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

September 18, 2020

OFFICE OF WATER

Ms. Lexie Bell, Director
Morro Bay National Estuary Program
601 Embarcadero, Suite 11
Morro Bay, California 93442

Dear Lexie,

The purpose of this letter is to provide the results of the Environmental Protection Agency's (EPA) 2020 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 2020 PE process. We recognize that MBNEP put considerable effort into both the PE package and the responses to our follow-up questions.

We understand that the coronavirus pandemic precluded our Program Evaluation Review Team (PE Team) from conducting an on-site visit to speak with you and your partners in-person and see on-the-ground projects. However, we appreciate the adjustments you made for the PE Team to virtually meet with the Board online. That was an informative discussion and the next best thing to being there in person. It highlighted the Board's commitment to ensure MBNEP is successful in many areas. I would like to note that your evaluation benefited from the participation of Caitlin Sweeney, Director of the San Francisco Estuary Partnership (SFEP), who served in an *ex officio* capacity on the PE Team. Caitlin shared information about the SFEP that may be useful for your Program, and took several lessons learned back to her NEP.

The primary purpose of the EPA PE is to help EPA determine whether each of the 28 programs included in the NEP is making adequate progress implementing its Comprehensive Conservation and Management Plan (CCMP) and is, therefore, eligible for continued federal 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.

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 2020 PE and are eligible for funding authorized by CWA §320.

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

(I) Progress Made in the Areas Highlighted in the 2015 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 the challenges raised in the 2015 PE letter.

In the 2015 PE letter, EPA recommended that MBNEP review its CCMP to determine what changes and updates were needed. MBNEP did so by producing an updated draft CCMP that sought broad stakeholder review of the document. We appreciate that the Climate Change Vulnerability Assessment (CCVA) was fully incorporated into the CCMP. This CCVA report provides a thorough review of climate change stressors and risk mitigation techniques for Morro Bay and will also be addressed in annual workplans.

MBNEP went a step further and updated CCMP-related documents, including the communication strategy, finance strategy and monitoring plan, recognizing the most recent CCMP Revision and Update Guidance. EPA applauds MBNEP for not only updating the CCMP, but those associated pieces as well. That is quite an undertaking to update each plan or strategy on its own, so drafting all of them is impressive, particularly in that amount of time. EPA looks forward to reviewing the CCMP and associated documents and working with MBNEP to address feedback and comments.

EPA is excited to hear about the work in which MBNEP has engaged to explore research with partners at California Polytechnic University San Luis Obispo (Cal Poly) and others to gather the information necessary to set a long-term eelgrass restoration target. This investigation includes a hydrodynamic model, water quality data, eelgrass bed condition, acreage maps, and bathymetry. EPA understands that MBNEP is also developing a habitat suitability map. Collectively, these pieces provide a solid foundation upon which to establish a realistic goal for eelgrass in the bay. We commend the MBNEP for those efforts.

MBNEP also performed eelgrass transplant experiments to determine best practices which will greatly assist in future efforts. We are very pleased to learn that the most recent transplants appear to be holding and slightly expanding in a few places in the bay. That is hopeful news to address the devastating loss of much of the eelgrass habitat.

II. Support of CWA Core Programs

MBNEP plays an important role in implementing the CWA by collecting and providing critical monitoring data. MBNEP has been instrumental in monitoring, modeling, and identifying the sources of the pollutants and supporting the development of pollutant load allocations by regional agencies. The MBNEP's monitoring is augmented by the highly valued volunteer monitoring program. A dedicated volunteer corps is deployed to collect important water quality data around the watershed that will contribute to the development of a critical long-term data set. The MBNEP has developed an excellent Quality Assurance Project Plan which guides the data collection process.

III. Strengths

Program Implementation and Reporting - Outreach and Public Involvement

MBNEP excels in working with partners to deliver targeted effective results. MBNEP partnered with Coastal San Luis Resource Conservation District on outreach to agricultural landowners on use of best management practices to control nonpoint source pollution. With funding from the Resources Legacy Fund, they jointly convened a workshop involving 35 landowners, conducted on-site visits and meetings with 15 landowners, and developed concept designs for 12 landowners which could be used as the foundation of funding proposals. Best management practices considered include keyline ploughing, culvert replacement and irrigation audits. The targeted outreach to agricultural landowners is anticipated to pay off in the future with BMP implementation and improved water quality.

Ecosystem Status and Trends - Assessment and Monitoring

MBNEP built strong technical partnerships to tap into tools needed for CCMP implementation, including the protection and restoration of eelgrass. In order to better understand the drivers for eelgrass success in Morro Bay, MBNEP worked to determine the change in suitable habitat availability. In 2019, MBNEP worked in partnership with Sea Grant and others to complete a topo-bathymetric LiDAR survey and acquire acoustic bathymetry sonar data, which were then combined to create a picture of the bay's bathymetry and a hydrodynamic and circulation model. A partnering professor at Cal Poly developed a paper on bay sediment erosion versus accretion in relation to eelgrass acreage loss. MBNEP's excellent skills in partnering broadly in eelgrass and sediment science buoys the chances of eelgrass bed recovery in the bay.

MBNEP actively supports a long-standing, effective, and vibrant volunteer monitoring program. MBNEP recruits, trains, and coordinates volunteers. Volunteers work in collaboration with staff in the watershed and estuary to track trends and project effectiveness. Volunteers become more invested in the health of the Morro Bay watershed when they have a practical role in its protection. As an illustration of volunteer dedication, in six months in 2019 volunteers contributed 397 hours, and staff and volunteers completed 42 monitoring trips for bay water quality – 102 for bacteria, 145 for creek water quality, and 10 for bioassessment.

Ecosystem Restoration and Protection - Water Quality

MBNEP secured CWA 319 grant funding to support installation of best management practices to control sediment runoff at 58 high priority sites from 2013 to 2018. The landscape in the steep, erodible headwaters of the Chorro Creek watershed is owned by enthusiastic partners of MBNEP and include Cal Poly, the U.S. Forest Service, and the California National Guard's Camp San Luis Obispo. MBNEP worked together with partners to address over 11 miles of failing roads and reduced future sediment loads to the watershed by over 9,500 cubic yards. Together, the partners focused on 38 stream crossings, three springs, one head cut, and 16 road discharge points with treatments including improved culverts, sediment basins, berms, and rolling dips.

Ecosystem Restoration and Protection - Living Resources

As discussed above in the Assessment and Monitoring section, MBNEP invested effectively in partnerships to protect and restore eelgrass health and acreage in the bay. After eelgrass began to decline in 2008, MBNEP worked diligently to understand bay conditions that may have led to the decline and to determine the best practices for restoration.

Eelgrass restoration plantings were analyzed for the most effective methods, sources of plants, locations of restoration, and timing of transplants. Each year MBNEP uses the transplant monitoring data to inform next round of restoration actions. In addition, a partnership with the local community college, Cuesta College, supported staff and student analysis of the prevalence of Eelgrass Wasting Disease in the bay. This analysis informs future approaches to restoration, while training tomorrow's environmental professionals.

MBNEP used up-to-date methods to analyze challenges and craft solutions for a key living resource, the anadromous steelhead trout. The invasive Sacramento pikeminnow preys on young trout and competes with adult trout for habitat and food. Environmental DNA (eDNA) analysis of creek waters identified the presence of the two species in specific stream reaches. Analysis of eDNA in pikeminnow stomachs determine the level of predation on trout, which was significant. This eDNA work informed the need to actively control the pikeminnow, which is now underway.

Controlling predators is only one necessary factor to ensure steelhead trout success. They also need cool, shaded, and accessible creek habitat. MBNEP took a holistic approach to restore trout habitat while improving water quality and using the opportunity for outreach. Two examples of the holistic approach are the projects at Rancho El Chorro Outdoor School. MBNEP joined forces with Trout Unlimited in 2018 to replace a fish passage barrier with a roughened ramp designed to maintain fish access during low flows. This opened 2.3 miles of stream habitat to the trout. Also, on that site, MBNEP worked with partners to install stormwater pollution controls, reduce sediment loads in surface waters, improve stream habitat for trout, and provide onsite education for students with curricula and interpretive signs. The 2018 stormwater management project covers 12 acres and conserves 261,000 gallons of water through rainwater harvesting and infiltration. The school serves students from all over California.

Chorro Creek Ecological Reserve is a 580-acre parcel purchased with NEP support in 2003. MBNEP persisted with their intent to transform the sediment-producing gully to a resilient

riparian system that supports steelhead trout. Last year, MBNEP and partners achieved a major milestone when they worked to improve habitat on five acres of floodplain and a half mile of stream habitat. Key partners in this work included the California Department of Fish and Wildlife, the California Coastal Conservancy, and the California Conservation Corps. MBNEP demonstrated dedicated perseverance in working through state and federal permits and certification processes required for this riparian restoration project.

IV. Challenges

Reporting on Changes in Conditions and Outcomes

MBNEP's habitat protection and restoration projects are strong success stories that have been shared effectively with the Morro Bay community, other NEPs, and EPA. It would be very useful to estimate the water quality impacts of future habitat projects and to report on those calculations under Accomplishments in the annual workplan.

Since it is very difficult to show improvements in water quality as a result of direct CCMP action implementation, any pollutant reduction information associated with habitat protection and restoration projects is valuable. MBNEP already calculates tons of sediment that would be prevented from entering Morro Bay when implementing projects to reduce erosion from roads or when obtaining conservation easements. Where feasible, the MBNEP also could include estimates of pollutant reduction.

EPA recommends that MBNEP include any such expected environmental water quality results or benefits in the annual work plan as well as on the MBNEP website moving forward. MBNEP could consider including that information in the *Our Impact* page under the *About* tab on the website. EPA also suggests that in-depth descriptions of accomplishments be made more easily accessible online to potential donors. For example, MBNEP could create a link from the *Our Impact* page to the *Donate* page under the *Participate* tab.

CCMP Implementation

As mentioned previously, MBNEP has recently generated a draft CCMP update. It is important that MBNEP track accomplishments and progress in implementing the CCMP so that program success can be demonstrated to key decision-makers and potential donors. This information also will help to establish program accountability for other lead entities to be aware of the tasks they need to complete. Providing information on progress on CCMP actions, in a way that is accessible to the public, can also help broaden stakeholder engagement.

MBNEP has developed excellent internal CCMP tracking spreadsheets to monitor its progress. EPA recommends that a public-facing version of the tracking spreadsheet be considered. The public version could be provided in the Annual Report and/or shared on the website under the CCMP *Resources* tab. This less detailed public version could cover CCMP priority actions.

Program Implementation and Reporting – Outreach and Public Involvement

EPA understands that many people visit the cool, seaside Morro Bay from outside the watershed, especially when inland temperatures grow hot in the summer. While the visitors reside beyond the study area, they may impact the Bay, even as they appreciate all it has to offer. Although MBNEP continues to reach many visitors with posted signs and printed materials, EPA recommends that MBNEP consider further consideration of outreach approaches to a diversity of visitors. MBNEP could determine what methods and locations for outreach would best amplify its message to visitors and whether those methods would be effective and cost-effective. EPA also recommends that MBNEP consider providing more materials and signs in languages other than English (e.g., Spanish).

EPA recommends that MBNEP consider a range of analyses for identifying optimum outreach approaches, which could include determining:

- Would non-English materials and event speakers would be useful?
- Which topics would be most effective?
- Which outreach products would be most helpful?
- Which locations or distribution points would be most useful?

Water Reuse and Hazard Mitigation

According to the MBNEP's vulnerability assessment, the study area can expect more extreme droughts, floods, wildfires, rising temperatures, and challenges with in-stream flows that negatively impact the estuary and agricultural water supply. These vulnerability factors, coupled with future population increases in the region, highlight the essential needs for greater water reuse in the Morro Bay watershed.

EPA applauds MBNEP for implementing the Pennington Creek rainwater catchment project, which will greatly assist in providing water for cattle in the dry season. The Agency was very pleased to be able to highlight that project in federal *Water Reuse Action Plan* as an example of NEP leadership in water conservation and innovative supply management. EPA encourages further contributions of this nature and stands ready to help transfer knowledge MBNEP has gained regarding water reuse through other EPA NEP vehicles (e.g. NEP Storymap, NEP website).

EPA recommends that MBNEP consider how the stressors identified in the Vulnerability Assessment can be addressed through 'on-the ground' hazard mitigation projects. Where possible, MBNEP should establish pre-disaster partnerships and post-disaster approaches that can be deployed to examine study area conditions and identify those CCMP Actions that would assist in building resilience to hazards and the changing climate.

Conclusion

Thank you again for participating in the 2020 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 me at (202) 748-7017, or Nancy Laurson on my staff at 202-566-1247.

Sincerely,

Bob

Robert S. Benson
Acting Chief, Partnership Programs Branch
Office of Wetlands, Oceans and Watersheds

cc: John Goodin, U.S. EPA, Director, Office of Wetlands, Oceans and Watersheds
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