Evaluation Findings

Old Woman Creek
National Estuarine Research Reserve

November 2009 to August 2018

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Office for Coastal Management
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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 state and territorial programs participating in the National Estuarine Research Reserve System. This evaluation conducted by the NOAA Office for Coastal Management examined the operation and management of the Old Woman Creek National Estuarine Research Reserve for the period from November 2009 to August 2018. The evaluation focused on three target areas: new agency leadership, research accomplishments, and outside impacts on the reserve and its resources. 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 research reserve. The evaluation came to these conclusions:

Accomplishment: The Ohio Department of Natural Resources has created new opportunities for the Old Woman Creek Research Reserve by administratively aligning the research reserve with the Ohio Department of Natural Resources Office of Coastal Management.

Accomplishment: The Old Woman Creek Research Reserve has successfully integrated the efforts of the research, training, and stewardship programs to provide useful tools to local communities, farmers, and developers within the Old Woman Creek watershed and throughout coastal Ohio.

Recommendation: The Old Woman Creek Research Reserve and the Ohio Department of Natural Resources Office of Coastal Management should jointly develop a staffing plan to ensure that all of the necessary programs of the reserve are adequately addressed. Filling the reserve manager position is an immediate priority.

Recommendation: The Ohio Department of Natural Resources should continue to seek funding to improve the dormitory, laboratory, and classroom and meeting space facilities at the Old Woman Creek Research Reserve.

Recommendation: The Old Woman Creek Research Reserve should actively seek funding to support research that supports the reserve's research and monitoring priorities.

Recommendation: The NOAA Office for Coastal Management recommends that the Old Woman Creek Research Reserve seek funding to address a backlog of physical facility needs at the reserve.

Necessary Action: The Old Woman Creek Research Reserve must work with the NOAA Office for Coastal Management to develop within 90 days of the receipt of the final evaluation report an agreed-upon timeline for the adoption of a final reserve management plan.

Conclusion: This evaluation finds that the State of Ohio Department of Natural Resources 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 Old Woman Creek National Estuarine Research Reserve.

Program Review Procedures

The NOAA Office for Coastal Management evaluated the Old Woman Creek National Estuarine Research Reserve in fiscal year 2018. The evaluation team consisted of Ralph Cantral, evaluation team lead, Elizabeth Mountz, site liaison, and Robin Czerwinski, Knauss Marine Policy Fellow, all from the NOAA Office for Coastal Management; and Jennifer Raulin, manager of the Maryland Chesapeake Bay Research Reserve. The support of the Old Woman Creek Research Reserve staff members was crucial in conducting the evaluation, and their assistance is most gratefully acknowledged.

NOAA sent a notification of the scheduled evaluation to James Zehringer, Director of the Ohio Department of Natural Resources, on February 14, 2018, and published a notice of intent to evaluate the Old Woman Creek Research Reserve in the *Federal Register* on June 27, 2018. The Ohio Department of Natural Resources posted a notice of the public meeting and opportunity to comment in *The Morning Journal* at Lorain, Ohio, on July 15, 2018.

The evaluation process included a review of relevant documents and a survey of stakeholders, which helped identify three target areas for the evaluation: new agency leadership, research accomplishments, and outside impacts on the reserve and its resources. A site visit was conducted from August 7 through 9, 2018, when 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 August 8, 2018, at 5:00 p.m. at Ritter Public Library, 5680 Liberty Avenue, Vermilion, Ohio 44089 to provide an opportunity for members of the public to express their opinions about the implementation of the reserve programs.

Stakeholders and members of the public were also given the opportunity to provide written comments via email or U.S. mail through Friday, August 17, 2018. Several written comments were received from interested parties.

Final evaluation findings for all national estuarine research reserves highlight the 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 one necessary action.

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 four recommendations.

Evaluation Findings

New Agency Leadership Plans for the Reserve

In November 2017, the Old Woman Creek Research Reserve management transitioned within the Ohio Department of Natural Resources from the Division of Wildlife to the Office of Coastal Management. Management of the Old Woman Creek State Nature Preserve was transferred to the Division of Natural Areas and Preserves at the same time.

Key Findings related to Agency Leadership:

Discussions were held with Department of Natural Resources leadership to understand more fully the reasons behind the realignment of the reserve within the department. Several reasons were highlighted. First, the Division of Wildlife had not been an effective partner in the area of grants administration. In the previous evaluation in 2010, a necessary action was imposed because the reserve had been unable to expend significant portions of their grant awards due to the lack of budgetary authority within the Division of Wildlife. The Ohio Department of Natural Resources Office of Coastal Management has not had similar restrictions on spending authority and thus can enable the reserve to spend its standard allotment as a member of the National Estuarine Research Reserve System. The inability to spend the full allotment from NOAA has resulted in a number of shortcomings, such as having outdated equipment and inadequate staffing and facilities. Expanded spending authority will also permit the reserve to pursue additional outside funding opportunities to address research and management priorities.

In addition, the reserve has a different and much broader mandate than the Division of Wildlife. A research reserve has the requirement to address estuarine research, education, training, and stewardship. The division is focused on fishing, hunting, and trapping, since its primary funding came from license fees. The ODNR Office of Coastal Management is focused on the same coastal issues as the reserve, and similarly has a cooperative agreement with NOAA to provide federal funding for a range of coastal resource management activities. In addition, the ODNR Office of Coastal Management receives dedicated state funds that could supplement the research reserve's existing budget.

Another reason that the ODNR Office of Coastal Management seems a good fit for hosting the reserve is that the two programs share an interest in promoting a strong understanding of the coastal resources of the state. The ODNR Office of Coastal Management takes a very science-based approach to resource management and has funded research partnerships with the reserve in the past on topics related to issues of mutual interest, such as building resilient shorelines and nutrient biogeochemical mechanisms in coastal wetlands. The coastal program has found the resulting products to be useful in its management efforts, and, thus, intends to identify additional opportunities to collaborate with the reserve on research projects.

The research reserve has assisted the ODNR Office of Coastal Management in a number of ways, as well. Preeminent in this was the facilitation of coastal management stakeholders within the Old Woman Creek watershed as part of a nature-based shoreline community of practice, as well as a group engaged in conservation in the larger Sandusky Bay region. The coastal program coordinates with the reserve's stewardship program for on-the-ground restoration projects as well as the development of demonstration green infrastructure projects.

Another concern in the area of reserve management is providing adequate staffing to address fully the mission of the reserve. During the review period, the reserve had almost 100 percent staff turnover, as several long-standing staff members retired and a new generation of sector coordinators were hired. The reserve has benefited from strong coordination between sectors and with outside partners, as well as from assistance by volunteers, interns, and others. Nonetheless, the reserve has suffered from a lack of staffing because the number of positions within the Division of Wildlife was capped. Lack of staff capacity was especially problematic for the education program, which has seen increased requests from schools for programming at the reserve. In addition to the full-time education coordinator and the part-time education assistant, the education program has relied upon volunteers, particularly those trained through the Ohio Volunteer Naturalist Program, to assist with education programming. Volunteers serve as visitor center docents, K-12 program leaders, and canoe trip assistants. However, the volunteers cannot provide enough staff capacity to meet the increasing demand because volunteers are not always available, particularly during school hours.

Another specific staffing need is related to technical skills. The reserve lacks expertise specifically related to surveying, bathymetry, and geographic information systems, and needs a full-time technician for the monitoring program. Nearly all of the other reserves support at least one staff position dedicated to monitoring. Adding a monitoring position to the reserve staff would relieve the research coordinator of the primary responsibility for monitoring and allow her to refocus on conducting research and attracting research projects from collaborating institutions.

The highest priority staffing need is to fill the program manager position, which is a core position with the National Estuarine Research Reserve System. The program manager's position became vacant close to the end of the evaluation period. NOAA understands that the Ohio Department of Natural Resources has advertised for this position but has not yet hired a full-time manager. We strongly encourage the department to prioritize staffing the permanent reserve manager position.

Administrative connections to the ODNR Office of Coastal Management could be very beneficial to the reserve in a number of specific ways. These include management issues such as providing administrative capacity and grants management assistance, as well as providing assistance with logistics for coastal training program events. In addition, professional alliances that can be reinforced, such as helping to define research needs and priorities, providing opportunities for both organizations to learn more from each other's work, and creating improved communication initiatives and materials.

Accomplishment: The Ohio Department of Natural Resources has created new opportunities for the Old Woman Creek Research Reserve by administratively aligning the research reserve with the Ohio Department of Natural Resources Office of Coastal Management.

Recommendation: The Old Woman Creek Reserve and the Ohio Department of Natural Resources Office of Coastal Management should jointly develop a staffing plan to ensure that all of the necessary programs of the reserve are adequately addressed. Filling the reserve manager position is an immediate priority.

Research Accomplishments

The Old Woman Creek Research Reserve has focused energies on both maintaining the monitoring programs and in working with outside researchers to conduct research within the reserve.

Key Findings Related to Research Accomplishments:

The Old Woman Creek Research Reserve relies heavily on visiting researchers to conduct projects within and beyond reserve boundaries. The reserve staff works closely with visiting researchers to identify overlap in research priorities and interests identified in the reserve's site profile. Over the past five years, the reserve has been able to bring together a number of different researchers to address questions regarding the biogeochemical mechanisms of nutrient and carbon cycling, including greenhouse gas flux. Research by Dr. Kelly Wrighton, now of Colorado State University, and colleagues focused on the role of microbes in carbon cycling and flux. Their research at Old Woman Creek Research Reserve was the first to identify a microbe that produces methane in anoxic sediments.

The reserve has also established several partnerships that use existing monitoring data for research projects to understand more fully the relationship between the reserve and land use in nearby watersheds. Dr. Song Qian of the University of Toledo's Department of Environmental Sciences and the Lake Erie Center led a project on environmental indicators that was originally funded by NOAA's Coastal Storms Program. The project allowed students to use long-term data from the monitoring program at the reserve. As the project progressed, there was additional interest in the data related to human impacts. Data on the impact of diked wetlands may be useful to other reserves in the system.

The reserve has an ongoing partnership with the Firelands Campus of Bowling Green State University that focuses on first-generation and nontraditional students. Students undertake a four-week water quality project as an independent study through the chemistry department with experiential learning at the reserve. The reserve has also seen increasing interest in student participation from the gifted student program at Sandusky High School.

The reserve's ability to attract researchers for extended research projects continues to be a problem. Dormitory and laboratory space play a key role in attracting major research. The Old Woman Creek Research Reserve's current dormitory space has constraints that affect both education and research programs. If research and education activities overlap, the dormitory facilities fall short of the state and federal requirements for lodging for minor students, which require that students and researchers be housed separately. A larger, divided dormitory with different room layouts would better suit the reserve's needs. The lack of facilities is exacerbated by the location of the dormitories across the highway from the reserve's offices and existing laboratories.

The reserve needs to provide ample space and state-of-the-art equipment to conduct and attract research that addresses current and emerging coastal management issues. Reserve analytical and field laboratories have not been updated in more than 20 years, with the exception of some equipment replacement. Space in the boathouse on the beach side of the road has been identified as suitable for the installation of a new wet lab, but funding has not been available to build the facility or acquire the necessary equipment. The monitoring program has also suffered from a lack of up-to-date laboratory equipment.

The reserve's coastal training and education sector programs would both benefit from a larger classroom and flex space, since the classroom space is not large enough to host large school groups or adult training sessions. The coastal management program also expressed a need for additional meeting space and could utilize space at the reserve if it became available. Once the reserve's management plan is updated, the reserve will be eligible for Procurement, Acquisition, and Construction funding from NOAA.

Recommendation: The Ohio Department of Natural Resources should continue to seek funding to improve the dormitory, laboratory, and classroom and meeting space facilities at the Old Woman Creek Research Reserve.

As noted above, the research coordinator has limited time and resources available to pursue research at the reserve. The research coordinator works closely with visiting scientists to help coordinate research interests and priorities, and coordinates with other reserve sectors, for example, using visiting students to assist with fish sampling, or using volunteers through the citizen science program. As an example of citizen science, the coastal training program has enlisted volunteers to help study the impacts of climate change on the phenology of the Old Woman Creek ecosystem. Undergraduate interns have also provided additional capacity. While these coordination efforts have been essential, additional staff capacity would allow for increased research and monitoring at the reserve. Increased spending authority also will allow the reserve to pursue additional research opportunities.

Recommendation: The Old Woman Creek Research Reserve should actively seek funding to support research that supports the reserve's research and monitoring priorities.

Over the past five years, the reserve has made a concerted effort to focus its monitoring

program to better increase understanding of the impacts of climate change on estuary function. The reserve intends to become a sentinel site focused on the hydrologic and hydrodynamic impacts induced by climate change. In these efforts, the reserve has received funding and assistance from both the ODNR Office of Coastal Management and NOAA. Results of the enhanced monitoring and associated research will be distributed to partners across the Lake Erie shore, as well as regional and national audiences.

Outside Impacts on the Reserve and Land Stewardship

The Old Woman Creek Research Reserve is located in a productive agricultural area, and the farm activities within the watershed at times provide an overabundance of nutrients to the waters of Old Woman Creek. The reserve also is impacted by wave action on the Lake Erie shoreline, including the creation of an ephemeral bar across the mouth of Old Woman Creek that impounds the waters of the creek, raising water levels within the reserve.

Key Findings Related to Outside Impacts on the Reserve and Land Stewardship:

Invasive Species
The Old Woman Creek Research Reserve lands and waters are managed by the Division of Natural Areas and Preserves, which is also located within the Ohio Department of Natural Resources. The reserve has developed a solid relationship with the preserve managers. This relationship is very important due to the impact of invasive species. The reserve has been attempting to manage the impact of *Phragmites australis* within the reserve. Within the past two or three years, another invasive species has made a strong foothold within the reserve. The reserve's staff has begun recruiting volunteers to assist with the removal of *Hydrocharis morsus-ranae* or European Frogbit from the reserve's waters. Strong coordination with the Division of Aquatic Preserves will be necessary to deal with these two invaders.

Watershed Impacts
The reserve's stewardship coordinator position is supported through a partnership with the Erie Soil and Water Conservation District. This highly successful partnership has allowed the coordinator to support water-quality and habitat-related priorities throughout the Old Woman Creek watershed, including developing strong, ongoing relationships with farmers throughout the watershed. The reserve's stewardship and coastal training program coordinators have worked together to develop outreach programs for the community to reduce impacts of farming and urban development within the watershed and to incorporate research results into local decision-making. A "Soil Your Undies" outreach project that uses buried underwear to illustrate microbial action in the soil has been very successful in showing farmers how conservation techniques can improve their soil. The reserve has been recognized widely for its outreach through the Clean Contractor Program, which uses unique methods to attract contractors to seminars on best management practices. The seminars have been very successful in instilling an ecological ethic in local contractors.

The watershed coordinator also leads the volunteer stream-monitoring program. This watershed-monitoring program complements and builds upon the reserve's system-wide monitoring program. The water quality data collected provide additional context for Old Woman Creek's monitoring data and are tied to similar efforts throughout the region. The regional monitoring has been conducted in partnership with the Firelands Coastal Tributaries partnership, and extended throughout the Old Woman Creek watershed and two nearby similarly sized watersheds, Mill Creek and Pipe Creek.

The Chagrin River Watershed Partnership used monitoring results from several Northeast Ohio sites, including Old Woman Creek Research Reserve, to develop models of the impact of low impact development on stormwater runoff. The information will be used to inform possible changes in design specifications and updates to state and local regulations, and to establish guidance to assign credit to developers and communities for the stormwater treatment and runoff reduction provided by these more ecofriendly development systems.

Accomplishment: The Old Woman Creek Research Reserve has successfully integrated the efforts of the research, training, and stewardship programs to provide useful tools to local communities, farmers, and developers within the Old Woman Creek watershed and throughout coastal Ohio.

The Old Woman Creek Research Reserve has also led efforts to establish a regional community of practice related to nature-based shorelines. This partnership among the Old Woman Creek Research Reserve, several divisions of the Ohio Department of Natural Resources, and the University of Toledo Lake Erie Center has focused on shoreline softening techniques to reduce impacts to the ecology of Old Woman Creek as well as along the entire shore of Lake Erie. Trainings based on the findings of research conducted through the community of practice have been used to inform local restoration initiatives across the region.

Implementation of General Requirements

The most recent management plan for Old Woman Creek National Estuarine Research Reserve was for the years 2011 through 2016 and is now out of date. The regulations for the National Estuarine Research Reserve System (15 CFR 921.33) require that management plans be revised at least every five years.

Necessary Action: The Old Woman Creek Research Reserve must work with the NOAA Office for Coastal Management to develop within 90 days of the receipt of the final evaluation report an agreed-upon timeline for the adoption of a final reserve management plan.

Upon completion of the management plan, the reserve will once again qualify for Procurement, Acquisition, and Construction funding. Such funding could be used to address several issues identified during this evaluation.

- Dormitory space needs to be expanded to support both education and research activities.
- Improved access to the main building labs for researchers during off hours is needed to reduce imposition on staff members outside of routine schedules.
- Expanded space for education and training activities is needed.
- Additional storage space is needed.
- Additional restrooms are needed to serve the groups using the classroom facility.
- A wet lab is needed on the beachside of the reserve property.

Recommendation: The NOAA Office for Coastal Management recommends that the Old Woman Creek Research Reserve seek funding to address a backlog of physical facility needs at the reserve.

Evaluation Metrics

Beginning in 2012, national estuarine research reserves began tracking their success in addressing three specific evaluation metrics related 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 *Old Woman Creek 2011–2016 National Estuarine Research Reserve Management Plan*.

METRIC 1: PARTNER AND RESERVE STAFF RESEARCH

Goal: Inform decisions of Lake Erie communities and individuals regarding coastal ecosystems.

Objective: By 2017, reserve science and technical expertise will be transferred to stakeholders.

Strategy: The reserve will facilitate visiting research and will complete baseline assessments that support future/follow-up work. The reserve will measure the number of scientific products produced based on research conducted and data collected by reserve staff and visiting researchers. In this context, "scientific products" are published peer-reviewed journal articles, technical memoranda, interpretive research briefs, and final reports. Further information can be found on pages 39-42 of the 2011-2016 management plan.

Performance Measure: Number of scientific products produced and published based on research conducted or using Old Woman Creek Research Reserve data.

Target: Between 2012 and 2017, 30 scientific products produced and published based on research conducted or using Old Woman Creek Research Reserve data.

First Year Results: 9

Second Year Results: 6

Third Year Results: 0

Fourth Year Results: 9

Fifth Year Results: 13

Cumulative Results: 37 (123 percent of target)

Discussion: Old Woman Creek Research Reserve has been very successful in creating research opportunities for scientists from a number of colleges and universities. Some of the work, such as the role of microbes in carbon flux, has been groundbreaking (see also the research target area in this report).

METRIC 2: RESTORATION FROM AQUATIC INVASIVE SPECIES

Goal: Enhance the reserve's role as a regional focal point for wetland stewardship science, practice implementation, and education.

Objective: By 2017, 30 acres of the estuary impacted by aquatic invasive species are restored to native aquatic vegetation.

Strategy: Through leveraged grant funds, the reserve will work to control and stabilize areas within the estuary that have been impacted by invasive species such as *Phragmites australis* (common reed), *Phalaris aruyndinacea* (reed canary grass), and *Butomus umbellatus* (flowering rush). Further information can be found on pages 69-72 of the 2011-2016 reserve management plan.

Performance Measure: Number of acres of the estuary ecosystem restored through the treatment of invasives and by the establishment of native emergent species.

Target: Between 2012 and 2017, 30 acres of the estuary ecosystem restored through the treatment of invasives and by the establishment of native emergent species.

First Year Results: 12.5 acres treated

Second Year Results: 14.5 acres treated

Third Year Results: 2.8 acres treated

Fourth Year Results: 0 acres treated

Fifth Year: 17 acres treated

Cumulative: 46.8 (156 percent of target)

Discussion: Old Woman Creek Research Reserve has been successful in treating existing stands of invasive aquatic vegetative species, despite the fact that funding for species eradication has not been constant. The problem of invasive species recently has been compounded by the appearance of European Frogbit, which will require renewed eradication efforts.

METRIC 3: STEWARDSHIP PRACTICE IMPLEMENTATION BY PROGRAM PARTICIPANTS

Goal: Inform decisions of Lake Erie communities and individuals regarding coastal ecosystems.

Objective: By 2017, 50 reserve program participants and visitors (combined) adopt or install estuarine stewardship practices

Strategy: In addition to the reserve's five-year focus on restoration within its own boundaries, the Old Woman Creek Research Reserve will track its impact on the landscape. The reserve will provide skill-building opportunities for multiple audiences to gain implementation of stewardship practices in the area of estuarine watershed stewardship through programming and the use of social marketing principles and other techniques.

Performance Measure: Number of reserve program participants and visitors (combined) that implement estuarine watershed stewardship practices.

Target: Fifty reserve program participants and visitors (combined) implement watershed stewardship practices.

First Year Results:

- Installation of 900 linear feet of over-wide ditch on east branch of Old Woman Creek;
- Installation of 400+ feet of living shoreline at Shoreline Park in Sandusky Ohio;
- 73 Rain barrels made

Second Year Results:

- 3 farmers participating in volunteer farm tile monitoring to inform nutrient changes;
- Installation of 400+ feet of living shoreline at Shoreline Park in Sandusky Ohio;
- Installation of 2,510 linear feet of 2- stage ditch on the east branch of Old Woman Creek;
- Rain garden installed at Venice Heights Elementary School in Sandusky;
- Rain Garden installed at Meadowlawn Intermediate School in Perkins Township;
- 55 Rain barrels made

Third Year Results:

- 2 farmers participating in volunteer farm tile monitoring to inform nutrient changes
- Erie/Huron Cover Crop Aggregation program facilitated the inter-seeding of 2,000+ acres of cover crops
- 200 trees planted
- 128 Rain barrels made
- 2 septic systems repaired/replaced

Fourth Year Results:

- Erie/Huron Cover Crop Aggregation program facilitated the inter-seeding of nearly 4,000 acres of cover crops
- Manure storage facility, grazing management plan, covered pen pack installed in Old Woman creek watershed
- 50 feet of shoreline stabilization (living shoreline) installed at private residence
- Private landowner rain garden installed (reported)
- 64 Rain barrels made
- 6 septic systems repaired/replaced

Fifth Year Results:

- 3 Farmers participating in Nutrient Tracking Tool analysis of farm to inform decisions in farm

operations to reduce nutrient loss

- Erie/Huron Cover Crop Aggregation program facilitated the inter-seeding of 2,000+ acres of cover crops
- 3,600+ linear feet Livestock exclusion fencing and rotational grazing plan initiated in Old Woman Creek watershed
- 59 Rain barrels made
- 8 septic systems repaired/replaced

Discussion: The reserve made very significant progress implementing watershed stewardship practices outside of the reserve boundaries. They chose to report on actual improvements made as opposed to the number of participants.

Conclusion

For the reasons stated herein, I find that the Ohio Department of Natural Resources is adhering to the programmatic requirements of the Coastal Zone Management Act and its implementing regulations in the operation of the Old Woman Creek National Estuarine Research Reserve.

These evaluation findings contain one necessary action and four 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 Old Woman Creek 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 Director
NOAA Office for Coastal Management

dated April 30, 2019
Date

Appendix A: Response to Written Comments

Three written comments were received as part of this evaluation.

Maryellen Cudney of Vermilion, Ohio, commented that she greatly values the reserve as it has protected wildlife and estuarine habitats in her area. She also finds workshops and programs at the reserve to be quite useful.

Cheryl Wolfe-Cragin of Vermilion, Ohio, commented that she believes that the partnership between the reserve and the Erie County Soil and Water Conservation District is essential to address the agricultural nutrient issues in Lake Erie's western basin. She believes that clean water is essential not only for human use, but to support the tourism industry in the area.

Carol Steinart of Madison, Wisconsin, commented that she finds the reserve's work in outreach, education, and public participation to be outstanding.

The evaluation team appreciates the thoughtfulness of these comments and believes that the evaluation findings were enriched by their contributions.