



**CLEAN WATER ACT SECTION 320 GRANT
WORK PLAN & BUDGET
FOR
FISCAL YEAR 2025**

**MORRO BAY NATIONAL ESTUARY PROGRAM
CLEAN WATER ACT SECTION 320 GRANT
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FISCAL YEAR 2025**

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1. Introduction

The Morro Bay National Estuary Program (Estuary Program) works to protect and restore the Morro Bay estuary and its watershed through the implementation of our Comprehensive Conservation and Management Plan (CCMP) for Morro Bay, which was updated in 2022. The three Estuary Program programmatic focus areas are: (1) habitat protection and restoration, (2) environmental monitoring and research, and (3) public participation, education, and outreach. This Workplan describes our planned efforts for Fiscal Year (FY) 2025, which covers the period from October 1, 2024 through September 30, 2025.

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

The EPA formally approved our CCMP in January 2001 and has continued to provide significant grant funding to further the implementation of that plan. Almost every CCMP action plan was initiated, and nearly half are either complete or fully in place and ongoing. The CCMP was revised in 2012 through a public process and approved by the Estuary Program's Management Conference in February 2013. The CCMP was updated in 2022, with approval by the Estuary Program's Management Conference. Various action plans from the CCMP are referenced in this workplan. The Estuary Program works with its many partners to implement these actions in the watershed.

Congress allocates funding for the National Estuary Program (NEP) under Section 320 of the Clean Water Act (CWA). EPA provides a portion of those funds to each of the 28 National Estuaries. The expected funding available to the Estuary Program through these Section 320 funds for FY25 is \$850,000.

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

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

Management Conference Structure and Membership

Technical Advisory Committees – The Technical Advisory Committees (TAC) are composed of experts in various areas that provide technical advice and input to the program. These TACs are formed for specific technical topics such as Sedimentation Monitoring, Fisheries Management, Estuarine Habitats, and Education and Outreach. These TACs provide advice to staff in many areas: collaborating and reviewing Community Project options, investigating technical issues, providing advisory oversight to monitoring, restoration, and education efforts,

recommending changes to the CCMP, and tracking and reporting on implementation. The TACs meet on an as-needed basis. Membership is not limited to a specific number of seats, and members are invited by staff to join.

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

Bay Foundation Board of Directors – The Bay Foundation is the nonprofit home of the Estuary Program, and its board of directors approves priorities for CCMP implementation, workplans, Community Projects, and other major components of the work of the Estuary Program. The Board of Directors works collaboratively with the Executive Committee on strategic direction and priorities of the Estuary Program.

2. Goals for CCMP Implementation in Fiscal Year 2025

This workplan describes the Morro Bay National Estuary Program’s broad goals, specific projects, and planned budget for FY25, which spans from October 1, 2024 to September 30, 2025. This workplan will guide Estuary Program efforts in FY25 and provide a mechanism to measure our success over the coming year. It is important to recognize that the nature of a collaborative, non-regulatory program such as the Estuary Program requires flexibility to be successful; just as some planned projects may be delayed, other unforeseen opportunities and partnerships to further implementation of the CCMP will present themselves. The program goals are summarized below.

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

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

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

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

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

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

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

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

Actions to complete these goals are described in detail in Section 4.

3. Budget and Staff Elements

Tables 3.1, 3.2, and 3.3 provide an overview of the budget for FY25. The Estuary Program meets a portion of the EPA’s one-to-one match requirement using the Estuary Program-managed Morro Bay Restoration Fund. These funds are private, locally-controlled, and already committed and available for these projects. Other sources of match funds include local and state funds, private donations, volunteer time, and contributed services and facilities.

Table 3.1: Budget Overview for FY25

Category	Subcategory	FY25 Anticipated Request	Match	Total
Personnel	Salaries (payroll taxes, workers comp)	\$513,018	\$9,118	\$522,136
	Fringe (health, retirement)	\$69,021	\$0	\$69,021
	Subtotal	\$582,039	\$9,118	\$591,157
Travel	(includes local mileage)	\$17,800	\$0	\$17,800
Equipment	N/A	\$0	\$0	\$0
Supplies	Computers, software	\$3,500	\$0	\$3,500
	Monitoring supplies	\$20,000	\$0	\$20,000
	Misc. office supplies	\$10,150	\$0	\$10,150
	Subtotal	\$33,650	\$0	\$33,650
Contractual	Audit/Taxes/Accounting	\$25,000	\$7,720	\$32,720
	Education and Outreach	\$18,500	\$168,774	\$187,274
	Monitoring and Research	\$19,500	\$163,822	\$183,322
	Restoration and Protection	\$67,989	\$451,505	\$519,494
	Community Projects	\$0	\$15,000	\$15,000
	Subtotal	\$130,989	\$806,821	\$937,810
Other	Rent	\$55,272	\$13,740	\$69,012
	Utilities	\$3,255	\$0	\$3,255
	Postage	\$300	\$0	\$300
	Copying, Printing	\$2,387	\$0	\$2,387
	Training, Prof. Dev.	\$2,000	\$0	\$2,000
	Telephone, Internet	\$4,918	\$0	\$4,918
	Repairs and Maintenance	\$8,000	\$0	\$8,000
	Insurance	\$3,890	\$0	\$3,890
	Vehicle maintenance, fuel	\$5,500	\$0	\$5,500
	Management Conference Members' Work Time	\$0	\$20,321	\$20,321
	Subtotal	\$85,522	\$34,061	\$119,583
TOTAL		\$850,000	\$850,000	\$1,700,000

Note: \$15,000 of Community Projects match comes from Restoration Fund.

Table 3.2: Budget Detail of Direct Expenses by Program Area

Program Area	Project	320 Grant Request	Match (non-federal)		Total
			MB Restoration Fund	Other	
Education and Outreach A	Communications 1	\$9,500	\$0	\$137,891	\$147,391
	Education 2	\$4,500	\$0	\$0	\$4,500
	Nature Center 3	\$2,500	\$0	\$30,883	\$33,383
	Comm Engagement 4	\$1,500	\$0	\$0	\$1,500
	SOTB 5	\$500	\$0	\$0	\$500
	Subtotal		\$18,500	\$0	\$168,774
Monitoring and Research B	Benthic Invertebrate Monitoring	\$0	\$0	\$9,000	\$9,000
	Eelgrass Monitoring 1	\$4,500	\$0	\$33,583	\$38,083
	Water Quality Monitoring 2	\$15,000	\$0	\$121,239	\$136,239
	Subtotal		\$19,500	\$0	\$163,822
Habitat Protection and Restoration	Restoration Maintenance and Monitoring	\$10,000	\$0	\$126,178	\$136,178
	Other Restoration	\$57,989	\$0	\$229,993	\$287,982
	Conservation & Restoration Proj Dev	\$0	\$0	\$95,334	\$95,334
	Subtotal		\$67,989	\$0	\$451,505
	TOTAL	\$105,989	\$0	\$784,101	\$890,090

Note: Total for Restoration Fund match is \$15,000 for Community Projects. Expenses shown combined contractual, supplies, and equipment expenses by Program Area to more clearly represent the resources devoted to these aspects of the Estuary Program FY25 Work Program. This table does not include Estuary Program staff time or overhead.

Education and Outreach Expenses (section A):

1. Communications expenses include graphic design work and printing for the annual report; design and printing of pamphlets and publications; and ongoing maintenance expenses for our blog and website.
2. Education expenses include supply and materials costs for teacher training, educational curriculum, and other education focused efforts.
3. Nature Center expenses include expenses such as display repairs and upgrades to help maintain the facility.
4. Community Engagement includes support for partner education efforts such as cleanup events and local water conservation efforts.
5. State of the Bay expenses include facility reservations, printing, and other costs related to planning and implementing events.

Monitoring and Research Expenses (section B):

1. Eelgrass Monitoring expenses includes imagery collection and analysis to track eelgrass extent in the bay and support for eelgrass health monitoring efforts.

- Water Quality Monitoring expenses include analytical laboratory services (couriers, sample analysis, and data reporting) and data management support (technical support for maintaining our data management system and submitting data to a state-wide data portal).

Table 3.3: Summary of 320 Spending and Match for FY25

FY25 Workplan Task	320 Budget Other Expenses	320 Budget Staff time	Projected match	Total
REST-1: Habitat Protection	\$0	\$6,313	\$0	\$6,313
REST-2: Restoration Maintenance	\$10,000	\$17,733	\$126,178	\$153,911
REST-3: Other Restoration	\$57,989	\$27,751	\$229,993	\$315,733
REST-4: Conservation Proj Dev	\$0	\$36,216	\$95,334	\$131,550
REST-5: Fisheries Management	\$0	\$14,986	\$0	\$14,986
MONITORING-1: Coordination	\$25,000	\$27,431	\$163,822	\$216,253
MONITORING-2: Reporting & Analysis	\$0	\$23,190	\$0	\$23,190
MONITORING-3: Data Management	\$5,000	\$21,995	\$0	\$26,995
MONITORING-4: Quality Assurance	\$2,500	\$27,494	\$0	\$29,994
MONITORING-5: Project Effectiveness	\$2,500	\$21,112	\$0	\$23,612
MONITORING-6: Eelgrass Monitoring	\$4,500	\$19,120	\$0	\$23,620
MONITORING-7: Partner Research	\$0	\$11,901	\$0	\$11,901
MONITORING-8: SOTB Analysis	\$0	\$19,957	\$0	\$19,957
E&O-1: Communications	\$9,500	\$37,370	\$137,891	\$184,761
E&O-2: Education	\$4,500	\$14,951	\$0	\$19,451
E&O-3: Nature Center	\$2,500	\$8,591	\$0	\$11,091
E&O-4: Community Partner Projects	\$1,500	\$15,751	\$0	\$17,251
E&O-5: Mutts for the Bay	\$0	\$13,602	\$30,883	\$44,485
E&O-6: SOTB events	\$500	\$11,448	\$0	\$11,948
PM-1: Manage Committees	\$0	\$11,771	\$20,321	\$32,092
PM-2: Grants & Contracts	\$39,600	\$88,322	\$7,720	\$135,642
PM-3: General Administration	\$102,372	\$68,742	\$22,858	\$193,972
PM-4: Tracking Implementation of CCMP	\$0	\$25,832	\$0	\$25,832
PM-5: Community Projects Program	\$0	\$10,459	\$15,000	\$25,459
TOTAL Budget	\$267,961	\$582,039	\$850,000	\$1,700,000

Program Staffing Anticipated for FY25

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

- Executive Director:** Leads the organization and Management Plan implementation. Responsible for CCMP update. Manages CWA 320 and other grant, staffs committees, and nonprofit board. Oversees general operations – budgeting, accounting, records management, and human resources. Supervises Estuary Program staff. Principal liaison to other agencies and organizations. Principal liaison to EPA. Serves as the public face of the organization. Represents the Estuary Program on local and regional committees. Oversees CCMP tracking, annual report, and workplan. Attends Association of NEP (ANEP)/EPA meetings.

- Assistant Director: Responsible for assisting the Executive Director with CCMP implementation, managing CWA 320 and other grants, and staffing committees and nonprofit board. Supports budgeting, accounting, records management, and managing NEP staff. Assists with CCMP tracking, annual reports, and workplan. Coordinates project development and grant management across the organization. Manages monitoring program strategy and other special projects, such as State of the Bay. Supports match tracking and NEPORT submission. Attends ANEP/EPA meetings.
- Restoration Projects Manager: Develops and implements restoration efforts. Oversees restoration projects, including partner agency coordination, grant management, permitting, and outside services procurement. Manages monitoring and maintenance of restoration projects. Coordinates a diverse set of external experts to assist with technical aspects of specific projects.
- Community Engagement Projects Manager: Responsible for public relations and outreach work to engage the community, targeted outreach campaigns geared towards increasing environmental stewardship, blog posts, social media, website updates, and representing the Estuary Program at public events. Implements the Finance Plan with Executive Director and nonprofit board. Other projects include field trips and tours, educational brochures, press releases, planning outreach efforts, and various other public outreach projects. Represents the Estuary Program in outreach settings, including on relevant local and regional committees.
- Monitoring Projects Manager: Coordinates Estuary Program monitoring efforts. Assists with staff and volunteer management. Manages budgeting, invoicing, contracting, etc. for monitoring projects. Reviews and updates Quality Assurance Project Plan (QAPP), monitoring protocols, and indicators/baseline work. Coordinates data management and submittal of data to the state. Manages and shares data with partners and the general public.
- Monitoring Coordinator: Conducts Estuary Program monitoring efforts. Completes data analysis, reports, and protocols. Assists with volunteer recruitment, training, and fieldwork. Manages QA/QC functions. Manages and shares data with partners and the general public.
- Finance & Operations Administrator: Manages day-to-day bookkeeping and accounting, financial records, annual audit requirements, and provides administrative support for human resources. Responsible for ensuring all operational accounting and financial support is timely, accurate, and consistent with all organization policies and procedures. Coordinates match tracking and supports NEPORT data collection and synthesis.
- Intern(s) and Technician(s) (as needed): Assists with field work, data management, analysis, and outreach. These are part-time, temporary positions.

Fringe Details: \$69,021

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

Miscellaneous Office Supplies: \$10,000

- Expenses:
 - Office supplies (paper, toner, batteries, etc.)
 - Water delivery
 - Office furniture
 - Meeting space rentals and materials

- Phone maintenance and repairs
- Forms, checks, and employee policy posters and guides
- First aid supplies and CPR training

Monitoring Supplies: \$20,000

- Expenses:
 - Bacteria monitoring supplies – Reagent, supplies, and other ancillary items needed to monitor bacteria levels. This includes supplies needed for health and safety and for quality assurance procedures.
 - Water quality monitoring supplies – Reagent, calibration supplies, small equipment (< \$5,000 each), batteries, and other ancillary items for monitoring conventional water quality parameters in the estuary and creeks. This includes necessary items for health and safety and for quality assurance procedures.
 - Field gear – Protective gear to ensure that staff and volunteers can work effectively and safely.

4. New and Ongoing Project Information

Where applicable, the estimated budgets include project and staff costs.

The Estuary Program is fortunate to receive funds from the Bipartisan Infrastructure Law (BIL) that funds projects that support CCMP implementation. Although many direct projects costs such as contracting, analysis, and equipment purchases are funded with BIL money, Estuary Program staff time to manage these projects are funded with both BIL and 320 grant funding. Thus, BIL-funded projects are listed in the 320 workplan where appropriate due to time spent by 320-funded staff to support those efforts.

Habitat Protection and Restoration Activities

REST-1: Land Conservation and Planning

Project Status: *Ongoing*

Objective: Conserve land as opportunities arise.

Description: The CCMP calls for protection of ecologically-valuable habitats in part to help minimize nonpoint sources of pollution entering the estuary and to promote clean water in the bay. Over 5,000 acres of land have been protected through conservation easements and fee title acquisitions by the Estuary Program and partners. In FY25, the Estuary Program expects to work with The Land Conservancy of San Luis Obispo County (LCSLO) and other partners to develop conservation easements with interested landowners in the watershed. The Estuary Program is participating in community efforts within Morro Bay to support open space preservation around the city. This task represents an anticipated share of staff time to develop these opportunities and support partner efforts.

Partners and Their Roles: 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 interface with landowners and the funders to develop easements and acquisitions. Other partners with interest in land conservation in Los Osos and Morro Bay include Morro Bay Open Space Alliance, California Department of Fish & Wildlife (CDFW), California State Coastal Conservancy (SCC), Wildlife Conservation Board, Morro Coast Audubon Society, California State Parks, Coastal San Luis Resource Conservation District (CSLRCD), and private landowners.

Output/Deliverables: The deliverable will be a map or similar documentation of acquisitions or easements.

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

Estimated Budget: Depends on acquisition and easement opportunities. Staff time: \$6,313. Match: \$0.

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

CWA Implementation: Addressing diffuse nonpoint sources of pollution. Protecting wetlands. Protecting coastal waters through the National Estuary Program.

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

REST-2: Restoration Maintenance and Monitoring

Project Status: *Ongoing*

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

Description: The Estuary Program with its partners has implemented multiple complex restoration projects that require ongoing maintenance. This work includes maintenance of Chorro Creek Ecological Reserve (CCER), riparian fencing, and off-creek water systems as well as best management practice (BMP) projects. At CCER, efforts for 2025 include plant maintenance and additional monitoring and analysis of how the site performs during high flow events. This task could also include efforts such as trash removal in areas where illegal dumping is impacting sensitive habitats.

Partners and Their Roles: 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.

Outputs/Deliverables: Activities documented in semi-annual reports.

Estimated Milestones: Work is on an as-needed basis.

Estimated Budget: Staff time: \$17,733. Supplies and gear: \$10,000. Match: \$126,178.

Long-term Outcomes: Work with landowners to maintain restoration work so that it continues to be effective.

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

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)

REST-3: Other Restoration Efforts

Project Status: *Ongoing*

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

Description: Additional water quality and habitat restoration opportunities often arise in the course of the year that are worthy of immediate attention. This task reserves some staff time for these opportunities. Some examples include riparian fencing, floodplain restoration, low-tech process-based restoration projects to improve site hydrology and water quality, the San Luis Obispo (SLO) County Integrated Regional Water Management efforts, supporting partner restoration projects on private property, and supporting the city of Morro Bay and stakeholders in habitat management efforts. The Estuary Program will act as a partner on water conservation, habitat restoration, and steelhead projects as needed. Staff are partnering with University of California, Santa Barbara (UCSB) and others to conduct invasive plant monitoring and management on the Morro Bay sandspit. Efforts are also underway to work with the partners on synthesizing existing efforts on coastal dune systems on the coast of California to share lessons learned to increase climate resiliency, develop implementation best practices, and standardize monitoring protocols. Staff are conducting a Chorro Creek watershed invasive species survey to inform management of invasives such as giant reed (*Arundo*). Efforts related to obtaining funding and implementing invasive removal could occur in FY25. The Estuary Program will continue to work with partners such as United States Geological Survey (USGS) to conduct monitoring and modeling to understand sea level rise impacts on estuary habitats and develop projects to address protection of

the salt marsh, mudflats, eelgrass, sandspit, and transition zones. Starting in FY24, the work will be funded in part by a Coastal Watersheds Grant from Restore America's Estuaries. The Estuary Program will continue to work with State Parks to conduct invasive sea lavender monitoring and removal and to map invasives and special status species. The Estuary Program continues to work with partners to create a Habitat Protection/Restoration Strategy which identifies the indicators, projects, and partners involved in protecting and preserving each habitat type with the impacts of climate change. The Estuary Program will work with partners to implement the strategy. Additionally, staff continue to support several BIL restoration projects including a historical ecological study of the bay and buffering habitats, community habitat restoration events, and invasive iceplant management and monitoring on the sandspit.

Partners and Their Roles: Potential partners include SLO County, the city of Morro Bay, the Los Osos Community Services District, 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 & Wildlife Service (USFWS), USGS, and others), and others. These are partners in funding, planning, and implementation. Partners for the Habitat Protection/Restoration Strategy are numerous and include the city of Morro Bay, California State Parks, SLO County, local consultants, and local experts.

Output/Deliverables: If the opportunity arises and work is conducted for this item, then a description will be provided in the semi-annual progress report provided to the EPA Project Officer (semi-annual report).

Estimated Milestones: As opportunities arise.

Estimated Budget: Staff time: \$27,751. Project costs: \$57,989. Other expenses depend on opportunities that arise. Match: \$229,993.

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

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

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)

REST-4: Conservation and Restoration Project Development

Project Status: *Ongoing*

Objective: To develop project plans and initial scoping for conservation and restoration efforts.

Description: Often times planning, permitting, and initial monitoring must be conducted before a project is eligible for funding. This task reserves some staff time to work with partners to conduct these initial efforts. Estuary Program staff will continue to support Camp SLO in stormwater management projects. Efforts may also include engaging landowners in implementing BMPs on private property throughout the watershed. Initial planning is underway with Caltrans, SLO County, and other partners on a fish passage barrier removal project on San Luisito Creek, with the Estuary Program providing support for preliminary work needed for project development. Another potential effort is a CSLRCD project with 319(h) funding (applied) to implement BMPs on private property in the watershed as well as two projects on Camp SLO property. CSLRCD and San Luis Obispo Council of Governments both received state grant funding for planning projects to address flooding and sea level rise in the Chorro Flats region and along South Bay Boulevard, respectively. The Estuary Program is involved with project coordination and will participate in technical advisory committee efforts for both projects. Additionally, studies or implementation projects may also be completed (e.g., identify sediment basins, floodplains, migration space) that were identified in the Habitat Protection/Restoration Strategy. Numerous energy related projects are under development in the watershed and near-shore area that could impact Morro Bay and its watershed. Staff will track these potential projects and provide input where appropriate. The Estuary Program will continue to provide support to develop stormwater projects on Camp SLO. Staff will seek opportunities to develop water conservation projects such as groundwater recharge or rainwater catchment efforts.

Partners and Their Roles: 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 California Conservation Corps (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, UC Santa Barbara, 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. Protecting and restoring habitats at Pasadena Point would involve SLO County (as the landowner and implementation partner) and private citizens who have an interest in protecting the area. 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.

Output/Deliverables: If this condition arises (need before funding) and work is conducted for this item, then a description will be provided in the semi-annual report.

Estimated Milestones: Depends on funding deadlines. For conservation and steelhead projects, the milestones are to be determined depending on funding and permitting.

Estimated Budget: Staff: \$36,216. Match: \$95,334.

Long-term Outcomes: Expand steelhead access to areas in the watershed with the habitat and water quality to support sensitive species. Expand landowner water conservation efforts to protect surface flows. Best management practices to address sediment and water quality concerns. Enhance habitat quality through native species restoration. Assist in development of sustainable energy projects while protecting environmental resources.

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

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)

REST-5: Fisheries Management

Project Status: *Ongoing*

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

Description: Steelhead recovery in Chorro Creek is inhibited by invasive Sacramento pikeminnow (*Ptychocheilus grandis*). The Estuary Program conducted pikeminnow management efforts under a CDFW grant from FY22 through FY24. Pikeminnow management work is planned for FY25, funded through BIL. A steelhead growth study in Chorro Creek is currently underway, with antennae tracking the movements of tagged steelhead to track their use of Chorro Creek and the estuary. The study is expected to continue into FY25.

Partners and Their Roles: The primary partners for this project will include Stillwater Sciences who hold the permit for implementation. The CCC will provide technical input and field support. CDFW will provide technical support. USFWS 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.

Output/Deliverables: Summary reports of the results of fish studies will be completed at the conclusion of those efforts.

Estimated Milestones: A better understanding of steelhead use of the mainstem creek helps target projects to improve habitat, water quality, and water quantity.

Estimated Budget: Staff time: \$14,986. Match: \$0.

Long-term Outcomes: Improve fish habitat on lower Chorro Creek to support steelhead recovery.

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

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

Environmental Monitoring and Research

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

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

MONITORING-1: Monitoring Program Coordination

Project Status: *Ongoing*

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

Description: The Estuary Program conducts monitoring throughout the watershed and estuary with the goal of tracking changes in ambient conditions and assessing impacts of implementation efforts. This work is supported by a dedicated corps of volunteers, which allow for expanded monitoring efforts. Staff will continue to coordinate the Volunteer Monitoring Program (VMP) to continue ongoing monitoring, track key environmental indicators, and develop new efforts to monitor effectiveness of implementation projects. This task includes monitoring coordination, volunteer recruitment and training, equipment maintenance, and program management tasks. In partnership with the AmeriCorps Watershed Stewards Program (WSP), the Estuary Program serves as a placement site for WSP members. These are individuals at the start of their careers in the environmental field, and staff provide training and mentorship.

Partners and Their Roles: Primary partners in the Estuary Program monitoring effort 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 WSP members include the CCC, Creek Lands Conservation, the city of SLO, and AmeriCorps. The California Department of Public Health (CDPH) is responsible for water quality in shellfish growing areas, and the programs utilizes Estuary Program data to support their work. Program coordination follows the approved QAPP (a deliverable under Task MONITORING-4) and data is submitted to the California Environmental Data Exchange Network (CEDEN) database (a deliverable under Task MONITORING-3).

Outputs/Deliverables: A summary of work conducted for this item will be provided in the semi-annual report.

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

Estimated Budget: Staff time: \$27,431. Monitoring supplies and lab analysis: \$25,000. Match: \$163,822.

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

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

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-2: Monitoring Program Reporting and Analysis

Project Status: *Ongoing*

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

Description: The Estuary Program continuously compiles and analyzes program-generated data to assess long-term trends and project-specific effects on water quality and other indicators of environmental quality. These analyses are shared with program partners, local landowners, and the general public to help inform decision-making. A series of data summary memos will be completed in FY25. This includes an analysis of the sediment impacts to macroinvertebrate populations and overviews of bay and creek health. The task also includes responding to data requests from partners, landowners, and others.

Partners and Their Roles: 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.

Outputs/Deliverables: When work occurs for this item, a summary will be provided in the semi-annual report.

Estimated Milestones: Monitoring updates for bioassessment, creek health, eelgrass, and bay health are expected in 2025.

Estimated Budget: Staff time: \$23,190. Match: \$0.

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

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

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-3: Monitoring Program Data Management

Project Status: *Ongoing*

Objectives: Maintain data in SWAMP-compatible format.

Description: This task includes the on-going maintenance of program-generated data in a SWAMP-compatible data format. The Surface Water Ambient Monitoring Program (SWAMP) is a State Water Resources Control Board (SWRCB) program to increase usability and compatibility of water quality data from various sources. Data is quality controlled and entered into a SWAMP-compatible database to increase access for groups, including the general public, throughout the state. Estuary Program data will be submitted to CEDEN for inclusion in the 2028 Integrated Report for the Central Coast Region.

Partners and Their Roles: 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 California Environmental Data Exchange Network (CEDEN).

Outputs/Deliverables: When work is conducted for this item, a summary will be provided in the semi-annual report. Program data available on the [CEDEN website](#).

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

Estimated Budget: Staff time: \$21,995. Database support: \$5,000. Match: \$0.

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

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

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-4: Monitoring Program Quality Assurance

Project Status: *Ongoing*

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

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

Partners and Their Roles: The EPA Region 9 Office of Quality Assurance is the primary partner, providing oversight of the QAPP and technical assistance. The SWRCB Quality Assurance 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.

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

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

Estimated Budget: Staff time: \$27,494. QA laboratory analysis: \$2,500. Match: \$0.

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

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

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-5: Project Effectiveness Monitoring

Project Status: *Ongoing*

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

Description: Many monitoring efforts to demonstrate effectiveness of restoration or other projects are conducted by program staff (rather than volunteers) due to safety concerns, technical challenges, or a landowner's request. This task encompasses protocol development and monitoring work that falls into this category. This task will include monitoring of restoration projects and monitoring the freshwater seeps in Los Osos. The seeps are expected to demonstrate reduced nitrate contamination of groundwater by septic systems since the Los Osos Water Reclamation Facility came online in 2016. Monitoring data will be compiled to support

restoration projects, partner data requests, etc. Staff monitor flows on Pennington Creek to assess the impacts of a project to improve a diversion. Staff partners with CDPH on water quality monitoring to support management of shellfish growing waters. These activities will continue.

Partners and Their Roles: 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, Stillwater Sciences, CDPH, local oyster farms, and others.

Output/Deliverables: When work is conducted for this item, a summary will be provided in the semi-annual report.

Estimated Milestones: Monitoring and data reports will be compiled as needed.

Estimated Budget: Staff time: \$21,112. Laboratory analysis of seeps samples: \$2,500. Match: \$0.

Long-term Outcomes: Conduct monitoring and develop analysis that informs future management and restoration efforts. Conservation easement monitoring is completed annually and landowner communications continue.

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

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-6: Eelgrass Monitoring and Research

Project Status: *Ongoing*

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

Description: Seasonal eelgrass monitoring is conducted to aid efforts to protect and restore eelgrass habitat. In FY25, the Estuary Program will continue to monitor according to the robust approach designed to maximize data quality. The effort is engaging experts and agency participants to help inform the monitoring approach and to seek funding to support research and monitoring (see more information under Task MONITORING-7). This task also involves a component of research collaboration with partners to understand eelgrass stressors. Partner efforts include water quality monitoring, analysis related to ocean acidification, and other efforts. In FY25, the Estuary Program will conduct monitoring and mapping of eelgrass to track changes in eelgrass acreage, condition, and location over time.

Partners and Their Roles: Project partners include Cal Poly, whose expertise is supporting expanded monitoring and research efforts to study eelgrass, sedimentation, circulation, and water quality. Cuesta College, the local community college, conducts research related to wasting disease and eelgrass health. Other partners include CDFW, a potential funder for the effort. 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, and local businesses.

Output/Deliverables: The deliverables include an eelgrass monitoring report.

Estimated Milestones: Provide a summary in the semi-annual report when work is conducted for this item.

Estimated Budget: Staff time: \$19,120. Drone flight to assess eelgrass extent: \$4,500. Match: \$0.

Long-term Outcomes: To better understand eelgrass dynamics and stressors, thus enabling the Estuary Program to track eelgrass health in the bay.

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

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)

MONITORING-7: Partner Research Efforts

Project Status: *Ongoing*

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

Description: The Estuary Program collaborates with partners such as Cal Poly and Cuesta College to facilitate research projects through data sharing, the pursuit of project development, and contributed time. Potential efforts include sea level rise impact mitigation around the bay, bay water quality including ocean acidification (OA), bay sediment characteristics, native oyster restoration, microplastics monitoring, eelgrass wasting disease, phytoplankton, and others. Reports and results will be compiled in the Estuary Program library. Staff support Estuary MPA (EMPA) monitoring efforts in the bay. Staff participate in the California Estuary Monitoring Workgroup to coordinate and standardize coastal monitoring efforts throughout the state. Estuary Program staff will participate in the effort to share program data and learn from other program's monitoring efforts.

Partners and Their Roles: Cal Poly is a primary partner in these joint efforts. Cal Poly will conduct monitoring of water quality parameters, eelgrass mapping, and analysis. Other research collaboration partners have included Southern California Coastal Water Research Program, USGS, Cuesta College, and others. The Central Coast Wetland Group, who is leading the EMPA monitoring effort, serves as a technical resource.

Output/Deliverables: Deliverables are dependent on partner projects and vary by funding sources. A list will be provided in the semi-annual report of partner efforts during the reporting period.

Estimated Milestones: Variable, depending on funding sources.

Estimated Budget: Staff time: \$11,901. Match: \$0.

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

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

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)

MONITORING-8: State of the Bay Analysis

Project Status: *New*

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

Description: Every three years, the Estuary Program creates a State of the Bay (SOTB) report card to share knowledge the latest science on the status of the estuary and watershed in terms of clean water and healthy habitats. This report provides data and summary information on the state of the estuary and watershed according to a suite of environmental indicators. In FY25, the Estuary Program will be gathering and reviewing available data, conducting data analysis, and preparing the triennial report card, which will be released a few months prior to SOTB events to take place in FY26.

Partners and Their Roles: 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, the CCC, USGS, shellfish farmers, environmental consultants, and community members.

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

Estimated Milestones: Both the electronic and print versions of the report card will be completed by spring 2026.

Estimated Budget: Staff time: \$19,957. Match: \$0.

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

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

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

E&O-1: Communications

Project Status: *Ongoing*

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

Description: The Estuary Program's Education and Outreach program conducts regular communication with a variety of audiences. Several approaches will be employed during FY25 to reach these audiences with meaningful information on the program's efforts. These approaches include the following:

- Website: The Estuary Program website (www.mbnep.org) will be updated with content on a regular basis.
- Blog: The Estuary Program will continue the [Estuary Program blog](#), with regular posts that can be viewed on the website or by subscription. They are also shared via social media.
- Social Media: The Estuary Program utilizes Facebook, Instagram, and LinkedIn extensively. These have proven to be important tools to communicate with the community. Photos and status updates are posted to the Facebook page multiple times a week (<https://www.facebook.com/mbestuary>), and Instagram posts (<https://www.instagram.com/morrobaynep/>) are made at least once per week. Posts are strategic and integrated with the messaging on our website and blog. Messages cover a variety of topics, such as project and fieldwork highlights, volunteer opportunities, community events, presentations given by Estuary Program staff, and other information related to the Estuary Program mission. Currently, the Estuary Program has more than 2,664 Facebook followers, 3,580 Instagram followers, and 395 LinkedIn followers. In FY25, the Estuary Program will continue to increase two-way communication using social media tools.
- Annual Report: The annual report summarizes the reach and impact made by the Estuary Program across all programs. The report is created annually and is available online and in limited print.
- Newsletter: A quarterly newsletter presents program highlights and promotes upcoming events. This is distributed to email subscribers and posted on the website.
- News Releases: News releases will be distributed to promote upcoming events or share the program highlights. Key messages will be drafted and incorporated into the news releases. These key messages will be integrated into other communication channels.
- Brochures and Other Print Materials: Brochures and other print materials about the Estuary Program, issues related to the health and stewardship of the Morro Bay estuary, volunteer opportunities, and formal educational opportunities will be distributed at the Estuary Nature Center, community events, and presentations in which Estuary Program staff participate. They will also be made available online when possible. In FY25, the Estuary Program will continue to work to translate some of our most popular materials into target languages to better serve visitors and residents whose primary language is not English.
- Accessibility: Estuary Program staff will work to ensure that program events and materials are accessible. This could include translation services, assessment of venue selection to ensure accessibility, etc.

Partners and Their Roles: 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.

Output/Deliverables: A summary of work conducted for this item will be included in the semi-annual report.
Estimated Milestones: The Estuary Program maintains a social media and blog schedule that addresses current events and other topics and is updated in real time.

Estimated Budget: Staff time: \$37,370. Design and printing, website maintenance, hosting and design, translation of materials: \$9,500. Match: \$137,891.

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

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

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)

E&O-2: Education

Project Status: *Ongoing*

Objective: Develop formal education partnerships and services, and continue other education efforts.

Description: In FY25, the Estuary Program will continue working with partners to integrate estuary and watershed-focused activities into existing formal educational programming. The Estuary Program is partnering with Camp Ocean Pines, One Cool Earth, Cal Poly, California State Parks, and other education partners to support expanded field trip and classroom education opportunities. Potential educational activities include watershed model demonstrations in classrooms, hosting estuary and tidepool fieldtrips for student groups, and supporting other watershed education efforts by partners. The Estuary Program will also continue to provide trainings to local docents, online educational resources, and a select number of educational opportunities that are unique to the program (e.g., Mutts for the Bay education efforts). The Estuary Program held a successful round of teacher trainings in FY23 and FY24 and plans to continue the series in FY25. The Estuary Program staff will also continue to provide presentations and talks as requested for K-12 students as well as undergraduate and graduate classes. In addition, Estuary Program staff and guest speakers present research and projects that relate to the health of the Morro Bay estuary through public events. The goal of these events is to educate the general public about issues facing the Morro Bay estuary as well as stewardship actions that people can take to help protect it. In FY25, the Estuary Program will host recurring science talk events throughout the year.

Partners and Their Roles: Partners include the Morro Bay Museum of Natural History, a direct collaborator in creating education programs. Camp Ocean Pines brings students to Morro Bay for field trips. 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 or present remotely to 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.

Outputs/Deliverables: The deliverables will be presentation and field trip statistics. Included in semi-annual reports to EPA.

Estimated Milestones: The statistics on speaking engagements and field trips will be included in the semi-annual report.

Estimated Budget: Staff time: \$14,951. Supplies: \$4,500. Match: \$0.

Long-term Outcomes: Formal educational partnerships disseminate estuary-related messages to local students.

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

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)

E&O-3: Nature Center Maintenance & Operations

Project Status: *Ongoing*

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

Description: About 25,000 visitors have visited the Estuary Program's Nature Center each year since it was established in 2005, with approximately 5,200 visitors a month during the high season. The center features a watershed mural, a wildlife viewing station with high-powered viewing scopes, a touch-screen educational kiosk, a dynamic watershed model, and a virtual Nature Center kiosk with online content and activities. To keep the center running smoothly requires maintenance and coordination by Estuary Program staff. In FY24, Estuary Program staff updated the Nature Center entrance and continued to replace outdated displays. Staff will continue to host education events in the Nature Center, utilize the space for field trip opportunities, and update the digital poster kiosk with new content on a regular basis. Various upgrades to upkeep the existing exhibits will take place, including replacing faded images, updating maps, and implementing touch-ups to the space. Estuary Program staff will also aim to update two exhibits using BIL funding to include more hands-on, interactive activities.

Partners and Their Roles: 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 develop and educational opportunities.

Output/Deliverables: A summary description of work conducted for this item will be included in the semi-annual report.

Estimated Milestones: Maintain operations at the Nature Center.

Estimated Budget: Staff time: \$8,591. Exhibit maintenance expenses: \$2,500. Match: \$0.

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

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

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)

E&O-4: Community Engagement and Stewardship (formerly Other E&O Tasks/Community Partner Projects)

Project Status: *Ongoing*

Objective: Provide community engagement and stewardship opportunities by hosting events and partnering with other environmental organizations to further the Management Plan goals.

Description: The Estuary Program hosts and attends a variety of events to engage with our community. This includes speaking engagements, tabling at events, hosting volunteer events such as cleanups and restoration field days, and supporting community partner projects. Opportunities for projects with partners will be maximized throughout the year as they arise. Established community engagement events and community partner projects include:

- **Speaking Engagements:** Estuary Program staff present watershed and estuarine information for interested groups throughout the area. Staff also present ongoing projects and results at events and conferences.
- **Recurring science talk events:** Estuary Program staff and guest speakers present research and projects that relate to the health of the Morro Bay estuary and watershed. The goal of these events is to educate the general public about issues facing the Morro Bay estuary as well as stewardship actions that people can take to help protect it. In FY25, the Estuary Program will host recurring science talk events throughout the year.
- **Tabling at community events:** Estuary Program staff will host a table/booth at various community events including farmers markets, festivals, Earth Week events, State Parks Campfire Program, ECOSLO's annual Creeks to Coast Cleanup, and other opportunities as they arise.
- **Volunteer events:** Estuary Program staff and partners will host volunteer events to engage with the community throughout the year. This includes cleanup events and habitat restoration field day events.
- **San Luis Obispo Marine Protected Areas Collaborative:** The Estuary Program is a key member of the SLOMPAC, which provides education and outreach materials for students and community groups related to

the Morro Bay estuary and other MPAs. The group also provides training related to MPAs for local enforcement agencies and provides a collaborative opportunity for community members and enforcement agencies to meet and share concerns related to the health of MPAs. SLOMPAC projects are collaboratively developed and executed. Estuary Program staff participate in collaborative meetings. While in the past the Estuary Program has received and managed grant funding to implement SLOMPAC projects, the organization now has staff able to conduct those tasks. The Estuary Program will continue as a collaborative partner, actively involved in projects between the SLOMPAC and the Monterey Marine Protected Area Collaborative.

- **Sewage Pumpout Monitoring:** The Estuary Program tests the bay's pumpout units three times a year to monitor their efficacy, provides signage for pumpout stations, and facilitates any needed repairs. The program also promotes pumpout use through educational messaging targeted to the boating community to help protect the bay's waters.

Staff will continue to seek opportunities for partnership on water conservation, marine debris, and efforts to protect bay waters.

Partners and Their Roles: 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 Los Osos Community Services District, 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.

Outputs/Deliverables: Materials completed as projects develop.

Estimated Milestones: Projects are conducted as opportunities arise.

Estimated Budget: Staff time: \$15,751. Miscellaneous expenses: \$1,500. Match: \$0.

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

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

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)

E&O-5: Mutts for the Bay

Project Status: *Ongoing*

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

Description: The Estuary Program has managed a Mutts for the Bay Program since 2008. The effort involves accepting donations, installing dispensers, coordinating volunteers, and working with partners to install and maintain pet waste bag dispensers throughout the watershed. By using the bags, pet owners prevent bacteria from reaching the estuary, where shellfish farms and recreational bay users require clean water. In FY25, Estuary Program staff will continue the outreach components of the Mutts for the Bay program. This includes partnering with Woods Humane Society, SLO County Animal Services, and local pet-related businesses/organizations. Estuary Program staff will attend tabling events to share information about environmentally-friendly dog ownership, including the Morro Bay farmers market, the Woods Humane Society Fall Festival, and other opportunities as they arise.

Partners and Their Roles: 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.

Outputs/Deliverables: Program statistics and milestones will be provided in the semi-annual reports.

Estimated Milestones: Program statistics will be ongoing.

Estimated Budget: Staff time: \$13,602. Match: \$30,883.

Long-term Outcomes: Responsible behavior by pet owners reduces bacterial loading to the estuary, protecting beneficial uses such as shellfish farming and recreation.

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

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)

E&O-6: STATE OF THE BAY PLANNING

Project Status: *New*

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

Description: Every three years, the Estuary Program hosts a SOTB conference/event series to share knowledge about the status of the estuary and watershed in terms of clean water and healthy habitats. In FY25, the Estuary Program will begin planning for the report card publication and events for FY26. The Estuary Program will develop a public-friendly report to share data collected by our program and our partners, and the results are shared through a series of events to be held throughout the spring of 2026.

Partners and Their Roles: Partners include Morro Bay State Park and other environmental organizations, community engagement, and education partners.

Outputs/Deliverables: Program statistics and milestones will be provided in the semi-annual reports.

Estimated Milestones: A SOTB report will be available in early 2026, and events will be held throughout the spring.

Estimated Budget: Staff time: \$11,448. Miscellaneous expenses: \$500. Match: \$0.

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

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

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

Program Management

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

1. Morro Bay National Estuary Program will maintain good standing with the EPA and ANEP.
2. Morro Bay National Estuary Program will continue to improve administration and program management to successfully support environmental goals and manage resources in a fiscally responsible manner.
3. Morro Bay National Estuary Program will facilitate effective partnerships and stakeholder engagement in implementation of the CCMP.

PM-1: Manage Committees and Build Partnerships

Project Status: *Ongoing*

Objective: Hold quarterly committee meetings and support partnerships.

Description: The Estuary Program will continue to coordinate the Executive Committee on a quarterly basis. Staff create meeting materials and facilitate the meetings. The Estuary Program will convene technical advisory committees on an as-needed basis to provide support for project development, etc. Staff participate in collaborative efforts to build partnerships on a broader scale. As a member of the Central Coast Climate Collaborative, staff participate in this regional partnership to develop equitable climate solutions and build resilience on the Central Coast. The Chumash National Marine Sanctuary (NMS) effort is underway in the area, and staff will participate in stakeholder meetings related to monitoring, restoration, and education issues.

Partners and Their Roles: The Management Conference committees are made up of representatives from Morro Bay NEP 320 Grant Workplan FY25

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 various 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.

Outputs/Deliverables: Deliverables include Executive Committee meeting minutes, agendas, staff reports, and other materials.

Estimated Milestones: These deliverables are produced quarterly.

Estimated Budget: Staff time: \$11,771. Match: \$20,321.

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

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

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

PM-2: Grants and Contracts Administration and Financial Management

Project Status: *Ongoing*

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

Description: Each year, the Estuary Program evaluates the prior year's progress, anticipates the upcoming year's potential, and develops a workplan and budget. The workplan for FY26 is due to EPA Region 9 in May 2025. Other grants and financial management tasks include reporting and tracking for grants, preparing financial reports for the Bay Foundation and management committees, and completing year-end financial statements and an annual audit. Estuary Program staff will attend the fall 2024 and spring 2025 NEP Tech Transfer meetings. Staff will develop projects, administer contracts, and conduct reporting related to the BIL funding for FY25.

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

Outputs/Deliverables: The deliverables include the workplan and budget (Spring 2025), biannual EPA grant reports (Fall 2024 and Spring 2025), an annual/end of year report (Fall 2024), annual financial statements submitted to the federal clearinghouse (Spring 2025), and annual state and federal tax submissions to the State of California and the IRS (Spring 2025).

Estimated Milestones: See above.

Estimated Budget: Staff time: \$88,322. Accounting/auditing and travel: \$39,600. Match: \$7,720.

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

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

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

PM-3: General Administration and Human Resources Management

Project Status: *Ongoing*

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

Description: The Estuary Program requires ongoing financial and administrative functions, including recordkeeping and filing, bookkeeping, preparing audited financial statements, maintaining equipment and office space, and interacting with the general public. In addition, the Director spends time managing staff performance and workplan progress. Other human resources tasks include training and professional development, recruitment, managing staff, and keeping all personnel policies and procedures current, including those related to emergency preparedness for operations. Staff maintains up-to-date bookkeeping records, office space, orderly and properly operating office and field equipment, annual staff performance reviews, and updated policies and procedures. Regular staff meetings will be conducted.

Partners and Their Roles: The primary partner for this task is the Bay Foundation board which sets the policies and procedures for the organization.

Outputs/Deliverables: The Estuary Program provides program management updates in the EPA semi-annual reports.

Estimated Milestones: See above.

Estimated Budget: Staff time: \$68,742. Professional development and operational expenses: \$102,372. Match: \$22,858.

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

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

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

PM-4: Tracking Implementation of the Management Plan and Workplan

Project Status: *Ongoing*

Objective: Track workplan and CCMP implementation.

Description: The Estuary Program tracks progress on the CCMP Action Plans on a biannual basis. Workplan implementation is tracked with biannual reports on deliverables. Tracking project and program effectiveness is ongoing and includes biannual reports, NEPORT reporting, grant reporting, monitoring, and general project management. Staff are working to develop a public-friendly version of CCMP Action Plan tracking to be shared on our website. Staff will prepare for and conduct the Program Evaluation process with EPA in FY25. The process is an opportunity for staff to highlight program accomplishments and for EPA to interact with program partners.

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

Outputs/Deliverables: The deliverables include semi-annual reports to EPA (Fall 2024 and Spring 2025) and NEPORT data (Summer 2024). The Program Evaluation process is typically completed by the end of the calendar year.

Estimated Milestones: See above.

Estimated Budget: Staff time: \$25,832. Match: \$0.

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

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

CCMP Action Plans Addressed: This task supports all Action Plans

PM-5: Community Projects Program

Project Status: *Ongoing*

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

Description: Community Projects allow community members to be active participants in conservation efforts by helping to implement the Management Plan. The Community Projects Program has a special focus on projects that engage the community. The Estuary Program staff meets with community members to develop projects, prepare contracts, and monitor and evaluate products. The Estuary Program will continue to oversee current projects and develop new projects in FY25.

Partners and Their Roles: Partners for past Community Projects have included the City of Morro Bay Harbor Department, Cal Poly and Cuesta College researchers, California State Parks, SLO County, and the SLOMPAC.

Outputs/Deliverables: The semi-annual report will detail the projects completed in FY25. Final reports from Community Projects.

Estimated Milestones: Project ideas are considered twice a year, dependent on budget, and will be listed in the semi-annual reports.

Estimated Budget: Staff time: \$10,459. Match: \$15,000 in Restoration Fund money.

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

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

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

5. Accomplishments

This section reports on major projects that were completed by December 2023. These accomplishments are also included in the semi-annual reports submitted to the EPA in October 2023 and April 2024.

Monitoring Efforts

Project Objective: Expanding monitoring efforts to support management and restoration.

Additional BIL funding has enabled the Estuary Program to expand monitoring efforts and provide additional data to support assessment and regulation, as well as potential restoration and land management actions. Staff developed a toxicity monitoring effort, where water is collected twice a year and sediment once a year. Samples are sent to a toxicology lab, and various biotic indicator species are exposed to the samples. Measurement of their survival and growth indicate the amount of toxicity in the samples. Initial results indicate moderate amounts of toxicity in San Luisito Creek and no toxicity impacts in middle Chorro Creek and middle Warden Creek. The Estuary Programs plans to continue the monitoring while BIL funding is available.

This new data set is submitted to CEDEN so that the results are broadly available. The SWRCB utilizes data from CEDEN for 303(d), TMDL, and other assessment efforts. The results may also indicate areas with toxicity impacts, supporting the efforts of staff and partners to work with landowners to implement BMPs that reduce runoff and other impacts that could be affecting toxicity.

Additionally, the Estuary Program is developing a pesticide monitoring effort to be conducted in conjunction with the toxicity work. Water and sediment will be tested for pesticides. This targeted data could help pinpoint activities that are causing the toxicity and guide efforts to address the pollution source. This work will be conducted with BIL funding and is expected to be conducted for the next three years.

The efforts supported the following CCMP Action Plans: MON-1 (Support Development of TMDLs), MON-2 (Monitor Environmental Indicators), MON-3 (Monitor Project Effectiveness), MON-5 (Support Partners), MON-6 (Support Research Activities)

Restoration Efforts

Project Objective: Increase coastal resiliency through habitat restoration and academic collaboration.

In 2023, the Estuary Program implemented an invasive plant management effort to support healthy habitats and helps inform a statewide effort to evaluate dune restoration by increasing coastal resiliency. Staff coordinated an effort to permit, plan, and implement a project to manage invasive iceplant on the Morro Bay sandspit. Staff received a Section 4(d) permit for the federally-threatened Morro shoulderband snail from USFWS and a coastal development permit waiver from the Coastal Commission prior to project implementation. In the fall of 2023, three-three acres of iceplant were treated with an initial round of herbicide. Pre-project baseline monitoring was conducted by staff and research collaborators from UCSB.

The next phase of the project involves coordinating and conducting volunteer restoration events to help manually remove invasive iceplant from sensitive areas near the bay waterline where herbicide application is not possible. The project is being used as a case study site for a larger collaborative research project led by UCSB and funded through a UC Climate Action Grant. This effort partners with several academic institutions and stakeholders to evaluate dune restoration projects in the context of increasing coastal resiliency. The project develops standardized monitoring protocols, methods to measure indicators of success, and best management practices to serve as a resource for organizations involved in dune restoration and nature-based coastal adaptation.

These efforts support the following CCMP Action Plans: ECR-9 (Regional and National Collaboration), ECR-11 (Conserve Ecosystem Functions), ECR-16 (Invasive Species Action Plan), CLIM-1 (Improve Understanding of Climate Change Impacts), CLIM-3 (Climate and Adaptation Education)

Education Partnerships

Project Objective: Develop formal education partnerships to teach students about estuarine and watershed science and train educators in related curriculum.

In FY23, the Estuary Program established a series of teacher training workshops hosted in Morro Bay. These teacher training workshops brought educators from around California to the Morro Bay estuary to learn about watersheds, estuaries, climate resilience, and how to environmental stewardship in students. The sessions included topics from Project WET, Project WILD, and nature journaling as a way to incorporate science learning and observation. These workshops reached 75 participants and included formal and informal educators. By sharing this knowledge with educators, the potential for expanding the reach of Estuary Program curriculum far exceeds what the program could accomplish alone. The Estuary Program repeated this education series in FY24 with expanded partners, with plans to continue it into the future.

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

Community Projects

Project Objective: Provide support to Community Projects that address the goals of the Estuary Program.

The Estuary Program's Community Projects Program involves staff working closely with partners to develop projects that directly address our goals and support our Action Plans. The total annual Community Project budget for FY25 is \$15,000.

A recently completed project is a Morro Bay phytoplankton research project. A Cal Poly researcher collected and identified phytoplankton samples from two Morro Bay locations throughout the year to better understand how front and back bay phytoplankton communities differ. The Community Project provided supply budget and student support for the year-long effort. The project also funded the creation of a scientific poster and sent one student to the Coastal Estuarine Research Federation conference in Portland, Oregon in the fall of 2023. The professor and her students also created an educational poster to share the results with a more general public audience in the Nature Center. These efforts led to an expanded project in FY24 supported with BIL funding.

One project is underway using FY24 funding. The One Cool Earth (OCE) nonprofit is conducting outdoor education lessons for Baywood Elementary School in Los Osos. The group is providing 18 lessons each for the 300 students at the school.

All projects help implement the CCMP with an emphasis on engaging the community in the project. Funds used to support Community Projects come from the Morro Bay Restoration Fund, a match source to the EPA 320 funding.

6. Areas of Special Interest

The EPA's Office of Water has several priority areas of interest relevant to the NEPs. The following summarizes Estuary Program activities in these four areas.

Reductions in Nutrient Pollution

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

- Resource Conservation District Partnerships to Address Nutrients: The Estuary Program previously worked with the CSLRCD through a grant to develop plans for BMPs on private property. The CSLRCD is currently managing a Water Board grant to implement these efforts throughout the watershed, and many projects target a reduction in nutrient and sediment pollution.
- Monitoring Data Support for Regulators: The Estuary Program and partners collect nutrient data from throughout the watershed, bay, and bay shoreline freshwater seeps. The data is submitted to the California Environmental Data Exchange Network (CEDEN), where it is then available to the CCRWQCB and SWRCB to support TMDL assessment, 303(d) review, implementation of a new Agricultural Order, etc. The bay nutrient monitoring is conducted in partnership with Cal Poly researchers.
- Los Osos Water Reclamation Facility Effectiveness: The Estuary Program collects nutrient data from the bay shoreline seeps in the community of Los Osos to track changes in nitrate concentrations in the shallow groundwater. The Los Osos Water Reclamation Facility coming online in 2016 should result in reductions in nitrates.
- Stormwater Management Efforts: The Estuary Program partnered with the Ocean Protection Council (OPC) and State Parks to complete implementation of a parking lot upgrade at the State Park Marina to reduce stormwater pollution reaching the bay. Following completion of the project, three storms were sampled during the 2023 water year. Although it can be difficult to draw finite conclusions from such limited data, the results indicate an encouraging improvement in water quality. In comparing pre and post-project data, in general we saw a decrease in concentrations of gasoline-range organics, diesel-range organics, oil & grease, total suspended solids, dissolved lead, and dissolved zinc. There was no real change in concentrations of *E. coli* and dissolved copper. Staff is collaborating with the CSLRCD and Camp SLO to develop designs for stormwater projects on the Camp SLO Army National Guard base.
- Central Coast Regional Water Quality Control Board Irrigated Lands Program: The CCRWQCB regulates discharges from irrigated agricultural lands to protect surface water and groundwater. Also known as the Agricultural Order, it applies to owners and operators of irrigated land used for commercial crops. The effort focuses on priority water quality issues such as pesticides and toxicity, nutrients, and sediment. Nitrate impacts to drinking water is a particular focus area. For more information, visit https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ilp/

Water Reuse and Conservation

- Community of Los Osos Water Conservation Efforts: The Los Osos Community Services District (LOCSO) is one of the principal water purveyors for the community of Los Osos. As such, one of their roles is to work with the community to encourage water conservation. In 2023 to 2024, the LOCSO water conservation program gave out rebates for water metering devices that allowed customers to view their water usage rate in real time via a smart phone or computer. Rebates were also available for low flow toilets, clothes washing machines, tank-less water heaters, hot water recirculation systems, and rain catchment. For more information, visit <https://www.losososcsd.org/district-rebate-program>
- City of Morro Bay Water Conservation Efforts: The city of Morro Bay manages the municipal water supply for city residents. As they receive State Water where the delivered amounts can fluctuate, the city has a system in place with different levels of conservation required depending on supply. Additionally, the city provides materials for restaurants and hotels explaining water saving efforts such as serving water and laundering linens only upon request. The city offers a rebate program to residents for rain barrels, removing grass, and irrigation control systems. The city also funds a Green Building Incentive Program that provides a 20% permit fee rebate for eligible graywater projects. The city website also has general water conservation tips for residents. For more information, visit <https://www.morro-bay.ca.us/320/Water-Conservation>
- Estuary Program Water Conservation Outreach: The Estuary Program shares water conservation messaging via various outreach venues. On our website, we spotlight our [rainwater catchment tank project with Cal Poly](#) and share [guidelines for bay-friendly gardening](#). Our outreach efforts include blogs, social media, and publications such as the State of the Bay report card with What You Can Do messaging that includes water conservation tips.
- Flow Study: As part of our Habitat Protection/Restoration Strategy effort to identify potential projects to protect and restore habitats in the bay and watershed, the Estuary Program is following recommendations set out in an analysis of the watershed's rainfall and surface flows. Using BIL funding, the Estuary Program installed an expanded network of water depth sensors to track flows during crucial times of year for fish (spring and summer) and to conduct intensive surface flow monitoring during those two critical seasons. A goal of the monitoring is to identify locations that would benefit from water conservation efforts that could help maintain flows for fish. Data collection is underway, with detailed analysis expected to be conducted over the upcoming year.

Marine Litter Reduction

- Marine Debris Education: The Estuary Program developed a reusable coaster that highlights the main types of marine debris and messaging on preventing its spread. These coasters are being handed out at Estuary Program events and will be distributed to local restaurants to share a marine debris prevention message with residents and visitors.
- Central Coast Clean: SLO County is leading a county-wide effort to address trash, in partnership with the city of Morro Bay and other municipalities in the county. The campaign targets the major sources in each community. For Morro Bay and Los Osos, the campaign focused on reducing cigarette butt litter with the slogan "The world is your oyster, not your ashtray," and the message is shared on social media, signage, etc. throughout Morro Bay and Los Osos.
- Creeks to Coast Cleanup Day: Each year, a local environmental organization hosts a county-wide cleanup day focused on waterways in this effort formerly known as Coastal Cleanup Day. The Estuary Program has been a long-time supporter of the effort. In 2023, the Estuary Program hosted a cleanup site and contributed informational brochures and Mutts for the Bay materials in take-home cleanup kits.
- Morro Bay Triathlon Post-Race Cleanup: In November 2023, the Estuary Program helped to organize the environmental nonprofit and organization tabling area for the Morro Bay Triathlon. The Estuary Program tabled near the start and finish line to talk to racers and spectators about water quality and picking up trash around the race area.

- **Field Trips:** Marine litter reduction and cleanups have become recurring themes in our educational field trips with schools and youth groups. In the summer of 2024, we will be hosting two cleanups per month with local summer camp groups in Morro Bay, including the Morro Bay Junior Guards and Morro Bay Little Guards.

Green Infrastructure and Resiliency

Assessment of vulnerabilities in our study area and implementation of efforts to increase coastal environment resiliency are important goals for the Estuary Program.

- **Drinking Water Supply Resilience:** With funding from BIL, the Estuary Program supported the LOCSB in installing an additional groundwater monitoring well to support drinking water management efforts in the basin. Planning is underway to rehabilitate two existing wells to further expand the groundwater monitoring well network.
- **Green Infrastructure Restoration Efforts:** The Estuary Program has focused efforts on management of invasive plants to help support native habitats. This includes work in the watershed to map *Arundo* for future removal efforts, invasive sea lavender monitoring and removal around the bay, and iceplant mapping and management efforts on the sandspit to protect fragile dune habitat. Efforts are underway to develop initial studies and planning for a fish passage barrier removal project on San Luisito creek and floodplain enhancement on Walters Creek. Staff are coordinating with UCSB and other partners on monitoring and restoration, with the Estuary Program representing the SLO County region. The Morro Bay sandspit is a pilot project location for the effort. A historical ecology project focused on the lower watershed and estuary increases our understanding of natural conditions and directly supports future restoration efforts intended to increase climate resilience in these vulnerable habitats.
- **Green Infrastructure Monitoring Efforts:** The Estuary Program expanded salt marsh monitoring efforts with USGS to better understand sediment dynamics within this sensitive habitat. The data collected will support modeling efforts by USGS to predict impacts to this area from sea level rise and support planning of restoration efforts to increase resilience of these habitats.
- **Expansion of Rainwater Capture System:** Several years ago, the Estuary Program completed a success project to install rainwater catchment tanks at a Cal Poly beef facility on Pennington Creek. Use of the rain water during the dry season reduces use of riparian wells. A new effort is underway with the support of Creek Lands Conservation and the CSLRCD to design and install two additional tanks that will be filled during the wet season from the creek for use during the dry season. The plans are nearly complete and permitting work is underway to handle any needed changes to water rights. Construction is expected to be completed next year.

7. Travel Expenses

The following table contains the travel expenses charged to 320 funds in the first half of FY24.

Event	Destination	Trip Purpose	Dates	Number of Staff Attended	Costs Included	Total Amount
ANEP Fall Meeting	Portland, OR	Technical transfer with NEPs, EPA	11-12-2023 to 11-17-2023	1	Mileage, meals, lodging, airfare	\$1,640

Event	Destination	Trip Purpose	Dates	Number of Staff Attended	Costs Included	Total Amount
Coastal & Estuarine Research Federation (CERF)	Portland, OR	Technical transfer on estuary-focused topics	11-12-2023 to 11-16-2023	4	Mileage, meals, lodging, airfare	\$6,544
Salmonid Restoration Federation	Santa Rosa, CA	Technical transfer on habitat restoration and monitoring	3-27-2024 to 3-29-2024	1	Mileage, meals	\$590

The following table contains the travel expenses projected to be charged to 320 funds in the second half of FY24.

Event	Location	Trip Purpose	Dates	Staff Attending	Costs Included	Estimated Amount
ANEP meeting	Washington, D.C.	Technical transfer	4-28-2024 to 5-3-2024	Melodie Grubbs	Airfare	\$3,700

8. Glossary

The following terms and acronyms are used in this workplan:

Acronym	Explanation
ANEP	Association of National Estuary Programs
BIL	Bipartisan Infrastructure Law
BMP	Best management practice
Cal Poly	California Polytechnic State University, San Luis Obispo
Caltrans	California Department of Transportation
Camp SLO	Army National Guard Base Camp San Luis Obispo
CCAMP	Central Coast Ambient Monitoring Program
CCC	California Conservation Corps
CCER	Chorro Creek Ecological Reserve
CCMP	Comprehensive Conservation and Management Plan
CCRWQCB	Central Coast Regional Water Quality Control Board
CDFW	California Department of Fish and Wildlife
CEDEN	California Environmental Data Exchange Network
CRAM	California Rapid Assessment Method
CSCI	California Stream Condition Index
CSLRCD	Coastal San Luis Resource Conservation District
CWA	Clean Water Act, the enabling legislation for the National Estuary Program
CWG	Coastal Watersheds Grant
EC	Executive Committee
EPA	Environmental Protection Agency

Acronym	Explanation
Estuary Program	Morro Bay National Estuary Program
FY	Fiscal Year
LCSLO	The Land Conservancy of San Luis Obispo County
LIDAR	Light Detection And Ranging
LOCSO	Los Osos Community Services District
MBNEP	Morro Bay National Estuary Program
MPA	Marine Protected Area
NEP	National Estuary Program
NEPORT	National Estuary Program Online Report Tool
NMS	National Marine Sanctuary
NOAA	National Oceanic and Atmospheric Administration
NPS	Non-Point Source
OA	Ocean acidification
OPC	Ocean Protection Council
PMEP	Pacific Marine and Estuarine Fish Habitat Partnership
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RAE	Restore America's Estuaries
ROV	Remotely Operated Vehicle
SCC	State Coastal Conservancy
SET	Sediment Elevation Tables
SLO	San Luis Obispo
SLOMPAC	San Luis Obispo Marine Protected Area Collaborative
SOTB	State of the Bay
SWAMP	Surface Water Ambient Monitoring Program
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committees
TMDL	Total Maximum Daily Loads
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
VMP	Volunteer Monitoring Program