



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Ms. Lexie Bell, Director
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OFFICE OF
WATER

Dear Lexie:

The purpose of this letter is to provide the results of the Environmental Protection Agency's (EPA) 2015 Program Evaluation (PE) of the Morro Bay National Estuary Program (MBNEP) and to thank you and your staff, as well as your partners and Board members, for contributing to the 2015 PE process. We recognize that MBNEP put considerable effort into both the PE package and the responses to our follow-up questions. We also appreciate your facilitation of the PE Team's site visit that enabled the Team to meet your staff and visit projects in your study area.

I would like to note that your evaluation benefited from the voluntary participation of Tom Ford, Director of the Santa Monica Bay National Estuary Program, who served in an ex officio capacity on the PE Team. Tom shared information about the Santa Monica NEP that may be useful for your Program, and took several lessons learned back to his NEP.

The primary purpose of the EPA PE is to help EPA determine whether the 28 programs included in the NEP are making adequate progress implementing their Comprehensive Conservation and Management Plans (CCMPs) and are eligible for continued funding. The evaluation process has considerably enhanced EPA Headquarters and Regional knowledge of each individual NEP and promoted sharing of innovative projects and approaches across all 28 NEPs. In addition, EPA uses the evaluation process to assess how the NEPs support Clean Water Act (CWA) core programs and to evaluate the extent and effectiveness of the NEPs' contributions to achievement of one relevant EPA *2011 - 2015 Strategic Plan* goal--Goal 2: Protecting America's Waters, Objective 2.1, Protect Human Health and Objective 2.2, Protect and Restore Watersheds and Aquatic Ecosystems.

Based on the PE Team's findings, we believe your Program continues to make significant progress in implementing the MBNEP CCMP. We are pleased to announce that you have passed the 2015 PE and are eligible for funding authorized by CWA §320.

2015 Program Evaluation Findings

The following summary highlights the Team's key findings by identifying:

- (I) Progress Made in the Areas Highlighted in the 2010 Program Evaluation,
- (II) Support of CWA Core Programs,
- (III) Strengths, and
- (IV) Challenges.

This summary is intended both to recognize the Program's successes, consider MBNEP's responses to previous recommendations, and to provide new recommendations to further strengthen the Program. The Program's response to these recommendations will be evaluated in the next PE cycle.

I. Progress Made in the Areas Highlighted in the Previous Program Evaluation Review

EPA commends MBNEP for moving forward on many of the challenges raised in the 2011 PE letter. EPA recommended that MBNEP review its CCMP to determine what changes and updates were needed, and noted that MBNEP planned such a CCMP revision. EPA further recommended that MBNEP review and update CCMP-related documents that included the communication strategy, finance plan, and monitoring plan.

CCMP

MBNEP updated their CCMP in 2012 to include new issues facing the estuary such as climate change. MBNEP also removed out-of-date actions that were no longer valid. MBNEP held many public meetings and workshops to obtain stakeholder input for development of the new CCMP. EPA recognizes this was a significant effort, and is pleased that the original CCMP was updated to reflect new data and priorities.

Please note that after the 2012 MBNEP CCMP update, EPA issued CCMP-specific guidance that has been shared with the NEP Directors and EPA Regional Coordinators (*NEP CCMP Revisions and Update Guidance 7-24-15*). MBNEP needs to refer to the EPA 2015 CCMP guidance document when it next revises or updates their CCMP, and develop an update that is consistent with the new requirements.

CCMP Progress Report

EPA recommended in the 2011 PE letter that MBNEP produce a Progress Report after updating the CCMP in order to keep the public and partners informed and involved with CCMP implementation. MBNEP developed a *CCMP Tracking Table* that provided information on the status of action plans, a description of each action, and a list of partners.

Since that time, MBNEP developed several progress and implementation effectiveness reports, including:

- A CCMP Tracking Table entitled *Status of CCMP Action Plans* (April 2011). The document described each action plan, its status, and MBNEP partners working on each action.
- Four Annual Reports, produced each year from 2011 to 2014. These highlighted progress on key aspects of MBNEP work (e.g., State of the Bay event, Clean Marina program, erosion prevention, eelgrass restoration, riparian restoration, rainwater harvesting, and invasive species control).

- Two Morro Bay *Eelgrass Reports* (2010, 2013) discussing the recent declining condition of the Morro Bay eelgrass beds, extensive partnerships for monitoring and restoration, and the need for funding to restore the keystone species.
- A *Walters Creek Restoration Monitoring Report Summary* (2012) to describe the multi-partner project to restore floodplain and riparian habitat and improve water quality.
- Several Implementation Effectiveness Program Reports for water quality improvement projects. These included Monitoring Plans (2013, 2014), Data Summary Reports (2010, 2011, 2012, 2014) and more specific Stormwater Monitoring Reports (2013, 2014), and Sediment Monitoring Reports (2011, 2012/13, 2014).

EPA encourages MBNEP to update the *Implementation Effectiveness Program Report and CCMP Tracking Table* when it next revises the CCMP, and to continue issuing annual reports that help the public and others understand how MBNEP is progressing towards meeting their goals.

Communication Plan

EPA recommended in the 2011 PE letter that MBNEP develop a communication plan. MBNEP developed the *Communications Plan 2013 – 2016: Goals and Implementation Strategies*, along with the Supplement on messaging, and a table identifying Implementation Tools. The *Communications Plan* identified the need to provide the Morro Bay general public with a greater understanding of MBNEP’s work, and contained key messages and talking points to be used by MBNEP. Many of those the messages have already been included on the MBNEP’s new website, and in the Program’s outreach materials. The MBNEP plan, which is tied to the goals of the CCMP, included goals and objectives for communication and outreach, target audiences, and communication activities with timelines in the plan.

EPA recommends that when the next *Communications Plan* is developed for 2017 and beyond, that it also identify:

- 1) Target audiences (e.g. local residents and tourists), Activities or Project descriptions (with communication tool if possible), deliverables and their estimated timelines link more specifically to action plans of the CCMP,
- 2) Lead party(s) responsible for implementation (MBNEP and specified partners), and
- 3) Estimated funding needed (linked to Annual Workplan).

It would be beneficial if the updated plan also contains an evaluation component if possible. As such, EPA is pleased to hear that MBNEP is attempting to examine behavior changes related to the *Clean Water Pledge Campaign*. EPA encourages MBNEP to include such behavior change evaluation activities in the next Communication Plan.

Finance Plan

EPA recommended in the 2011 PE letter that MBNEP update its finance plan. MBNEP produced the *Financial Development Plan 2013 – 2016* in November 2012. MBNEP recognizes declines in Federal and State budgets and the need to explore private funding sources to cover operating and project costs. MBNEP is also aware of the difficulties in obtaining those funds, as there are many other environmental non-profits in the area vying for the same resources. MBNEP addressed those factors in the *Financial Development Plan 2013 – 2016* in which it effectively looked at a broad range of options that can be employed by MBNEP. EPA understands that MBNEP plans to update their financial plan every few years, with the next version projected for 2016.

MBNEP also developed a “case for support” piece which was well written and can be used in its fundraising efforts. The *Financial Development Plan* along with the “case for support” will showcase the need for financial support, the important mission of the MBNEP, and tangible successes of the organization. In fact, EPA is pleased that MBNEP has already garnered a very significant increase in private dollars as a result of its efforts. The *Finance Development Plan* provides a number of good approaches that could be used to obtain financial support from private sources.

The straight forward four-item list entitled “*Impact per Dollar of Your Donation*”, found on the *Donate* page of the MBNEP website, also helps to support efforts to obtain private funding. EPA encourages MBNEP to consider making concise information about accomplishments easier to find on the website, including from the *Donate* page. This could be bolstered with clear links to an *Accomplishments* page. MBNEP may find that an *Accomplishments page* is an effective tool for showing potential donors what MBNEP has done with funding to date. An *Accomplishments* page can also articulate what could be accomplished if additional funding was received. Since it is difficult to line up funding sources for priorities, especially the longer-term or more costly efforts, MBNEP may find that an expanded online description of accomplishments, which is linked to financial need and likely results, could be productive.

Monitoring Plan

EPA recommended that MBNEP update its monitoring plan so that it was aligned with the revised CCMP and State of the Bay Report. MBNEP submitted a well received Quality Assurance Project Plan for the PE Review that pertains to the program’s ambient monitoring, as well as monitoring for specific projects within the study area. Further information about the monitoring plan is discussed below under Challenges.

Species Protection Plan

In the 2011 PE letter, EPA encouraged MBNEP to develop a strategy to identify and prioritize species and habitats to be protected and restored. During the review period, MBNEP developed an *Atlas of Sensitive Species of Morro Bay Area* (2010) which comprehensively discussed those species of concern. MBNEP has begun a *Conservation Planning Initiative* (CPI) to identify critical habitat for those sensitive species identified in the Atlas, and will also address

biodiversity and ecosystem services and functions in the face of climate change. EPA recommends that the CPI document establish restoration and protection numeric targets, and that the document identify and/or propose habitat protection and restoration activities that are tied to the CCMP action plans.

Measurable CCMP Objectives

In the 2011 PE letter, EPA recommended that measurable goals and objectives be identified in the revised CCMP, and numeric targets included in the monitoring plan. MBNEP established four goals, and seven priority issues in the 2012 CCMP. Each priority issue has an associated outcome, and each action plan in the CCMP has an implementation tracking measure.

EPA encourages MBNEP to examine objectives for those actions that lend themselves to a quantitative measurement. Examples of potential measurable objectives include miles of riparian habitat restored, number of green infrastructure stormwater projects implemented, miles of road re-engineered or removed to prevent erosion, and acres of land put in conservation easement. Setting far reaching goals and measurable objectives such as preventing further loss of eelgrass beds can inspire and provide a roadmap to desired future conditions. Measurable objectives will help MBNEP assess whether CCMP actions are effective or should be modified, or if MBNEP efforts should be redirected to other actions in order to attain the desired outcomes of MBNEP.

Reporting on Changes in Conditions and Outcomes

In the 2011 PE letter, EPA recognized the on-the-ground results made by MBNEP, and encouraged the Program to examine how those restoration efforts lead to improvements in ecosystem conditions and water quality. The Agency understands the many difficulties in measuring changes in condition, and that at times, changes are not apparent due to background noise in the data, or lack of a sufficient timescale to see the system's response to the on-the-ground project. Sometimes a restoration may, for some reason, not show an anticipated outcome, which is yet important to document. EPA notes that MBNEP continues to gather ambient and project-specific data in order to track overall environmental conditions and project-related environmental results, where possible. EPA encourages MBNEP to continue its ongoing evaluation of its monitoring program for both ambient conditions and project results. MBNEP recognizes that it must continue to ensure adequate data collection and monitoring are in place to assess both programmatic and environmental results long-term.

In the 2011 PE letter, EPA recommended that MBNEP highlight environmental results in separate materials or on its website. MBNEP highlighted measurable outcomes in a number of reports. For example, MBNEP highlighted that through multiple CCMP actions, over 1,200 tons of sediment have been prevented from reaching Los Osos and Chorro Creeks and therefore entering Morro Bay. Some of the measurable results have been included in MBNEP publications and social media. EPA encourages MBNEP to continue to capture and publically display these tangible results for stakeholders and supporters to view. As discussed above, EPA encourages MBNEP to consider dedicating a specific and clearly-marked page of its web site to accomplishments. An Accomplishments page would be an excellent location for highlighting measurable environmental results and other achieved measurable objectives. MBNEP does

report water quality trend data for the study area in both data summary reports and in the 2014 State of the Estuary Report. The latter report, targeted to a broad public and stakeholder audience, was very well written for that audience. The estuary health graphics it contains nicely illustrated changes in conditions in a very easy-to-understand manner.

Workplan

MBNEP expanded the workplan to contain a list of deliverables for each project, as EPA recommended in the 2011 PE letter. EPA also notes that in section 5 of the annual workplans, that each activity includes a description of the activity, deliverable(s) and milestone(s). Each activity description also provides reference to the corresponding CCMP Action Plan items and to Clean Water Act-related implementation. Each activity is identified as ongoing or new. We are pleased to hear that MBNEP plans on adding further description of accomplishments and success story stories to future annual workplans, and highlighting those actions that have been completed or have met major milestones. Those accomplishments and success stories are used by EPA in many different ways and for multiple audiences, so it is helpful to provide additional information in future workplans than the bullets that appear currently.

II. Support of CWA Core Programs

Controlling Nonpoint Source Pollution on a Watershed Basis

Since the 2011 PE, MBNEP has increased activities in support of core CWA programs, as described below. EPA is very pleased that the Chorro Creek watershed has received SP-12 designation, based on multiple lines of evidence, for watershed restoration efforts to improve dissolved oxygen levels. Public and private landowners implemented a variety of water quality restoration efforts to reduce nutrients, including upgrading a wastewater treatment plant, restoring wetlands and stream channels, removing livestock grazing from riparian areas, and controlling erosion.

Water quality improved and the Water Board removed Chorro Creek from the State's Clean Water Act Section 303(d) list of impaired waters for dissolved oxygen. MBNEP and the California Central Coast Ambient Monitoring Program have collected and analyzed water quality samples in Chorro Creek. Data collected since 2002 indicates that dissolved oxygen levels have stabilized above 7.0 ppm. Partners include the Natural Resource Conservation Service (NRCS), the Coastal San Luis Resource Conservation District (RCD), the California State Coastal Conservancy, the Farm Bureau and others including numerous private landowners.

Sediment erosion is one of the key issues in the Morro Bay watershed, especially in the Chorro Creek portion of the watershed. In addition to other sedimentation focused work, MBNEP has engaged in pollution prevention through reducing erosion from rural roads in the upper watershed. After completing an MBNEP funded 2009 study on best management practices for rural roads, MBNEP applied for and received CWA 319(h) grant funds for a project to prevent road erosion. The Morro Bay Watershed Road Erosion Prevention Project is treating approximately 18 miles of 80 degraded roads, and potentially keeping 15,500 cubic yards of

sediment from entering Morro Bay. Through this project, MBNEP has been enhancing stream crossings, stabilizing stream banks, and creating rolling dips on California National Guard's Camp San Luis Obispo and California Polytechnic University at San Luis Obispo properties. EPA is pleased that MBNEP aims to continue to monitor the amount of sediment runoff after substantial rainfalls to continue to assess effectiveness of this effort.

Water Quality Monitoring

MBNEP holds key expertise on monitoring the chemical and biological integrity of the Morro Bay watershed and estuary. The Water Board looks to MBNEP for water quality data in the study area. Much of the ambient monitoring for MBNEP depends on the dedicated highly trained corps of participants in the MBNEP Volunteer Monitoring Program (VMP). The data collected under the VMP is of such high quality and reliability that it has been used by the California Department of Public Health, and the Water Board. The MBNEP staff train the volunteers and run the program, which includes updating the QAPP and sending it through EPA and Water Board review each year.

MBNEP provides monthly bacteria data memos to a suite of partners, presenting *E. coli* and *Enterococcus* levels for ongoing monitoring sites. The data is used in tracking stormwater quality, is viewed by local oyster farmers, and can be used to track levels for TMDLs for bacteria.

MBNEP outreach efforts to control bacteria inputs to the bay have been well received by the public. These help the public make a connection between their actions, the water quality in the bay that is important for recreation (e.g. kayaking, sailing, paddle boarding) and for fishing and the shellfishery. The Clean Water, Great Life education campaign asks the public to take better care of pet waste, keeping pollutants out of storm drains, conserving water and controlling marine debris. The Mutt Mitts program involves volunteers logging 900 hours a year to stock 21 dispensers in the City of Morro Bay focusing on parks where people walk their dogs. The program serves to both educate the public and reduce nutrient and bacterial pollution to the estuary. In 2014 the Mutt Mitt program dispensed 232,245 bags.

III. Strengths

Program Implementation and Reporting - Outreach and Public Involvement

MBNEP has launched a redesigned website and increased their online presence with a variety of social media tools, including Facebook, Instagram, Twitter, and YouTube. They have also launched a weekly blog that is delivered to subscribers' inboxes and distributed through social media platforms. These digital tools allow the MBNEP to engage a wider audience, as well as a younger demographic, in the MBNEP's work.

MBNEP was able to increase its reach for the State of the Bay in 2014 with a suite of 18 events over a month-long celebration highlighting estuary health. Over 800 people participated in one or more events during the month. Beyond the typical participant in the program's past state of the bay technical conferences, coastal residents from multiple walks of life attended and learned more about their bay.

Technical Assistance and Capacity Building – Training

MBNEP has an excellent and effective relationship with its partners and is keen to provide training to up-and-coming environmental professionals. One prime example is the Rainwater Catchment Project at the California Conservation Corps (CCC) Center. A CCC residential building was renovated so that the roof runoff would be captured in a new native plant garden adjacent to the building, rather than flooding the previously compacted sparse turf. The project was installed by the CCC members along with AmeriCorps Watershed Stewards. The staff who built the project are able to increase their skills and knowledge for environmental careers, and experience first-hand how green infrastructure can improve their home as well as restore native habitat.

Technical Assistance and Capacity Building – Tools

MBNEP has an excellent working relationship with the California Polytechnic University at San Luis Obispo (Cal Poly). One key joint project is the Rainwater Harvesting Project at the Cal Poly's commercial feedlot. The project involved installation of a rainwater collection system on the feedlot roofs, with the water being piped to four 74,000 gallon water storage tanks during rain events. When the feedlot is populated with cattle in the dry season, the stored water can be provided to the cattle, rather than relying on limited groundwater supplies. The greatly reduces the impact on already limited surface waters in the Pennington Creek riparian habitat. The system also reduces nutrient laden stormwater runoff that would have a negative impact on the watershed's creeks. The site serves as an excellent demonstration classroom for local ranchers and Cal Poly students on sustainable ranching practices.

The Cal Poly ranch manager spoke to the benefits realized on the ranch due to rotational grazing during the on-site visit. This included greater diversity and cover of endemic perennial grasses and reduced erosion. MBNEP may want to consider expanding this practice to the other range lands in the watershed could be a worthwhile goal especially in context to climate change/drought management. Qualifying and quantifying these benefits may be a mechanism to expand the good working relations with the University and popularize this ranching technique locally and via wider academic channels.

MBNEP has already taken steps to incorporate climate change actions into its CCMP. MBNEP received funding for a Climate Ready Water Utilities Project to document climate change vulnerability related to the Los Osos groundwater basin. The group tested the EPA's Climate Resilience Evaluation and Adaptation Tool (CREAT) along with a groundwater flow model, to develop a basin plan for the groundwater resource and consider threats from seawater intrusion.

MBNEP received Climate Ready Estuary (CRE) funding to pursue a vulnerability assessment even before the Climate Ready Estuary Workbook was final, and is incorporating the CRE approach in their *Climate Vulnerability Assessment Report*. This assessment was in draft at the time of this PE review. EPA is confident that MBNEP will continue to draw from regional, state, national and international climate science, models and tools to develop a climate adaptation approach that will optimize the MBNEP's resilience to the changing climate.

Ecosystem Restoration and Protection - Water Quality

EPA supports MBNEP's continued work with agricultural sector partners, such as the RCD, to control erosion from the watershed. Work with the RCD, such as that done through Project Clearwater, was estimated to reduce sedimentation in the floodplain by approximately 9,000 tons. Conservation easements and land acquisition will continue to be an important approach to provide land where sediments and nutrients can be trapped before they enter the bay. The Highland Ranch and Vintage Organics projects generated interest from other landowners which may lead to additional easements.

MBNEP completed riparian fencing projects using Supplemental Environmental Project funds. Installing each project requires much coordination with private landowners. Projects fence cattle out of riparian areas, and can provide for strategic limited stream crossings, as well as off-channel watering troughs. Over 19,925 feet of fence was installed during this period on Dairy Creek, Walters Creek and Chorro Creek. Local improvements in nutrient and/or pathogen levels were noted at some of the project sites, as was riparian habitat quality.

IV. Challenges

Climate Change

Each NEP study area will be challenged by the changing climate. As MBNEP is aware, many of the goals in Morro Bay's 2012 CCMP update will be threatened by climate change impacts; which could include sea level rise, warmer temperatures, increased storm severity and erosion, increased occurrence and intensity of wildfire, changes in offshore upwelling patterns, and ocean acidification. Like other NEPs, MBNEP will need to consider climate change as they refine their CCMP and move forward to meet their goals. EPA's NEP *FY 2015 and FY 2016 Clean Water*

Act Section 320 Funding Guidance requires that each NEP assess the impact of climate change on its CCMP to ensure that it can continue to be a successful organization that can realize its goals and develop annual workplans that represent climate-resilient investments.

EPA recognizes the MBNEP's efforts to assess climate vulnerability and integrate consideration of climate change into its CCMP. EPA encourages MBNEP to complete its *Climate Vulnerability Assessment Report*, update its CCMP with this information, and

- Identify how climate change may impact its ability to meet its CCMP goals,
- Integrate consideration of climate change into future CCMP revisions and identify any changes needed to ensure that CCMP goals can be met in the face of climate change, and

- Include climate change adaptation actions in annual workplans, as necessary to maintain a climate-resilient NEP program.

EPA encourages MBNEP to incorporate findings of their *Climate Vulnerability Assessment Report* into their work and describe this in their annual workplans. The EPA also suggests that MBNEP continue to pursue an understanding of how the study area will respond to climate changes, in order to foster a better understanding of where to target restoration work. As NEPs are aware, habitats, species distributions, migration patterns and ecosystem functions will be impacted as a result of climate change.

Monitoring

As discussed during the October 2015 program evaluation, in July 2015 EPA set forth new CCMP Guidance which includes the required components of NEP monitoring plans. That new guidance was shared with each NEP Director after the PE review process began. While the MBNEP QAPP contains some of the required elements in the CCMP Guidance, MBNEP indicated at the 2015 site visit that they will develop a new monitoring plan separate from the annual QAPP to be completed in 2017 that meets the requirements of EPA's guidance. During the next PE, MBNEP will need to provide a monitoring plan that is in line with the most up to date CCMP Guidance in order to pass the evaluation.

Eelgrass Restoration

Morro Bay has lost of 95% of its eelgrass beds since 2007. While historical records indicate fluctuations in acreage, this current rate of loss is alarming. While MBNEP has employed eelgrass demonstration projects, they have not been successful. As MBNEP has noted, multiple stressors collectively affect the health of the remaining beds. EPA recognizes that MBNEP is already in touch with eelgrass experts from around the country as it works to address this critical issue. MBNEP demonstrates its keen understanding of:

- the importance of protecting the health and extent of the eelgrass beds,
- the challenges in determining the stressors causing the decline, and
- the need to identify which factors may be within local control to change.

MBNEP has also expressed the urgent need for funding to support critical near-term research to address the issue. Although it is the most challenging time for the eelgrass beds in the history of the MBNEP, EPA strongly suggests that MBNEP consider identifying a long-term numeric eelgrass acreage goal to provide a roadmap for restoration efforts. EPA recognizes that until a cause of the loss can be identified, it will be difficult to set such a numeric goal. However, once a goal is established, it can serve as a driver and catalyst for recovery.

Nutrient and Sediment Reductions

EPA commends MBNEP's effort to reduce significant sources of sediment from rural roads. EPA is pleased that MBNEP will continue to monitor the amount of sediment runoff after substantial rainfalls in order to continue to assess effectiveness of sediment control efforts.

EPA recommends MBNEP continue its good work with the Coastal San Luis Resource Conservation District and local NRCS staff to continue to work for reductions in nutrients and sediment in the watershed. Although farmers and ranchers in the watershed have likely accessed NRCS assistance in the past, if the MBNEP reaches out to the NRCS, this could result in more opportunity for targeted technical assistance (e.g. ranch water quality plans) or funding (e.g. Environmental Quality Incentives Program grants). EPA Region 9 can assist with the NRCS contact if needed.

Conclusion

Thank you again for participating in the 2015 PE process. We welcome any additional thoughts you may have either about the evaluation process itself or about EPA's involvement in the implementation of the MBNEP CCMP. If you have any questions or comments, please contact Bernice Smith at (202) 566-1244.

Sincerely,



Ann Campbell
Acting Director
Oceans and Coastal Protection Division

cc: Benita Best-Wong, U.S. EPA, Director, Office of Wetlands, Oceans and Watersheds
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