to approve document, and implement necessary quality assurance measures.

Status: Ongoing

Progress Toward Milestones: The Estuary Program continues to implement the quality assurance (QA) measures contained in the QAPP to ensure data quality. Staff compiled three addenda to the QAPP for short-term monitoring efforts: phytoplankton, bay genetic analysis, and bay fecal coliform monitoring. All three were approved by EPA. Staff completed the 2025 QAPP update and its three addenda and submitted them to EPA's Office of QA. They were reviewed and approved. The Estuary Program also submitted the documents to the SWRCB QA Officer and the CCRWQCB QA Officer for review and received approvals. Staff compiled an addendum to the QAPP for a short-term monitoring project to monitor groundwater for saltwater intrusion. EPA approved this addendum.

Leads, Partners, and Their Roles: The Estuary Program is the lead in developing and implementing the QAPP and any QA measures. The EPA Region 9 Office of QA is the primary partner, providing oversight of the QAPP and technical assistance. The SWRCB 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, Central Coast Water Quality Preservation, Inc., the Stream Pollution Trends Monitoring Program (SPoT), and others. These partners provide advice and technical support.

Deliverables: Activities as described in this Semi-annual report (see above). 2025 QAPP update and four addenda..

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: An accurate and up-to-date QAPP document directly supports the task outcome of producing a high-quality data set to support efforts throughout the watershed, including 303(d) and TMDL assessment.

Problems Encountered: None.

Activities Planned for Next Six Months: Staff will conduct the QA measures needed to ensure the quality of program-generated data. Staff will create any additional addenda for 2026. Staff will begin compiling updates for the 2026 QAPP.

Pending Deliverables: Update to QAPP and addenda for 2026.

CCMP Action Plans Addressed: MON-1 (Support Development of TMDLs), MON-2 (Monitor Environmental Indicators), MON-3 (Monitor Project Effectiveness), MON-4 (Maintain VMP), MON-5 (Support Partners), MON-6 (Support Research Activities)

Project Effectiveness Monitoring

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

Status: Ongoing

Progress Toward Milestones: Staff conducted monitoring of the freshwater seeps at the bay's edge to assess the impacts of the Los Osos Water Reclamation Facility. The Estuary Program conducted monitoring for a project on Pennington Creek to assess the impacts of a water diversion improvement project.

Leads, Partners, and Their Roles: The Estuary Program serves as the lead in data collection, QA, management, and sharing. Project partners include landowners or responsible entities such as Cal Poly, Camp SLO, and the SLO County Office of Education. Project partners lending expertise and funding include Trout Unlimited, Creek Lands Conservation, CDPH, local oyster farms, and others.

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

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The activities under this task support the outcome of conducting monitoring and developing analysis that informs future management and restoration efforts.

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program plans to continue monitoring the seeps. Staff will coordinate with Trout Unlimited on monitoring to assess surface flows and support restoration and adaptive management efforts. Staff will coordinate with Cal Poly researchers on future monitoring and potential publications. Staff will also communicate with project partners to share data results and coordinate efforts.

Pending Deliverable: None.

CCMP Action Plans Addressed: MON-1 (Support Development of TMDLs), MON-2 (Monitor Environmental Indicators), MON-3 (Monitor Project Effectiveness), MON-4 (Maintain VMP), MON-5 (Support Partners), MON-6 (Support Research Activities)

Eelgrass Monitoring and Research

Objective: Monitor eelgrass to determine its condition and distribution in the bay.

Status: Ongoing

Progress Toward Milestones: Staff coordinated with Cuesta College faculty on their eelgrass research efforts. This includes genetic analysis of the prokaryotic and wasting disease slime mold communities in Morro Bay eelgrass. Cal Poly conducted drone flights in December 2024 and January 2025, and analysis is underway to create a baywide eelgrass map. Staff worked with Cal Poly to develop a project and contract for drone flights in December 2025 and January 2026. Staff completed the winter and summer macroalgae monitoring to track its presence throughout the bay and how it changes over time. Staff communicated with the Army Corps of Engineers (ACOE) on spring dredging of the bay mouth to support efforts to ensure that the work does not negatively impact sensitive species and habitats in the bay. Staff shared data with ACOE staff to support these efforts. Staff developed a 2025 baywide eelgrass

mapping effort, and data collection via sonar and drone were conducted in the April to June timeframe. Map creation is underway with a draft expected in early 2026. Staff are working to complete the 2024 Eelgrass Report.

Leads, Partners, and Their Roles: The Estuary Program is the lead for all efforts other than the ACOE dredge project. The Estuary Program provided funding, project oversight, and expertise for all other efforts. Project partners include Cal Poly, whose expertise is supporting expanded monitoring and research efforts to study eelgrass, sedimentation, circulation, and water quality. Cuesta College conducts research related to wasting disease and eelgrass health. Other partners include CDFW, a potential funder for the effort and the entity overseeing permits for some eelgrass-related work. The National Oceanic and Atmospheric Association (NOAA), USFWS, and others have provided funding and technical support for the effort. EPA provides both funding and technical support. Secondary partners with an interest in eelgrass in Morro Bay include the SCC, the Pacific Marine and Estuarine Fish Habitat Partnership (PMEP), the City of Morro Bay, State Parks, local oyster farms, the Black Brant Group, ACOE, and local businesses.

Deliverables: Monitoring activities documented in the Semi-annual report (see above). Eelgrass Report for 2023.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Monitoring and planning for mapping efforts as well as working with research partners all support the outcome of better understanding eelgrass stressors and dynamics. This improved understanding directly supports the outcome of development of restoration and monitoring strategies and goals.

Problems Encountered: None.

Activities Planned for Next Six Months: Staff will complete the 2024 eelgrass report. Staff will share the results of 2025 eelgrass mapping and monitoring efforts. Staff will conduct 2026 eelgrass mapping and monitoring efforts.

Pending Deliverables: Baywide eelgrass map for 2025. Eelgrass report for 2024.

CCMP Action Plans Addressed: MON-1 (Support Development of TMDLs), MON-2 (Monitor Environmental Indicators), MON-3 (Monitor Project Effectiveness), MON-4 (Maintain VMP), MON-5 (Support Partners), MON-6 (Support Research Activities), ECR-7 (Eelgrass Data and Research), ECR-8 (Eelgrass Restoration)

Partner Research Efforts

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

Status: Ongoing

Progress Towards Milestones: Estuary Program staff coordinated and collaborated with Cal Poly, CDFW, the NOAA, Cuesta College, ACOE, the City of Morro Bay, and other project partners to research bay eelgrass and related water quality issues. Staff sought results of research efforts in Morro Bay and other

relevant coastal areas related to nutrients, macroalgae, sedimentation, bay water quality, and other data. Staff coordinated with Cal Poly on bay water quality monitoring efforts. Staff collaborated with partners such as Cal Poly and the USGS on future research efforts related to eelgrass, extreme weather events, and marsh habitat. Monitoring of sediment accretion and water levels was conducted to support a project with the USGS to study impacts of ocean water levels and storms to the tidal marsh habitat. Staff coordinated with Cal Poly to complete the 2024 to 2025 drone flights and to plan for the 2025 to 2026 drone flights. Staff collaborated with a Cal Poly team on a modeling project to automate eelgrass classification from drone imagery. Staff collaborated with the UCSB dune resiliency project on a drone flight on the sandspit in fall 2024. Staff coordinated with researchers from Southern California Coastal Water Research Project (SCCWRP), the California Estuary Monitoring Workgroup, the Estuary Marine Protected Area monitoring effort, EPA, and others on potential collaborative monitoring efforts. Staff attended an Ocean Observing Community workshop and data portal training session, hosted by Central and Northern California Ocean Observing System (CeNCOOS) and Southern California Coastal Ocean Observing System, for technology transfer on recent research and accessing data.

The Estuary Program has coordinated with Cal Poly on numerous ongoing monitoring efforts, including bay nutrient monitoring, Olympia oyster research, microplastic research, and phytoplankton monitoring. Staff coordinated with CDPH on a project to sample shellfish growing waters following storms. The data will help CDPH determine whether the current rainfall closure guidelines are still relevant or whether they need to be updated.

The Estuary Program continued supporting a neighboring watershed whose stakeholders recently established a bioassessment monitoring effort. Estuary Program staff supported data management and field training for the group's bioassessment monitoring in spring 2025, conducted by Cal Poly in partnership with the city of SLO.

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

- USGS tidal marsh elevation and plant species monitoring to help assess future impacts from changing ocean water levels and extreme weather events.
- Cal Poly research on the impact of crabs on eelgrass.
- Cal Poly research on microplastics in Morro Bay.
- Cal Poly research on Olympia oysters in the bay.
- Cal Poly research on bay nutrient levels.
- Cal Poly research on bay phytoplankton populations in water and sediment.
- UCSB eDNA monitoring related to Morro Bay eelgrass.
- Cuesta College research on impact of *Labyrinthula spp.* wasting disease on eelgrass.
- Cuesta College genetic research of prokaryotic populations on eelgrass.
- Cal Poly research on water quality in Morro Bay, in partnership with CeNCOOS.
- EPA analysis of bay water quality data throughout the NEPs.
- California Estuary Monitoring Workgroup efforts to coordinate monitoring and research throughout the state.

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

Leads, Partners, and Their Roles: The Estuary Program is the lead on the USGS tidal marsh elevation project. The Estuary Program served as a funder for the Cal Poly drone flights, bay nutrients, bay phytoplankton, Cuesta College genetic analysis, and CeNCOOS sensor arrays. Cal Poly is a primary partner and technical lead in these joint efforts. Cal Poly will conduct monitoring of water quality parameters, eelgrass mapping, and analysis. Other research collaboration partners have included SCCWRP, USGS, Cuesta College, and the Central Coast Wetland Group, all who serve as technical resources.

Deliverables: Water quality data collected by Cal Poly and shared on the CeNCOOS web portal for the front bay and back bay. Activities as described in this semi-annual report.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Coordination with research partnership efforts directly supports the task outcome of improving understanding of resources in order to better target efforts such as monitoring and restoration.

Problems Encountered: None.

Activities Planned for Next Six Months: Staff will coordinate with Cal Poly, Cuesta, and other partners on ongoing research efforts. Staff will continue to work with USGS staff on salt marsh monitoring.

Pending Deliverables: Eelgrass report for 2024.

CCMP Action Plans Addressed: MON-1 (Support Development of TMDLs), MON-2 (Monitor Environmental Indicators), MON-3 (Monitor Project Effectiveness), MON-4 (Maintain VMP), MON-5 (Support Partners), MON-6 (Support Research Activities), ECR-7 (Eelgrass Data and Research), ECR-8 (Eelgrass Restoration)

State of the Bay Analysis

Objective: Conduct analysis of trends and project effectiveness data for the triennial State of the Bay environmental report card.

Status: New

Progress Towards Milestones: Estuary Program staff worked throughout 2025 to compile data, conduct analysis, and develop text and infographics for the 2026 SOTB report. Staff reached out to partners to gather all available data sets focused on restoration, research, and monitoring. Staff completed compilation of content for the printed report, which is expected to be printed and distributed in early 2026. Staff are working to compile additional content for the online version of the report.

Leads, Partners, and Their Roles: The Estuary Program is the lead on the SOTB effort. Project partners include the monitoring partners who share their data and expertise with the Estuary Program. These include CDPH, CCAMP, the Central Coast Water Quality Preservation, Inc., CDFW, Cal Poly, Audubon, USGS, shellfish farmers, environmental consultants, and community members.

Deliverables: None.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Sharing data and analysis enhances understanding of progress in watershed and estuary health. The results update EPA and other partners on the state of Morro Bay and the lands that surround it. Results can also support management of habitats and development of future monitoring, restoration, and education efforts.

Problems Encountered: None.

Activities Planned for Next Six Months: Report design will be completed and report will be printed and distributed. Staff will complete creation of online version of the report.

Pending Deliverables: 2026 SOTB report print and online versions.

CCMP Action Plans Addressed: MON-1 (Support Development of TMDLs), MON-2 (Monitor Environmental Indicators), MON-3 (Monitor Project Effectiveness), MON-4 (Maintain VMP), MON-5 (Support Partners), MON-6 (Support Research Activities), EO-1 (Public Education & Outreach), EO-2 (State of the Bay)

Public Participation, Education and Outreach

The Public Participation, Education and Outreach tasks directly support the Core Programs of Section 320 of the CWA by "protecting coastal waters through the National Estuary Program." These efforts ensure that residents, visitors, educators, and community members have the knowledge and tools to actively participate in the protection and stewardship of Morro Bay. Additionally, stewardship activities align with broader CWA goals by addressing nonpoint source pollution and promoting community-driven conservation actions. Efforts also align with the PRAE act to "increase public education and awareness of the ecological health and water quality conditions of the estuary." Through these education and outreach efforts, the Estuary Program advances the objectives of the CWA and the PRAE Act by fostering environmental awareness, promoting science-based stewardship, and ensuring the long-term protection of the Morro Bay estuary and its watershed.

Communications

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

Status: Ongoing

Progress Toward Milestones: Estuary Program staff regularly conducted the following communications tasks in FY25:

- Created regular blog posts that were shared via email, website, and social media. 530 subscribers receive the blog via email approximately twice a month. The blog is posted on Facebook and corresponding content is posted to Instagram and LinkedIn when appropriate for the platforms. Popular blog posts have as many as 2,500 reads, not including subscribers. In FY25, we posted 31 blogs.
- Developed fall, winter, spring, and summer issues of a quarterly newsletter that was posted on the website, delivered to over 260 email subscribers, and distributed on social media channels.

- Maintained a Facebook feed for the Estuary Program that currently has 2,777 followers. Utilized two-way communication with these users, such as recognition of beach cleanup participants and Mutts for the Bay sponsors.
- Maintained an Instagram feed for the Estuary Program that currently has 3,813 followers and a Mutts for the Bay Instagram account that currently has 193 followers.
- Maintained a LinkedIn account with 529 followers.
- Three news stories were published that covered Estuary Program-specific content and projects in the watershed.
- Continued updates on the program website to refresh current content. In FY25, the website had over 45,500 visits and 84,000 page views.
- Continued our Science on Tap science talk series that rotates among different venues around the watershed and county. Staff hosted an event in the spring highlighting the monitoring and restoration efforts of the program in our 30-year history. The event also featured trivia and had 30 attendees. The Estuary Program hosted an event in October 2024 featuring the Habitat Protection & Restoration Strategy (HPRS) and habitat trivia in October 2024 that had 18 attendees.
- Organized and hosted a Science Explorations science talk event was held in January 2025 that focused on bay water quality, with 22 attendees.
- Tabling at community events, including Wiggle Waggle, Maritime Museum event, farmers markets, and others.

Leads, Partners, and Their Roles: The Estuary Program is the lead in these communication efforts. Partners in Estuary Program communication efforts include the City of Morro Bay, SLO County, the Morro Bay Natural History Museum, California State Parks, the San Luis Obispo Marine Protected Area Collaborative (SLOMPAC), and others. These partners provide resources and expertise, promote Estuary Program events, and share our materials and message with the public.

Deliverables: Blog posts published on a regular basis at www.mbnep.org/blog. Website and social media statistics (see above). Relevant news stories available online and press releases submitted at www.mbnep.org/news. Quarterly newsletter at http://www.mbnep.org/newsletter.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The activities listed above enhanced communication with residents, visitors, and the general public. This works toward the task outcome of increasing their understanding of their roles as stewards of the estuary and encouraging behaviors that protect clean water.

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program plans to continue the communications tasks outlined above including blog posts, published reports, seasonal newsletters, upcoming events, and stewardship tips.

Pending Deliverables: Regular blog posts and newsletters. News stories posted to website.

CCMP Action Plans Addressed: EO-1 (Public Education and Outreach), EO-2 (State of the Bay), EO-3 (Nature Center), EO-4 (Formal Education Programs)

Education

Objective: Develop partnerships and services to support formal education and other education efforts.

Status: Ongoing

Progress Toward Milestones: Efforts to support education in FY25 included the following:

- Hosted 28 field trips in various locations around the watershed for school groups and youth organizations, reaching 771 individuals. Topics included watershed health, local wildlife, nature journaling, tide pooling, and estuarine habitats.
- Presented to Cuesta College classes on water quality monitoring, the Estuary Program, and science careers that reached 156 students.
- Held one outing with adults from the El Camino Homeless Organization shelter in the Elfin Forest to learn about the Morro Bay watershed and habitats. This reached six participants.
- Staff are active participants in the SLO County Environmental Education Coalition hosted through One Cool Earth.
- Hosted a marine biology class project through SLO High School that included tide pool monitoring field work with 30 students.
- Hosted a field trip at the Elfin Forest for a cohort of 13 CCC members taking the California Naturalist course.
- Created and delivered watershed and estuary education programming for youth at the CCYES summer camp, reaching 23 youth from the Guadalupe area.
- Created and delivered watershed and estuary education programming for the Morro Bay Junior Guards summer camp, including a beach cleanup. This program reached 100 youth over the course of the summer.
- Trained eight Camp Ocean Pines naturalists for this school year on watersheds and the Morro Bay estuary.
- Trained 15 garden educators at One Cool Earth on watersheds and the Morro Bay estuary in preparation for the joint Watershed Week curriculum at 36 SLO County schools.
- Continued to work with Camp Ocean Pines to develop a watershed and marine lab at their Cambria campus. Estuary Program staff supported curriculum development and activities related to estuary and watershed science.
- Hosted the 2025 teacher training/educator workshop series. The series of three workshops provided curriculum and support for teaching nature journaling, ocean literacy, and stewardship through restoration. The same cohort of 22 educators attended all three workshops of the series. The attendees included 19 traditional schoolteachers. The remaining attendees were a combination of informal educators, docents, volunteers, and environmental educators. The participants were from SLO and Santa Barbara counties. Participants received free memberships to the Southwest Marine Educators Association as well as a Project WET water education teaching guide.
- Continued to work with California State Park Interpreters at the Morro Bay State Park Natural History Museum and the SLO Coast District on educational programming.

Leads, Partners, and Their Roles: For the State Parks programming and the SLO County Environmental Education Coalition, the Estuary Program was a participant and collaborator. For all other education efforts, the Estuary Program served as the lead, developing the content and coordinating the events.

Partners include the California State Parks, a direct collaborator in creating education programs. Camp Ocean Pines brings students to Morro Bay for field trips, and their naturalists deliver educational content related to estuaries and watersheds. 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 environmental stewardship. Cal Poly and Cuesta College faculty are partners, bringing classes to the estuary and watershed to conduct research and field trips. Staff visit classrooms from primary through college-level to share the results of our work. The San Luis Obispo and Monterey Marine Protected Area (MPA) Collaboratives are also key partners, helping to produce and distribute estuary and marine-focused stewardship education materials across the state of California.

Deliverables: Fieldtrip and presentation statistics (see above in the Communications section).

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The activities under this task directly support the outcome of providing formal education partnerships to share watershed and estuary-related messaging with students and youth.

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program plans to continue the education tasks outlined above. We also plan on hosting a variety of family-friendly field trips during the summer of 2026.

Pending Deliverables: None.

CCMP Action Plans Addressed: EO-1 (Public Education and Outreach), EO-2 (State of the Bay), EO-3 (Nature Center), EO-4 (Formal Education Programs)

Nature Center Maintenance & Operations

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

Status: Ongoing

Progress Toward Milestones: Staff conduct activities to maintain the Nature Center. In FY25, the Nature Center had over 18,000 visitors. The Nature Center was used as a meeting space for Camp Ocean Pines and One Cool Earth staff trainings, as well as for field trips with youth. Staff continue to update the Kid's Corner with new activities. A new logo and entrance artwork were installed along with other needed maintenance. Estuary Program staff are planning for the addition of new exhibits and updates to maps and interpretive information.

Leads, Partners, and Their Roles: The Estuary Program serves as the lead for managing and operating the Nature Center and its maintenance and updates. The Morro Bay Museum of Natural History will be a partner in this effort, helping direct visitors to the center and lending their expertise. Camp Ocean Pines, One Cool Earth, and other education partners collaborate on curriculum development and educational opportunities. The Estuary Program is partnering with the USFWS to design a new eelgrass exhibit for the Nature Center.

Deliverables: Visitor statistics for the Nature Center (see above).

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The maintenance and updates to the Nature Center conducted as part of this task directly support the outcome of providing a learning center for the estuary that contains updated and engaging exhibits.

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program will continue activities to maintain the Nature Center. The Estuary Program will continue to provide field trips and educational programming in the Nature Center.

Pending Deliverables: Eelgrass exhibit.

CCMP Action Plans Addressed: EO-1 (Public Education and Outreach), EO-2 (State of the Bay), EO-3 (Nature Center), EO-4 (Formal Education Programs)

Community Engagement & Stewardship

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

Status: Ongoing

Progress Toward Milestones: Efforts to support outreach projects in the community included:

- Estuary Program staff continued discussions with ECOSLO to plan adopt-a-spot cleanups across SLO County. The Estuary Program will be the organizational liaison for any adopt-a-spot cleanup groups formed in Morro Bay and Los Osos. Site selection and program launch is anticipated in FY26.
- Staff participate in the SLOMPAC to work with partners on initiatives related to education and outreach.
- Staff have been active members in the Environmental Education Coalition of SLO County, hosted by One Cool Earth. The group works to effectively communicate and collaborate on environmental education initiatives and programs in the county.
- Staff partnered with local organizations to engage the community, including Woods Humane Society, Sea Otter Savvy, Camp Ocean Pines, Creek Lands Conservation, El Camino Homeless Organization, SLO Beaver Brigade, and others.
- Staff hosted five cleanups in Morro Bay in FY25, with 183 volunteers (including students and community members) picking up 212 pounds of trash.
- Staff hosted a community partner reception in July, honoring the many partners and volunteers that help keep our program running. The Estuary Program was recognized by the City of Morro Bay as well as the California State Assembly for 30 years of protecting and restoring the Morro Bay watershed.

Leads, Partners, and Their Roles: The Estuary Program served as the lead for program beach clean-ups. For all other efforts, staff serve as collaborators, lending technical advice and input. Partners include the 28 member organizations of the SLOMPAC, California State Parks through their SeaLife Stewards

program, the City of Morro Bay's Harbor Department, the Morro Bay Yacht Club, Bay Foundation of Santa Monica, the LOCSD, and local recreational boating business owners. This effort also includes supporting ECOSLO, a local nonprofit organization, in executing annual cleanups within the Morro Bay watershed.

Deliverables: Outreach statistics (see above).

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Activities conducted under this task directly support the outcome of coordinating with partner organizations on developing and sharing key messages.

Problems Encountered: Staff changes at ECOSLO and the Estuary Program have delayed progress on the Adopt-a-Spot cleanup partnership.

Activities Planned for Next Six Months: Staff will develop an effort to establish and manage the Los Osos and Morro Bay groups of adopt-a-spot cleanup crews. Staff will continue to be active members of the SLO MPA Collaborative as well as the Environmental Education Coalition and to host and attend community events.

Pending Deliverables: None.

CCMP Action Plans Addressed: EO-1 (Public Education and Outreach), EO-2 (State of the Bay), EO-3 (Nature Center), EO-4 (Formal Education Programs)

Mutts for the Bay

Objective: Support pet waste management program to prevent bacterial contamination in the bay.

Status: Ongoing

Progress Toward Milestones: The Estuary Program continued to manage the Mutts for the Bay program, which included accepting and managing donations, installing and maintaining dispensers, and coordinating volunteers. In 2018, the program received a grant from a private foundation to fund staff time and related costs for three years. In March 2021, the grant was extended to support the Mutts for the Bay Program through 2025. The grant also funds the development and sharing of outreach materials with pet owners. There are 36 dispensers that are maintained by the program. The pets in the Morro Bay and Los Osos area produce nearly 30,000 pounds of waste a week, and the 300,000 bags given out by our program in FY25 helped prevent a lot of that waste from reaching the estuary. The Estuary Program continued its Mutts for the Bay Instagram account (see above in Communications). The Estuary Program continued its partnership with Woods Humane Society on educating pet owners on eco-friendly practices.

Staff continued social media campaigns including sponsorship appreciation, Mutts for the Bay trivia, and Fun Fact Fridays. Staff updated and added new activity pages to the Mutts for the Bay coloring book about how to be an eco-friendly dog owner and the impacts of pet waste on the environment. Staff will continue distributing these activity books. Staff will continue to partner with the SLO County Stormwater

Program to fund the bags in all the Los Osos dispensers. An interactive map of dispenser locations is available at https://www.mbnep.org/mutts-for-the-bay/.

Leads, Partners, and Their Roles: The Estuary Program is the lead on this effort, managing the funding and donations and coordinating the program volunteers. Partners include the City of Morro Bay and SLO County, the two entities responsible for stormwater management efforts in the urban areas surrounding the estuary. A portion of the effort involves public education to share a clean water message and encourage responsible pet owner behavior. A private foundation awarded the Estuary Program multiple years of funding to support operational and educational costs related to the effort.

Deliverables: Mutts for the Bay program statistics (see above). Mutts for the Bay educational materials available online.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Activities under this task directly support the outcome of encouraging responsible behavior by pet owners to reduce bacterial loading to the estuary, thus improving water quality and protecting beneficial uses such as shellfish farming and recreation.

Problems Encountered: None.

Activities Planned for Next Six Months: Staff will continue its financial management and coordination of activities to maintain the program. Staff will complete design and publication of a Dog-friendly Trails brochure to distribute to the public. The partnership with Woods Humane Society's educational programming will be further developed to bring Mutts for the Bay curriculum and materials to students across SLO County. Estuary Program staff will continue to table at pet-focused events and farmers markets.

Pending Deliverables: None.

CCMP Action Plans Addressed: EO-1 (Public Education and Outreach), EO-2 (State of the Bay), EO-3 (Nature Center), EO-4 (Formal Education Programs), BMP-6 (Reduce Pet Waste)

State of the Bay Planning

Objective: Planning for outreach and events associated with the upcoming SOTB report, including audience engagement strategies, timelines, and coordination needs.

Status: New

Progress Toward Milestones: Every three years, the Estuary Program hosts a SOTB event series to share the results of an environmental report card on the health of the estuary and watershed. Report content has been compiled and design is underway. Initial planning is underway for potential events and possible partnerships. Events may include science talk events, Earth Week events, farmers market tabling, and more to engage with a diversity of audiences about the SOTB report results.

Leads, Partners, and Their Roles: The Estuary Program is the lead for this effort, providing the funding, expertise, and coordination to produce the report and the events to share the results. Partners include

Morro Bay State Park and other environmental organizations, community engagement, and education partners. Their role is to partner on development of outreach events related to SOTB and to help promote these events.

Deliverables: None.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Activities under this task directly support the outcoming of sharing the results of monitoring by the Estuary Program and its partners, with the goal of increasing education on nonpoint source pollution, restoration, etc.

Problems Encountered: None.

Activities Planned for Next Six Months: Staff will distribute the printed and online versions of the report and conduct planning, advertisement, event coordination, etc. for the spring 2026 events.

Pending Deliverables: 2026 SOTB report card, updated website with 2026 version of report. Posters, advertisements, etc.

CCMP Action Plans Addressed: EO-1 (Public Education and Outreach), EO-2 (State of the Bay)

Program Management

The Program Management tasks provide the foundation for implementing all actions outlined in this workplan. These efforts directly support the full range of priorities established under Section 320 of the CWA and the PRAE Act by ensuring the effective administration, oversight, and execution of projects that protect water quality, restore habitat, engage communities, and improve coastal resilience.

Manage Committees and Build Partnerships

Objective: Hold quarterly meetings and support partnerships.

Status: Ongoing

Progress Toward Milestones: Staff compiled meeting materials and coordinated quarterly meetings of the Executive Committee (EC) throughout the year. TAC members were called on as needed for review of Community Project applications, restoration, monitoring, data analysis, and technical plans.

Partnerships are also supported through collaborative project development and technical support. The Estuary Program continues its work on partnership projects developed and implemented in collaboration with partner organizations. These include:

- Staff served on the PMEP Science and Data Committee.
- The Estuary Program is a partner on the Santa Monica Bay NEP's vessel pump-out monitoring program. Staff monitor three pump-outs three times a year and share the results via a publicly-accessible app.
- The Estuary Program is working with Caltrans, SLO County, and other partners to study the feasibility of removing fish passage barriers on San Luisito Creek.

- The Estuary Program staff serve on a TAC for a lower Chorro Creek floodplain improvement project with CSLRCD.
- The Estuary Program staff serve on a TAC for SLOCOG's planning study of South Bay Boulevard to support public access and transportation given extreme weather event impacts.
- Staff served on the California Coastal Dune Science Network Advisory Team. The organization strives to expand understanding of coastal dunes and their role in building a resilient, transitional, and adaptive coast for the future.
- Staff participate in the SLO County Weed Management Area program to discuss emerging invasive species and partner on implementation projects.
- Staff served on the board of the California Shore and Beach Preservation Association.

Leads, Partners, and Their Roles: The Estuary Program is the lead for the Management Conference committees and TACs, coordinating and managing these committees to support program decision-making and oversight. The EC is made up of made up of representatives from various governmental, economic, environmental, and educational organizations. The TACs that support monitoring, restoration, and education are made up of local experts who can advise the Estuary Program in these programmatic areas. The all-volunteer Bay Foundation board is made up of community members with varied backgrounds in science, finance, education, and other relevant areas. The Estuary Program is the lead on the San Luisito Creek fish passage barrier project and the USGS project, providing funding, coordination, and expertise. For all other efforts, the Estuary Program serves as a partner, providing input and expertise.

Deliverables: Minutes, agendas, staff reports, and materials completed for each EC meeting. List of partnerships and project activities (see above).

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The activities conducted under this task directly supported the task outcome of providing input and direction for the program and ensuring that partnerships are well supported.

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program plans to continue to coordinate quarterly meetings and work with Management Conference members. We will continue to work with the TACs to develop projects, funding, and collaborations. We will continue to partner with the CSLRCD to seek funding to implement projects developed with funding from Resource Legacy Fund and support work at the Los Osos Wetland property. Staff will continue monitoring efforts in partnership with USGS to support modeling and planning to address the impact of changing ocean levels and extreme weather events on the tidal marsh.

CCMP Action Plans Addressed: This task supports all Action Plans.

Grants and Contracts Administration and Financial Management

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

Status: Ongoing

Progress Toward Milestones: Staff worked on financial reporting, progress reports to the EPA and the Management Conference, and participation in NEP conference calls and committees. Staff coordinated with EPA to provide required materials for oversight of the 320 base funding and IIJA grants and managed numerous outside grants to the Estuary Program to support our project work. Staff developed semi-annual and annual reports on the second half of FY24 and the first half of FY25 for the IIJA and 320 base funding grants. Staff managed the 320 base funding workplan for FY25 and the IIJA workplans and budgets for FY24 to FY25. Staff implemented the 320 base funding grant for FY25, which was approved by the Management Conference. Staff are managing the workplan and budget for FY25 for the IIJA funding, which was awarded in April. Staff developed the grant application, workplan, and budget for FY26 for the 320 base funding and the grant was awarded in September. The Executive Director attended the spring 2025 Association of National Estuary Programs (ANEP) meeting in Washington, D.C. and will attend the fall 2025 ANEP meeting in Alabama.

Staff worked throughout the year on the 2025 Program Evaluation (PE) process, which was completed in September. The PE team was identified and the schedule was developed. Staff completed the PE narrative per the EPA guidance, compiling information on the status of workplan and CCMP implementation. The narrative was submitted in the spring. A site visit in July was planned and implemented. Two EPA staff members and an ex-officio director attended the three-day event. The itinerary included field visits, meetings with partners, and discussions about ongoing and future program management. In September, EPA issued the final PE letter that identified the program's strengths and areas for improvement. The program received a score of proficient and will continue as part of the National Estuary Program.

Leads, Partners, and Their Roles: The Estuary Program is the lead for this task, with responsibility for managing the program per the requirements set out by EPA for NEPs. 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.

Deliverables: Semi-annual and annual reports for FY24 and FY25 320 base and IIJA funding. Workplan for the 320 base funding grant for FY26.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: Activities under this task directly supported the outcome of conducting grant administration and financial management tasks in a timely and accurate manner.

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program will implement the FY25 IIJA and FY26 320 base funding workplans. The Estuary Program will create an IIJA workplan for FY26. Staff will develop an annual report for FY25 and a semi-annual report for the first half of FY26.

Pending Deliverables: Annual FFR. FY26 IIJA workplan. Semi-annual and annual reports for 320 base funding and IIJA grants.

CCMP Action Plans Addressed: This task supports all Action Plans.

General Administration and Human Resources Management

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

Status: Ongoing

Progress Toward Milestones: Staff maintained 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 personnel policies and procedures up to date. Staff facilitated a FY24 single federal audit for the organization, which was completed in the spring.

Leads, Partners, and Their Roles: The Estuary Program is the lead for these tasks. The primary partner for this task is the Bay Foundation board which sets the policies and procedures for the organization.

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

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The administrative and human resources management tasks conducted in FY25 directly supported the outcome of providing the administrative support that allows the program to function smoothly so that staff can focus on attaining the goals of the organization.

Problems Encountered: None.

Activities Planned for Next Six Months: Staff will conduct all bookkeeping and recordkeeping tasks required for grant management. Staff will conduct all HR tasks including training and professional development. Staff will facilitate the FY25 single federal audit.

CCMP Action Plans Addressed: This task supports all Action Plans.

Tracking Implementation of the Management Plan and Workplan

Objective: Keep track of Workplan and CCMP implementation.

Status: Ongoing

Progress to Date: Staff tracked the progress of CCMP implementation through biannual reports to the EC. Staff compiled information and developed a “dashboard” to share with the public highlights of CCMP Action Plan implementation, which is now available on the website at https://www.mbnep.org/comprehensive-conservation-management-plan/

Leads, Partners, and Their Roles: The Estuary Program serves as the lead for the task. The primary partner is the Bay Foundation board who serves as the organization’s financial bursar.

Deliverables: Semi-annual reports to EPA submitted in fall 2024 and spring 2025. Biannual EC reports. Webpage with public-friendly highlights on CCMP implementation.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The tasks completed directly support the outcome of conducting tracking to ensure that tasks are completed in a timely and accurate manner.

Problems Encountered: None.

Activities Planned for Next Six Months: The Estuary Program plans to report to the EC on workplan progress and develop semi-annual and annual reports.

Pending Deliverables: IIJA and 320 base funding semi-annual and annual reports. FY26 IIJA workplan.

CCMP Action Plans Addressed: This task supports all Action Plans.

Community Projects

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

Status: Ongoing

Progress Toward Milestones: The project for FY25 is complete. The effort, a partnership with California State Parks, involved the Estuary Program funding the reprinting of a popular MPA activity book for kids. Nearly 24,000 copies of the book were printed and distributed by State Parks employees throughout the San Luis Coast District throughout the year. Staff are working to develop projects for FY26.

Leads, Partners, and Their Roles: The Estuary Program is the lead for this effort, providing non-federal funding to support the program. Staff resources are spent developing and overseeing these partner projects. Partners for recent Community Projects included the City of Morro Bay Harbor Department, Cal Poly and Cuesta College researchers, California State Parks, SLO County, and the SLOMPAC.

Deliverables: None.

Comparison of Actual Accomplishments with Anticipated Outputs/Outcomes: The activities conducted under this task included working with existing funding recipients and coordinating with partners to develop new projects that support CCMP goals and Action Plans. These activities directly supported these goals, thus meeting the task outcomes of developing and completing projects that meet program guidelines on community involvement and CCMP nexus.

Problems Encountered: None.

Activities Planned for Next Six Months: Staff will work with partners to develop FY26 projects and with the Bay Foundation, EC, and TAC to approve them.

Pending Deliverables: None.

CCMP Action Plans Addressed: This task can support all Action Plans, depending on the project type and partners involved.

Lab Competency Documentation

The Estuary Program utilizes laboratories that have met the certification requirements for their technical area. During FY25 the following labs were used:

For Water Quality: The Estuary Program works with Fruit Growers Laboratory (FGL) and the County of SLO Public Health Laboratory. Both labs maintained Environmental Laboratory Accreditation Program (ELAP) certification during this time period. The certification for FGL is available online. The certification for the County of SLO Public Health Laboratory is under ELAP certification number 2114 and is available online. The Marine Pollution Studies Laboratory at Granite Canyon Laboratories (GC) conducts toxicity monitoring for the Estuary Program. This laboratory is ELAP-certified under certificate number 2821.

For Bioassessment: The Estuary Program works with EcoAnalysts, Inc. for analysis of bioassessment samples. Bioassessment labs certify their individual taxonomists rather than the lab as a whole. They provided their taxonomists' certifications. Any of the lab's taxonomists listed could be assigned to our projects. The list of taxonomists' certifications is provided with the deliverables for this semi-annual report.

For Bay Nutrient Analysis: The UCSB Marine Sciences Laboratory conducts analysis of Morro Bay waters for nutrients. Although the laboratory is not ELAP-certified, it undergoes similar steps to ensure data quality. Their detailed QA manual was provided and reviewed by Estuary Program staff, and the lab's QA activities were deemed sufficient to ensure data quality.

Significant Achievements

Completion of a Successful Program Evaluation Process

This year marked a major milestone with the successful completion of the Estuary Program's PE process. The evaluation, which occurs every five years, provided a valuable opportunity to reflect on program progress, assess alignment with the CCMP, and identify areas for continued growth.

Preparation for the PE required significant coordination among staff, partners, and EPA reviewers, including development of detailed materials, site visit logistics, and presentations showcasing key accomplishments across all program areas. The Estuary Program demonstrated strong performance in program management, financial accountability, and project implementation, as well as the ability to adapt to evolving guidance and funding structures.

The evaluation team commended the program for its robust partnerships, long-term restoration success, and integration of monitoring, education, and community engagement efforts. Staff collaboration and partner involvement throughout the process reinforced the strength of local partnerships and the Estuary Program's role as a trusted partner in the watershed.

The lessons and feedback from this evaluation will inform the next update to the CCMP and guide continued program improvement. Completing the PE process successfully highlights the Estuary

Program's commitment to transparency, accountability, and continuous advancement of its mission to protect and restore the estuary and watershed.

Bay Fish Response to Eelgrass Fluctuations

Morro Bay's eelgrass beds have experienced many ups and downs in the last 20 years, with a low of 13 acres in 2017 and a high of 750 acres in 2023. The Estuary Program wanted to learn more about how Morro Bay's fish population was shifting in response to these changes in eelgrass.

In the mid-2000s, Dr. John Stephens of Occidental College conducted fish monitoring in Morro Bay at a time when about 340 acres of eelgrass were present. In 2016, when there were only about 13 acres of eelgrass in the bay, Dr. Jennifer O'Leary of Cal Poly and NOAA Sea Grant repeated Stephens' work using many of the same monitoring sites and methods. The data showed that fish communities had changed with the significant loss of eelgrass. Habitat generalist species like flatfish became more common, while eelgrass-dependent species like bay pipefish had declined.

The Estuary Program decided to conduct bay fish monitoring using similar methods to see what fish populations looked like during a time of abundant eelgrass. Fish data collection took place in the fall of 2023 and spring of 2024. Various netting and trawling methods were used to capture fish in habitats throughout the bay. The fish were identified, counted, and measured before being returned unharmed to the bay. A total of 8,317 fish from 24 different taxa were collected. Bay pipefish was the most abundant species, accounting for 40% of the total catch, followed by arrow goby at 20%, and shiner perch at 10%.

Eelgrass plays a vital role in maintaining a healthy estuary, providing food and shelter for a diverse range of species. When eelgrass thrives, so do a variety of fish species, especially those that are uniquely adapted to life in seagrass beds. The Estuary Program will continue to map and monitor eelgrass in the bay to support sensitive habitats and aquatic life in Morro Bay's diverse estuary.

The efforts supported the following CCMP Action Plans: MON-5 (Support Partners), MON-6 (Support Research Activities), ECR-7 (Eelgrass Research), ECR-11 (Conserve Ecosystem Functions), ECR-13 (Population Dynamics)

Habitat Protection & Restoration Strategy Finalized

This past winter, staff finalized the Estuary Program's Habitat Protection & Restoration Strategy (HPRS) for the Morro Bay watershed. The plan provides a comprehensive, watershed-wide management approach to the health and resilience of the habitats of our watershed. It was developed to guide protection, restoration, research, monitoring, education, and resiliency efforts. It provides measurable objectives and targets to inform future management planning and projects within the Morro Bay watershed, including the Estuary Program's next CCMP update.

The HPRS describes the health, extent, and key species within five of Morro Bay watershed's habitat areas: estuarine, freshwater, sandy shores, upland, and urban & agriculture. There are descriptions of different habitat types within each habitat area, such as coastal dunes within sandy shores, or maritime chaparral with upland. These habitat types were based on previous studies like the *Atlas of Sensitive Species of the Morro Bay Area* (Sims 2010). The habitat strategy includes mapping analysis based on

existing vegetation data of Morro Bay watershed habitats. This will allow tracking of acreage of different habitat types over time as new habitat data becomes available.

The strategy also connects the habitats to the following: the 2022 CCMP Action Plans, 2021 Vulnerability Assessment, anthropogenic stressors, management objectives/targets, long-term resiliency, and ongoing, past, and future projects.

The aim is to work with partners to improve the resiliency of the Morro Bay watershed habitats and interconnected coastal communities through the implementation of this strategy.

These efforts support the following CCMP Action Plans: LP-1 (Protect Special Habitats/Species), ECR-1 (Instream Habitat), ECR-3 (Wetland Protection & Enhancement), ECR-9 (Regional and National Collaboration), ECR-11 (Conserve Ecosystem Functions), ECR-12 (Upland Habitats), ECR-14 (Support Recovery Plans), ECR-16 (Invasive Species Action Plan)

Expanding Estuary Education through Community Partnerships

In FY24 and FY25, the Estuary Program deepened its investment in environmental education by working with a range of local partners to deliver hands-on programming to youth and families across SLO County. These efforts directly support Section 320 of the CWA and the PRAE Act, which emphasize public education and community engagement as key strategies for protecting estuarine ecosystems.

Staff led summer programming in partnership with Morro Bay Junior and Little Guards, Creek Lands Conservation, and the SLO County Libraries. Using a watershed model and interactive activities, youth learned about the connection between land use and water quality, with Junior Guards removing 16 pounds of litter from Morro Strand State Beach as part of their stewardship efforts. Creek Lands Conservation campers explored the estuary by kayak and joined staff on a nature journaling hike up Black Hill. At libraries across the county, Estuary Program staff led storytime events on marine life, estuaries, and science careers, followed by themed crafts that introduced young children to coastal ecology.

The Estuary Program also provided funding and support to expand the reach of two regional education programs. At Monarch Grove Elementary School in Los Osos, the Estuary Program partnered with One Cool Earth to deliver a full year of garden-based environmental lessons focused on estuary and watershed health. The Estuary Program also supported “Watershed Week” across 32 One Cool Earth partner schools, where students explored the structure of wetlands, the movement of pollutants to the coast, and the role of the Morro Bay estuary.

At Camp Ocean Pines, Estuary Program funding supported the development of a new touch tank and a portable version that brings estuarine species and tidepool ecology to schools and events throughout the county. The project also supported the creation of watershed-focused curriculum and a student water quality lab, now included in the camp’s environmental science programming.

Through these collaborations, the Estuary Program reached hundreds of students and families with science-based, place-based education that fosters a deeper understanding of local natural resources. These efforts contribute to the long-term goals of the program’s CCMP and reflect commitment to build environmental literacy and stewardship across the watershed.

These efforts support the following CCMP Action Plans: EO-1 (Public Education and Outreach), EO-4 (Formal Education Programs)

Significant Lessons Learned

Federal Funding Delays: This year presented notable challenges related to the timing and processing of federal funding agreements. Delays in finalizing awards created uncertainty for project planning, contracting, and staff workload distribution. The Estuary Program adapted by adjusting timelines, prioritizing essential activities, and maintaining close communication with EPA and the NEP network to minimize disruptions. This experience reinforced the importance of proactive communication and contingency planning.

EPA coordination remained critical but was affected by evolving NEP guidance and uncertainty. These factors occasionally impacted reporting expectations, deadlines, and program planning. The Estuary Program addressed these challenges by maintaining consistent communication with EPA and the NEP network, closely tracking changes in national guidance, and improving internal systems for project and financial planning to remain responsive to evolving requirements.

The Estuary Program will continue refining internal systems for early planning, improving coordination with EPA and partners, and ensuring program flexibility in response to changes in federal guidance and funding timelines. These lessons have strengthened the program's adaptability and resilience, supporting continued progress towards long-term CCMP goals.

Increased Internal Communication: The uncertainty in the funding situation took a toll on program staff, increasing stress over the precariousness of the funding status. An increase in communication and updates for staff and partners was essential for navigating a difficult time. Knowing that they were receiving all available information helped staff stay on course to continue to manage what was an already heavy workload.

Diversifying Funding: The Estuary Program is also exploring opportunities to diversify funding sources. While the program has a long history of demonstrated success in winning grants to support projects, the recent IIJA funding reduced the necessity for these outside funding sources. Given the impending end of the IIJA funding and the uncertainty around federal funding in general, the program has plans to seek state, local, and private funding sources to continue to support the program's projects and operational costs.

Budget Overview

Table 1: Costs expended during this annual report period (October 1, 2024 to September 30, 2025) and cumulative since the beginning of the grant in October 2021.

Category	Subcategory	FY25 320 Base Funds	FY22 to FY25 320 Base Funds
Personnel	Salaries	$488,089	$1,819,783
	Fringe	$48,630	$181,515
	Management Conference	$0	$0
	Subtotal	*$536,719*	*$2,001,298*
Travel	*(category includes local mileage)*	$3,022	$31,278
Supplies	Software	$2,312	$8,822
	Monitoring supplies	$7,850	$49,109
	Misc. office supplies, computers	$4,203	$23,742
	Subtotal	*$14,365*	*$81,673*
Contractual	Audit/Taxes/Accounting/Fees	$21,420	$76,495
	Education and Outreach	$3,461	$44,489
	Monitoring and Research	$14,059	$82,435
	Restoration and Protection	$1,492	$19,195
	Subtotal	*$40,432*	*$222,614*
Other	Rent	$53,916	$204,533
	Utilities	$3,224	$12,429
	Postage	$318	$1,040
	Copying, Printing	$2,477	$9,073
	Training, Prof. Dev.	$980	$5,403
	Telephone, Internet	$5,082	$18,775
	Repairs and Maintenance	$2,392	$15,929
	Insurance	$3,902	$11,786
	Vehicle maintenance, fuel	$3,247	$13,057
	Community Projects	$0	$0
	Subtotal	*$75,538*	*$292,025*
	TOTAL	**$670,076**	**$2,628,888**

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

Program Area	Project	FY25 320 Base Funds	FY22 to FY25 320 Base Funds	FY25 Match	FY22 to FY25 Match
Education and Outreach	Communications	$2,933	$22,615	$0	$0
	Education	$0	$429	$0	$0
	Nature Center	$528	$6,360	$0	$0
	Community Engagement	$0	$4,042	$0	$0
	Mutts for the Bay	$0	$0	$16,522	$60,476
	State of the Bay Planning	$0	$11,043	$0	$0
	Subtotal	*$3,461*	*$44,489*	*$16,522*	*$60,476*
Monitoring and Research	Monitoring Program Coordination	$17,588	$82,209	$12,014	$60,352
	Reporting and Analysis	$0	$0	$0	$0
	Data Management	$0	$0	$0	$0
	Quality Assurance	$0	$0	$0	$0
	Project Effectiveness Monitoring	$0	$0	$0	$17,414
	Eelgrass Monitoring & Research	$4,321	$11,835	$0	$0
	Partner Research Efforts	$0	$0	$0	$0
	State of the Bay Analysis	$0	$0	$0	$0
	Subtotal	*$21,909*	*$94,044*	*$12,014*	*$77,766*
Habitat Protection and Restoration	Land Conservation	$0	$0	$0	$148,500
	Restoration Maintenance/Monitor	$815	$8,561	$10,078	$144,537
	Other Restoration	$777	$7,165	$0	$820,729
	Project Development	$0	$1,270	$0	$0
	Fisheries Management	-$100	$2,199	$0	$18,049
	Subtotal	*$1,492*	*$19,195*	*$10,078*	*$1,131,816*
Program Administration	Community Projects	$0	$0	$0	$53,142
	TOTAL	**$26,862**	**$157,728**	**$38,614**	**$1,323,199**

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