Evaluation Findings

Padilla Bay National Estuarine Research Reserve

September 2009 to February 2018

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Summary of Key Findings

The Coastal Zone Management Act requires the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic evaluations of the performance of states and territories with federally approved coastal management programs. This evaluation conducted by the Office for Coastal Management examined the operation and management of the Padilla Bay National Estuarine Research Reserve for the period from September 2009 to February 2018. The evaluation focused on three target areas: coastal training program implementation, staff succession planning, and cross-sectoral efforts. The four sectors addressed by all of the national estuarine research reserves are research, training, education, and stewardship.

The findings in this evaluation document will be considered by the NOAA Office for Coastal Management in making future financial award decisions concerning the coastal program. The evaluation came to these conclusions:

Accomplishment: The Padilla Bay Research Reserve's coastal training program developed an innovative instructor's summit that can be used as a model by other reserves in the National Estuarine Research Reserve System.

Accomplishment: The Padilla Bay Research Reserve has developed an outstanding coastal training program that works hand in hand with the Washington Coastal Management Program and the Washington Department of Ecology to ensure that coastal resource managers in state and local government, as well as private practice, are effectively trained to face a variety of challenges as they manage coastal resources.

Accomplishment: The Padilla Bay Research Reserve has developed innovative techniques to deal with generational staff turnover and has shared the techniques with others in the National Estuarine Research Reserve System.

Recommendation: The Office for Coastal Management recommends that the Washington Department of Ecology introduce a method of online credit card payment to make training program registration more efficient, potentially freeing up staff effort to address other staffing needs.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve continue to provide leadership in the development of geospatial tools and provide more learning opportunities throughout the National Estuarine Research Reserve System and in coastal communities to demonstrate the usefulness of map products.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve ensure cross-sector collaboration as it updates its education curriculum.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve encourage the sectors to create projects together, from the idea stage through proposal development and project implementation. This would foster integration that would be very beneficial to each of the sectors and help reduce parallel and duplicative work. Seeking training opportunities on project collaboration for the program coordinators might be one way to achieve a higher level of sector integration.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve develop knowledge journals and standard operating procedures for grants and other administrative management tasks to serve as guidance for staff in the future.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve manager, who is approaching retirement, begin including appropriate staff members in meetings and other interactions with key reserve neighbors, partners, local government officials, and agency leadership to allow them to learn from the vast number of his relationships that are crucial to the future of the reserve.

Conclusion: This evaluation finds that the State of Washington Department of Ecology is adhering to the requirements of section 312(a) of the Coastal Zone Management Act, 16 U.S.C. § 1458(a), in the operation of the Padilla Bay National Estuarine Research Reserve.

Program Review Procedures

The NOAA Office for Coastal Management evaluated the Padilla Bay National Estuarine Research Reserve in fiscal year 2018. The evaluation team consisted of Ralph Cantral, evaluation team lead; Bree Turner, site liaison; Melissa Rosa, geospatial specialist; and Jean Tanimoto, coastal management specialist—all from the NOAA Office for Coastal Management; as well as Bree Yednock, manager, South Slough Reserve, Oregon. The support of the Padilla Bay Research Reserve staff members was crucial in conducting the evaluation, and their support is most gratefully acknowledged.

NOAA sent a notification of the scheduled evaluation to Maia Bellon, director of the Washington State Department of Ecology on August 29, 2017, and published a notice of intent to evaluate the Padilla Bay Research Reserve in the *Federal Register* on December 28, 2017. The Padilla Bay Research Reserve posted a notice of the public meeting and opportunity to comment in the *Skagit Valley Herald* on February 12, 2018.

The evaluation process included a review of relevant documents and a survey of stakeholders, which helped identify three target areas for the evaluation: coastal training program implementation, cross-sectoral efforts, and staffing and succession planning. A site visit was conducted from February 27 through March 1, 2018, where the evaluation team held group discussions with stakeholders and program staff members. The evaluation team also discussed the target areas with reserve staff members, who helped identify issues and workable solutions to maintain and improve the implementation of the reserve's programs. In addition, a public meeting was held on Wednesday, February 28 at 7:00 p.m. at the Padilla Bay Research Reserve Interpretive Center, 10441 Bayview-Edison Road, Mt. Vernon, WA 98273 to provide an opportunity for members of the public to express their opinions about the implementation of the coastal program.

Stakeholders and members of the public were also given the opportunity to provide written comments via email or U.S. mail through Friday, March 9, 2018. No written comments were received from the public or interested parties.

Final evaluation findings for all national estuarine research reserves highlight each reserve's accomplishments in the target areas and include recommendations that are of two types:

Necessary Actions address programmatic requirements of the implementing regulations of the Coastal Zone Management Act and of the reserve's management plan approved by NOAA. These must be carried out by the dates specified. Failure to address necessary actions may result in a future finding of non-adherence and the invoking of interim sanctions, as specified in the Coastal Zone Management Act §312(c). This evaluation contains no necessary actions.

Recommendations are actions that the office believes would improve the program, but which are not mandatory. The reserve is expected to have considered the recommendations by the time of the next evaluation or by the dates specified. This evaluation contains six recommendations.

Evaluation Findings

Coastal Training Program Implementation

Each national estuarine research reserve implements a coastal training program to bring relevant monitoring and research results to state and local officials to improve local land use and resource management decisions.

Key Findings related to Coastal Training Program:

The Padilla Bay Research Reserve Coastal Training Program is much like a community college focused on coastal resource management. The program offers a number of classes specifically geared toward information that professionals need to know to comply with state planning and management requirements. Since the development of the training program, more than 8,600 professionals have been trained, and in fiscal year 2017 alone, 31 trainings were held. This far exceeds NOAA's requirement of at least five annual trainings.

A highly engaged and active technical advisory group composed of experts from state and local governments, as well as Washington Sea Grant, meets regularly to review the results of needs assessments and decide what trainings should be offered. The group also helps to review course agendas to ensure that courses are up to date and meet the needs of the audience, and also recommends retiring courses that are no longer in high demand.

All of the classes delivered by the program in recent years have been filled to capacity, and most have long wait lists. The courses fill a huge need, as there is a very high turnover in the environmental field. In a recent class, 20 out of 40 participants had been in their position less than one year. The program has established links to the American Planning Association and the Society of State Wetlands Managers to provide continuing education credits, further enhancing its reputation with the intended audience.

One of the more interesting innovations of the reserve's coastal training program is the development of instructor summits, where the instructors of the various classes come together to discuss teaching techniques and share successful approaches. This has proven to be a useful tool for the reserve and could serve as a model for how to raise the bar of the instructional methods and quality of coastal training workshops across the national system.

Accomplishment: The Padilla Bay Research Reserve's coastal training program developed an innovative instructor's summit that can be used as a model by other reserves in the National Estuarine Research Reserve System.

The training program has also kept up with the latest needs by offering new courses in several areas. They have introduced courses specifically related to environmental negotiation, and developed new curricula on improving science communication. The course, How to Present Science, Share Data, and Build Trust, has been very popular and has actually changed the

culture in the Department of Ecology and other organizations, resulting in more engaging and effective presentations. The program also partnered with local tribes to develop a course on protecting cultural resources in the coastal zone.

Working with partners, the Padilla Bay Research Reserve developed a workshop for local planners focused on the greater Puget Sound area. After the first workshop in 2009, the reserve worked with a planning team to create a workshop series that included local scientists, data from local research, and regional examples of implemented climate adaptation strategies. The series was very successful with more than 90 percent of the attendees saying they better understood the topic and would apply what they learned in their work. Workshop materials were shared with other research reserves, and at least eight have customized the workshop for their locations.

Accomplishment: The Padilla Bay Research Reserve has developed an outstanding coastal training program that works hand in hand with the Washington Coastal Management Program and the Department of Ecology to ensure that coastal resource managers in state and local government, as well as private practice, are effectively trained in up-to-date science, methods, and practices for managing coastal resources.

The Padilla Bay Coastal Training Program may have reached its limits by offering more than 30 trainings in a year, since the logistics required to conduct more trainings would further tax an already fully committed staff of two. Increased staffing is unrealistic if the reserve is expected to meet its other goals of research, education, and coastal resource stewardship, thus finding efficiencies in the existing program seems to be the best approach.

Recognizing the sizable backlog of student requests, one idea for making the training program more efficient while accommodating more students would be to introduce online training courses or webinars. Recording some basic level classes and offering them through online or distance learning could facilitate the offering of new or more in-depth classes to reflect changing conditions or new regulations. Online courses could help students acquire background information that could serve as a prerequisite for the more advanced classes.

The team noted that another area where improvement in training capacity could be met quickly and at low cost was related to payment systems. At present, the Department of Ecology allows for class registration online but does not allow the use of credit cards for payment of class fees. Classes tend to fill up quickly with online registration, but because the payment must be received to ensure a seat, there is often a lag time that requires staff effort to track down people who have registered and encourage them to send in the fee.

Recommendation: The Office for Coastal Management recommends that the Washington Department of Ecology introduce a method of online credit card payment to make training program registration more efficient. This would free up staff time to address other staffing needs.

Cross-Sector Integration

Each National Estuarine Research Reserve focuses on four sectors—stewardship, research and monitoring, training, and education. One of the objectives of the reserve system is to integrate the work of the various sectors to provide a more well-informed local community.

Key Findings Related to Sector Integration:

During this evaluation period, the Padilla Bay Research Reserve has undertaken several initiatives to integrate efforts across the sectors.

One of the high points of cross-sector efforts has been the continuing support for a geospatial coordinator. The coordinator works with all of the sectors, providing assistance to the research and stewardship sectors to better monitor, conceptualize the impacts of, and support remedial action to remove invasive species such as the green crab and *Spartina alterniflora*. Many of the reserve's GIS products can also be used to explain reserve resources through the education programs. The evaluation team also noted that the fellows and graduate students working at the reserve are quick to take advantage of the GIS capabilities and products since their work is increasingly dependent upon it.

As related to GIS program development, the Padilla Bay Research Reserve provides a strong model for other reserves in the country, as well as to community planners within the state. GIS has not been as well developed at many of the other reserves, whether due to perceived cost or unfamiliarity with the utility of GIS products. In an effort to educate others, the geospatial coordinator has routinely attended national meetings and shared products and methods with other reserve managers.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve continue to provide leadership in the development of geospatial tools and provide more learning opportunities throughout the reserve system and in coastal communities to demonstrate the usefulness of map products.

Integration of the coastal training program with other program areas is somewhat limited, despite some key opportunities and skills. The training program coordinator helped with preparing a needs assessment for a National Estuarine Research Reserve System Science Collaborative blue carbon project in the research program in fiscal year 2017. Eelgrass science from the research program was used for an eelgrass class conducted by the research program. And a climate change communication class integrated work from the education program. These are some examples of cross-sector collaboration, but much of the recent coordination seems opportunistic. Cross-sector coordination should be more intentionally integrated into reserve management.

An example of where cross-sector collaboration could prove useful is in the revision of the reserve's education curriculum. The existing curriculum is 20 years old, and an update provides opportunities for cross-sector involvement, the incorporation of the reserve's new education

focus areas (climate change and marine debris), and alignment with Next Generation Science Standards.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve ensure cross-sector collaboration as it updates its education curriculum.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve encourage the sectors to create projects together, from the idea stage through proposal development and project implementation. This would foster integration that would be very beneficial to each of the sectors and help reduce parallel and duplicative work. Seeking training opportunities on project collaboration for the program coordinators might be one way to achieve a higher level of sector integration.

Personnel Succession Planning

The Padilla Bay Research Reserve has seen a number of retirements in the past few years, and several more are expected within the next few, including the reserve manager. This loss of experience could be a serious impediment to keeping the reserve highly functioning.

Examples of Key Efforts Related to Succession Planning

The Padilla Bay Research Reserve has developed a system whereby key employees create knowledge journals that can be used as guidebooks by others who succeed them in their position. The effort has been noted as very helpful, and has been a topic of presentations at national and regional meetings.

Accomplishment: The Padilla Bay Research Reserve has developed innovative techniques to deal with generational staff turnover and has shared the techniques with others in the national reserve system.

A specific area where there is a need to pass along information to different staff members is grants management. At the time of the site visit, the reserve was training staff members to assume these responsibilities.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve develop knowledge journals and standard operating procedures for grants and other administrative management tasks to serve as guidance for staff members in the future.

Another issue noted by the team was that the long-time stewardship coordinator had retired, and the position has remained vacant for some time. The reserve manager has proposed that the position be redefined to focus exclusively on resource stewardship, with other administrative responsibilities that had been part of the position moving to other staff members. Further, the new position would be supervised by the research coordinator to better

coordinate the two efforts. The Department of Ecology is working with the reserve to develop a position description with the intent to hire a full-time stewardship coordinator during the current fiscal year. The evaluation team felt that this solution could result in improved coordination of the sectors, as well as addressing the stewardship needs.

The team also discussed with the reserve staff and the Department of Ecology leadership the prospect of loss of management knowledge specific to the Padilla Bay Research Reserve. The current reserve manager has developed an incredible wealth of knowledge during his more than 30 years at the reserve. Perhaps just as important, the manager has also developed an incredible number of relationships with key people in the community, ranging from agricultural interests to industrial neighbors and local government officials. In addition to these local and regional relationships, the reserve manager has been involved in leadership roles with the national reserve system for many years. Passing on these many relationships to a succeeding manager is not as easy as developing a "knowledge journal," yet needs to be addressed before the manager's retirement.

Recommendation: The Office for Coastal Management recommends that the Padilla Bay Research Reserve manager begin including appropriate staff members in meetings and other interactions with key reserve neighbors, partners, local government officials, and agency leadership to allow them to learn from the vast number of his relationships that are crucial to the future of the reserve.

Implementation of General Requirements

The 2016-2020 management plan for Padilla Bay National Estuarine Research Reserve was approved by the Office for Coastal Management and duly advertised in the *Federal Register* on July 21, 2016.

Evaluation Metrics

Beginning in 2012, national estuarine research reserves began tracking their success in addressing three evaluation metrics specific to their programs. The evaluation metrics include a five-year target and provide a quantitative reference for each program about how well it is meeting the goals and objectives it has identified as important to the program.
Goals and objectives are from the Padilla Bay National Estuarine Research Reserve (PBNERR) Management Plan dated August 2008.

METRIC 1

Goal: Enhance peoples' ability and willingness to make informed decisions and take responsible actions that affect coastal communities and ecosystems (p. 4, PBNERR Management Plan).

Objective: By 2017, target audiences will gain substantial knowledge and awareness of estuaries and coastal systems and make informed decisions.

Strategy: The Education Sector will continue to offer existing programs. These are field trips and outreach programs for schools, youth groups, adults, college classes, civic organizations and also includes public programs taught by experts contracted by the reserve (pages 112-117, PBNERR Management Plan).

Performance Measure: Total number of people participating in education programs from 2012-2017 (5 years).

Target: 50,000 people participating in education programs from 2012-2017 (5 years).

First Year Results: 10,274 people

Second Year Results: 8,735 people

Third Year Results: 9,726 people

Fourth Year Results: 9,548 people

Fifth Year Results: 8,402 people

Cumulative Results: 49,563 people (99 percent of target)

Discussion: The Education Sector has been very active at the reserve and met higher than 99 percent of its goal despite the retirement of the education coordinator during the final year.

METRIC 2

Goal: Enhance peoples' ability and willingness to make informed decisions and take responsible actions that affect coastal communities and ecosystems (p. 4, PBNERR Management Plan).

Objective: By 2017, develop and implement core coastal training program coursework to address key management and resource issues.

Strategy: The coastal training program will provide trainings each year on topics that are identified as high priority by our target audience as determined by our last comprehensive needs assessment. Topics include restoration monitoring, restoration techniques (streams, wetlands), designing and installing mitigation projects, erosion and stabilization, and low impact development techniques. Regular needs assessments will be conducted to help ensure that the coastal training program is offering classes that are relevant and supportive of the work carried out by shoreline planners and other coastal resource managers. Post-training surveys will be documented to gauge intent to apply knowledge or skills learned in work or future decisions.

Performance Measure: Percent of coastal training program participants from 2012-2017 who intend to apply knowledge or skills in their work or in future decisions.

Target: 92% of coastal training program participants from 2012-2017 intend to apply knowledge or skills in their work or in future decisions.

First Year Results: 92.5%

Second Year Results: 93%

Third Year Results: 95%

Fourth Year Results: 95.2%

Fifth Year: 96.10%

Cumulative: 95.45% (exceeds target)

Discussion: The Padilla Bay Coastal Training Program has developed courses that are targeted to professionals who need to use the course content to better do their jobs protecting coastal and ocean resources. This has proven to be a very effective approach to ensure that the courses are highly valued by the students.

METRIC 3

Goal: Utilize and increase the use of reserve science to address priority coastal management issues (p. 4, PBNERR Management Plan).

Objective: By 2017, monitoring programs will be implemented consistent with guidelines and plans.

Strategy: Maintain equipment, technical staff, and boats in order to collect water quality and weather data. Process data and provide QA/QC. Send data to Central Data Management Office (CDMO) quarterly. Timely data that meet the established standards for QA/QC help to identify problems and address priority coastal management issues.

Performance Measure: Percent of water quality and weather data that meet the established standards for QA/QC submitted to CDMO from 2012-2017.

Target: 90% of water quality and weather data that meet the established standards for QA/QC submitted to CDMO from 2012-2017.

First Year Results: 99.9% of weather data and 98.7% of water quality data

Second Year Results: 100% of weather data and 97.94% of water quality data

Third Year Results: 99.99% of weather data and 99.06% of water quality

Fourth Year Results: 99.9% of weather data and 99.2% water quality data

Fifth Year Results: 99.9% of weather data and 99.2% of water quality data

Cumulative Results: 99.96% of weather data and 98.99% of water quality data (exceeds targets)

Discussion: The Padilla Bay Research Reserve has established and maintained a very high quality standard for monitoring data quality.

Conclusion

For the reasons stated herein, I find that the Washington State Department of Ecology is adhering to the programmatic requirements of the Coastal Zone Management Act and its implementing regulations in the operation of the Padilla Bay National Estuarine Research Reserve.

These evaluation findings contain no necessary actions and six recommendations. The recommendations must be considered before the next regularly scheduled program evaluation, but they are not mandatory at this time. Program recommendations that must be repeated in subsequent evaluations may be elevated to necessary actions.

This is a programmatic evaluation of the Padilla Bay National Estuarine Research Reserve that may have implications regarding the reserve's financial assistance awards. However, it does not make any judgment about or replace any financial audits.

Signed by Keelin S. Kuipers
Keelin S. Kuipers
Acting Deputy Director
NOAA Office for Coastal Management

Dated August 14, 2018
Date

Appendix A: Response to Written Comments

No written comments were received.