



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT
Silver Spring, Maryland 20910

Sean Logan, Director
Ohio Department of Natural Resources
2045 Morse Road, Building D-3
Columbus, Ohio 43229-6693

JUN 11 2010

Dear Mr. Logan:

Enclosed are the final evaluation findings for the Old Woman Creek National Estuarine Research Reserve (Reserve) for the period from September 2006 through October 2009.

The fundamental conclusion of this evaluation is that Ohio is adhering to the programmatic requirements of the NERR system in its operation of the approved Old Woman Creek Reserve. This document contains four recommendations, three of which are mandatory. In response to the State's comments on the NOAA draft evaluation findings and information about activities that have occurred since the site visit, we have included additional comments and information in the findings. Based on the information you provided about the Reserve's Advisory Council membership and bylaws as well as the possibility of a conflict of interest, we have deleted the Program Suggestion recommending that an active researcher be added to the Advisory Council.

We appreciate your cooperation and assistance and that of the Reserve staff during the accomplishment of this evaluation.

Sincerely,

Donna Wieting
Acting Director

Enclosure

cc: Dave Graham, Chief, Division of Wildlife, Ohio Department of Natural Resources
Dave Scott, Group Administrator, Division of Wildlife, ODNR
Frank Lopez, Manager, Old Woman Creek NERR
Tina O'Connell, Program Liaison, Estuarine Reserves Division, OCRM, NOAA
Beth Thomas, Education Coordinator, North Inlet/Winyah Bay (SC) NERR



FINAL EVALUATION FINDINGS
OLD WOMAN CREEK NATIONAL ESTUARINE RESEARCH RESERVE
September 2006 through September 2009

May 2010



All photos courtesy of Old Woman Creek NERR



Office of Ocean and Coastal Resource Management
National Ocean Service
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

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I. EXECUTIVE SUMMARY

The Coastal Zone Management Act (CZMA) of 1972, as amended, established the National Estuarine Research Reserve System (NERRS). Sections 312 and 315 of the CZMA require the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic performance reviews or evaluations of all federally approved National Estuarine Research Reserves (NERRs). The review described in this document examined the operation and management of the Old Woman Creek National Estuarine Research Reserve (OWCNERR or the Reserve) during the period from September 2006 through September 2009. The Reserve is administered by the Ohio Department of Natural Resources, Division of Wildlife (DOW).

This document describes the evaluation findings of the Director of NOAA's Office of Ocean and Coastal Resource Management (OCRM) with respect to the Old Woman Creek NERR during the review period. These evaluations include discussions of major accomplishments as well as recommendations for program improvement. The fundamental conclusion of the findings is that the State of Ohio is successfully implementing its federally approved NERR.

The evaluation team documented a number of Old Woman Creek Reserve accomplishments during this review period. The Reserve has transferred three core positions to 100 percent state funding. It receives strong support from *The Friends of Old Woman Creek*. Old Woman Creek NERR has also been very successful in using partnerships to conduct significant programs. The Ohio Coastal Training Program was developed as a regional partnership of four programs – the Reserve, the ODNR Office of Coastal Management, Ohio Sea Grant College, and the Ohio Lake Erie Commission. Those same four partners have formed the Lake Erie Partnership and are developing a unified strategic plan for Lake Erie outreach and education. The Friends of Old Woman Creek, the Reserve, and a great number of other organizations and individuals partnered to create the Firelands Coastal Tributaries Watershed Council, received state grant funding, hired a watershed coordinator, and completed development of the Old Woman Creek Watershed Action Plan. The work of the watershed coordinator has resulted in a variety of stewardship activities benefitting the Reserve.

The evaluation team also identified areas where the Reserve and its programming could be strengthened. The Reserve's management plan must be completed. The Reserve has accepted more federal CZMA funding even though it did not have sufficient state spending authority to expend those funds. The Reserve must submit financial assistance applications consistent with its available spending authority and must follow guidance from OCRM regarding awards open at the time these final findings are issued.

Coordination and communication between the research community and the DOW must be improved so that the Reserve is managed for long term protection and as a stable platform for research. The Reserve must establish a process to facilitate meetings and to serve as a link between researchers and the DOW.

II. PROGRAM REVIEW PROCEDURES

A. OVERVIEW

The National Oceanic and Atmospheric Administration (NOAA) began its review of the Old Woman Creek Reserve in July 2009. The §312 evaluation process involves four distinct components:

- An initial document review and identification of specific issues of particular concern;
- A site visit to Ohio, including interviews and public meetings;
- Development of draft evaluation findings; and
- Preparation of the final evaluation findings, partly based on comments from the state regarding the content and timetables of recommendations specified in the draft document.

The recommendations made by this evaluation appear in boxes and bold type and follow the findings section where facts relevant to the recommendation are discussed. The recommendations may be of two types:

Necessary Actions address programmatic requirements of the CZMA's implementing regulations and of the Old Woman Creek Reserve approved by NOAA. These must be carried out by the date(s) specified;

Program Suggestions denote actions that NOAA's Office of Ocean and Coastal Resource Management (OCRM) believes would improve the program, but which are not mandatory at this time. If no dates are indicated, the state is expected to have considered these Program Suggestions by the time of the next CZMA §312 evaluation.

A complete summary of accomplishments and recommendations is outlined in Appendix A.

Failure to address Necessary Actions may result in a future finding of non-adherence and the invoking of interim sanctions, as specified in CZMA §312(c). Program Suggestions that are reiterated in consecutive evaluations to address continuing problems may be elevated to Necessary Actions. The findings in this evaluation document will be considered by NOAA in making future financial award decisions relative to the Old Woman Creek Reserve.

B. DOCUMENT REVIEW AND ISSUES DEVELOPMENT

The evaluation team reviewed a wide variety of documents prior to the site visit, including: (1) Old Woman Creek Reserve §312 evaluation findings dated 2006; (2) federally approved Environmental Impact Statement and program documents; (3) financial assistance awards and work products; (4) semi-annual performance reports; (5) official correspondence; and (6) relevant publications on natural resource management issues in Ohio.

Based on this review and on discussions with OCRM, the evaluation team identified the following priority issues:

- major accomplishments during the review period;
- status of Reserve staffing and needs;
- facilities development and/or land acquisition efforts;
- status of general administration of the Reserve and management plan revisions;
- status of implementation of the Reserve's research, monitoring, and education programs;
- the manner in which the Reserve coordinates with other governmental and non-governmental organizations and programs in the state and region; and
- the manner in which the Reserve has addressed the recommendations contained in the §312 evaluation findings released in 2006. The Old Woman Creek Reserve's assessment of how it has responded to each of the recommendations in the evaluation findings dated 2006 is located in Appendix B.

C. SITE VISIT TO OLD WOMAN CREEK NATIONAL ESTUARINE RESEARCH RESERVE

Notification of the scheduled evaluation was sent to the Ohio Department of Natural Resources, members of Ohio's congressional delegation, and regional newspapers. In addition, a notice of NOAA's "Intent to Evaluate" was published in the Federal Register on September 2, 2009.

The site visit to the Old Woman Creek Reserve was conducted from October 6 – 8, 2009. The evaluation team consisted of Ms. Chris McCay, Evaluation Team Leader, National Policy and Evaluation Division, OCRM; Mr. Greg Gervais, Program Evaluator, National Policy and Evaluation Division, OCRM; Mr. Matt Chasse, Program Specialist, Estuarine Reserves Division, OCRM; and Ms. Beth Thomas, Education Coordinator, North Inlet/Winyah Bay (South Carolina) National Estuarine Research Reserve.

During the site visit, the evaluation team met with Old Woman Creek Reserve staff, senior staff from the ODNR Division of Wildlife, other state agency staff, coastal researchers, educators, NOAA National Weather Service, local government staff and officials, Old Woman Creek Advisory Council members, and non-profit organizations. Appendix C lists people and institutions contacted during this review.

As required by the CZMA, NOAA held an advertised public meeting on Wednesday, October 7, 2009, at 6:00 p.m. at the Old Woman Creek Reserve Visitor Center, 2514 Cleveland Road East, Huron, Ohio. The public meeting gave members of the general public the opportunity to express their opinions about the overall operation and management of the Old Woman Creek Reserve. Appendix D lists individuals who registered at the meeting. NOAA's responses to written comments submitted during this evaluation are summarized in Appendix E.

The Old Woman Creek Reserve staff members were crucial in setting up meetings and arranging logistics for the evaluation site visit. Their support is most gratefully acknowledged.

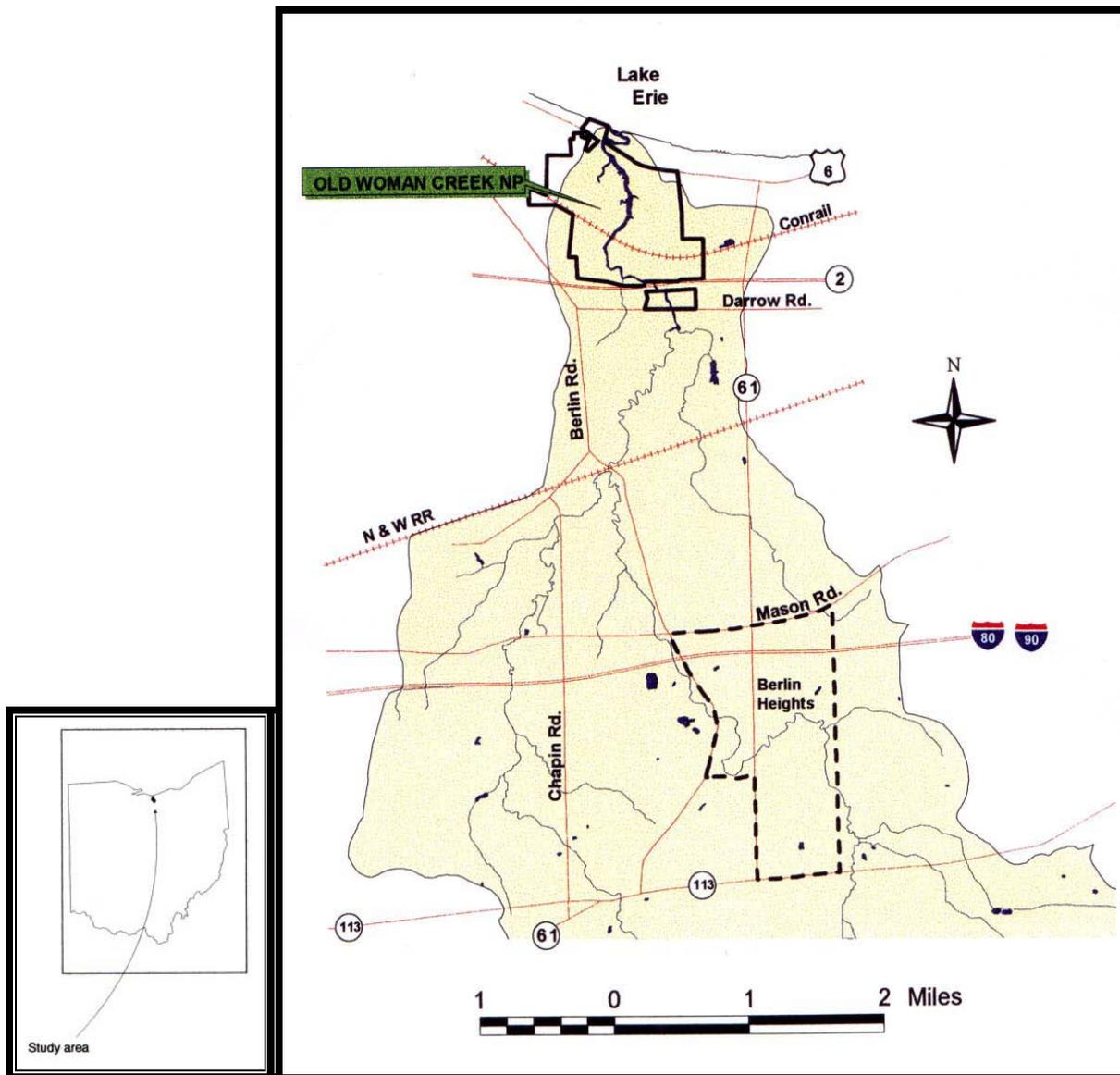
III. RESERVE PROGRAM DESCRIPTION

NOAA's Office of Ocean and Coastal Resource Management designated the Old Woman Creek National Estuarine Research Reserve (OWC NERR or the Reserve) in 1980. The lead agency is the Ohio Department of Natural Resources (ODNR), Division of Wildlife (DOW). The Reserve is also a dedicated State Nature Preserve under the Ohio Natural Areas Act of 1970.

The Reserve is located on the south-central shore of Lake Erie at the mouth of Old Woman Creek. Old Woman Creek flows 15 miles through portions of Huron and Erie counties before draining into Lake Erie, three miles east of the city of Huron in Erie County. About a mile before entering Lake Erie, the channel of Old Woman Creek becomes submerged, and the slow-moving estuarine portion of the creek flows northward to Lake Erie. Only a portion of the Old Woman Creek watershed is encompassed within the boundaries of the Reserve. The major land use in the OWC watershed is agriculture, although the area is experiencing outward growth from the city of Huron and the village of Berlin Heights. Growth in planning and construction of residential subdivisions and light industry has been brought about, in part, by improvements to transportation infrastructure near the Reserve.

The smallest Reserve in the NERR system, the 573-acre OWC NERR is currently the only Great Lakes freshwater estuary in the NERR system and is one of Ohio's few remaining examples of a natural estuary. It encompasses significant estuarine, lacustrine, and terrestrial habitats, including open water, marsh, mudflat, oak-hickory upland hardwood forest, swamp forest, and sandy barrier beach. The coastal wetlands of the Reserve are located at the mouth of the creek, adjacent to Lake Erie. The estuarine portion of the wetlands is approximately 65 acres in size and extends about 1.3 miles south of the Lake Erie shoreline. The estuary is approximately 0.2 mile wide at its widest portion. Depths may reach 12 feet in the inlet stream channel, but most of the estuary is less than 20 inches deep. The estuary's outlet to Lake Erie at the stream mouth may be closed for extended periods of time by shifting sands of the barrier beach. When the mouth is open, occasional large seiches on Lake Erie (vertical oscillation, or sloshing back and forth of lake water after a wind setup) cause lake water to enter the estuary and spill into the wetlands.

The reserve also comprises a diverse and important assemblage of native plants and animals representative of freshwater estuaries. Common aquatic vascular plants include the American water lotus, fragrant water lily, duckweed, sedge, and arrowhead. The extensive lotus beds provide important habitat for fish and benthic macroinvertebrates. Common fishes found in the estuary include large-mouth bass, brown bullheads, sunfish, perch, shiners, and shad, many of which use the estuary as a critical spawning or nursery ground. Common birds at the Reserve include ducks, herons, songbirds, and migratory shorebirds. Several endangered or threatened species, such as the American bald eagle, use the estuary during the year. Other ecologically significant aquatic organisms found in the estuary include plankton, benthic algae, invertebrates, amphibians, and turtles.



OLD WOMAN CREEK NATIONAL ESTUARINE RESEARCH RESERVE

IV. REVIEW FINDINGS, ACCOMPLISHMENTS, AND RECOMMENDATIONS

A. OPERATIONS AND MANAGEMENT

1. Administration and Staffing

The staff members of the Old Woman Creek NERR are well respected by everyone with whom the team met. They have built several significant partnerships that will be discussed elsewhere in these findings. Staff members have played roles in a variety of local, regional, and national efforts during the period covered by this evaluation. The Reserve hosted the NERRS/NERRA annual meeting in October 2006, and the Reserve manager now serves as the NERRA representative to the annual meeting planning process. The Coastal Training Program (CTP) coordinator serves as co-chair of the NERRS CTP Performance Monitoring Workgroup, as a member of the CTP Planning and Implementation Workgroup, was co-chair of the CTP Visioning Workgroup, and was instrumental in helping to develop the revised CTP logic model. The research coordinator serves on a NERRS plankton biomonitoring workgroup, and the education specialist serves on a NERRS education workgroup to develop a middle school curriculum focus on estuaries. The reserve manager serves as one of the wildlife management and research representatives on the executive committee for strategic planning to update the Division of Wildlife strategic plan. The manager also serves on the executive committee of the Firelands Coastal Tributaries Watershed Council, and three other staff members serve on other watershed program committees. Finally, the manager and CTP coordinator have reviewed Sea Grant pre- and full proposals, while the manager serves on the Lake Erie Commission Grants committee, reviews the Ohio Coastal Management Program assistance grants and Coastal and Estuarine Land Conservation program submissions, and serves on an ODNR committee to develop state proposals for the Great Lakes Restoration Initiative.

In 2008 the Reserve moved three core staff positions (manager, research coordinator, and coastal training (CTP) coordinator) to 100 percent state funding. Until then, those positions had been funded at a 70% federal/30% state funding split. This arrangement now provides continued state support for those positions as well as a significant portion of required non-federal match dollars.

ACCOMPLISHMENT: The Reserve has transferred three core staff positions to 100 percent state funding. This provides ongoing state support for those positions and a significant portion of the necessary non-federal match dollars for operations awards.

The Reserve has been without a full-time education coordinator since before 2003, when the previous Old Woman Creek NERR education coordinator retired. Shortly after the last evaluation site visit in August 2006, the CTP coordinator position was made permanent; since then the CTP coordinator has assumed oversight of the education programs. A part-time education specialist (1000 hours/year, non-permanent position) is the only staff member whose

primary duties are to implement the Reserve's K-12 and community education programs, although some graduate students and interns help with the programs. In the latter half of 2009, that staff member had exceeded total authorized work hours for the year and was furloughed. Other Reserve staff members met the existing commitments for staff-led education programs, but new requests for staff-led programs could no longer be accepted.

The last evaluation findings dated December 2006 included a Necessary Action that required a full-time education coordinator in place by the date of the next evaluation site visit. That did not occur, although several weeks after this evaluation's site visit, the Reserve received authorization to advertise a full-time, term-limited position for an education coordinator. Since then, there was an open advertising period, interviews were held, and an applicant was offered and accepted the position. The Reserve now has a full-time education coordinator on staff.

In this evaluation, four other staffing issues are of some concern to the long-term operation of the Reserve. First, the current research coordinator has been with the Reserve for a lengthy period of time and could retire within several years. It would help to maintain continuity if the Reserve and the Division of Wildlife are able to hire a new research coordinator before the current coordinator leaves and to arrange the same system of overlap that occurred with the previous and current Reserve managers.

Second, the Reserve operates without a dedicated Systemwide Monitoring Program (SWMP) technician. Some of the tasks assumed by SWMP technicians at other reserves are handled by Old Woman Creek Reserve's research coordinator and part-time contract employees. That is not an ideal situation, since the research coordinator has a significant workload, and the Reserve received the same allocation of federal funds as reserves with at least one SWMP technician.

Third, the Reserve's GIS capacity and capability are being addressed on an interim basis with a shared position whose primary responsibilities are for offshore wind energy planning and development. Because there is an ongoing need for GIS capability at the Reserve and in its partnerships and programs, the Reserve may want to look for ways to address that need on a more permanent basis.

Finally, the Reserve manager continues to serve as the stewardship coordinator in addition to carrying out his activities associated with being the manager. The Reserve relies heavily on partners to conduct many stewardship activities. This situation may not best serve the manager and his heavy workload, and the Old Woman Creek watershed coordinator (not an employee of the Reserve), who has conducted many stewardship activities, is in a position that ends December 2010. (Since the evaluation site visit was completed, the Reserve has formalized a partnership with the Erie Soil and Water Conservation District to support Reserve stewardship activities. This partnership will also support water quality monitoring within the Old Woman Creek watershed. A portion of the Reserve's federal financial assistance award will now be directed to the Erie Soil and Water Conservation District for these activities, which includes maintaining the Old Woman Creek watershed coordinator position.)

Throughout this evaluation period, the Reserve has had significant difficulty expending its federal CZMA financial assistance awards, and in fact has failed to spend the entire amount of

those awards during this time. The Reserve did not spend over \$500,000 awarded from three grants whose periods of performance ended during this evaluation period (FY05, FY06, and FY07). This amount represents approximately 30 percent of the federal funds available in the awards. Staff at OCRM's Estuarine Reserve Division were never notified of the problem during the three-year period. Because these awards were not extended nor the unspent funds reprogrammed, the funds were returned to the U.S. Treasury and were unavailable for NERRS program purposes. At the time of the site visit, two awards were still open (FY08 and FY09), but the levels of expenditures to date appeared to indicate that these awards would end with considerable funds unspent.

Biennially, the Ohio Legislature authorizes the amount of funding that the Department of Natural Resources (as well as other state agencies) may expend. The ODNR then provides the Division of Wildlife (as well as other divisions and programs in the Department) an amount of spending authority it must divide among its programs. The Reserve does not receive budget authority based upon the amount of its CZMA financial awards, which is the major reason why federal funds remain unspent. This was true for all awards throughout this evaluation period.

However, the Reserve continued to accept more federal funding even though it did not have sufficient budget authority to expend the funds. It did not seek extensions or reprogramming for those awards. In each award, the Reserve matched the federal dollars it expended but did not report in performance reports to OCRM on the expenditure of the excess match to which it had committed in its cooperative agreement award. Both actions represent mismanagement of the federal awards, not to mention a lost opportunity for the use of the funds for the reserve system, and must be corrected. Performance reports for the Section 315 awards (operations funds) appear to show that the Reserve generally met most of the task outcomes identified in the awards. However, based on the level of detail provided in the Reserve's performance reports, the line items for "contracts" and "equipment" were the only ones that clearly showed allocated funds that were not expended. It is somewhat difficult, therefore, to determine whether all tasks were completed using less money than originally identified as necessary for completion, or whether some tasks might be incomplete because all federal funding necessary for those tasks could not be expended (e.g., equipment purchase).

During the site visit, the evaluation team and Division of Wildlife and Reserve management personnel discussed the lack of sufficient budget authority and awards for funding beyond that authority. Several options were discussed to handle both the situation with existing open awards and for future awards:

- For future awards, the Reserve could seek or be awarded only federal funding for which the Reserve has spending authority, even if that amount is less than the share amount identified as available to reserves in any given year.
- For open awards (FY08 and FY09), the Reserve could request no-cost extensions to allow unexpended funds to be spent when FY10 state budget authority is available. Only a portion of available FY10 funding, not to exceed the remainder of available authority, or no FY 10 funding, would be obligated.

- The Department of Natural Resources and the Division of Wildlife could also attempt to obtain additional budget authority for the Reserve from the Ohio Legislature based upon the amount of federal funding available, although staff indicated this probably would not be successful.
- The Reserve could seek to identify a partner organization that can legally receive Section 315 grant awards directly from NOAA to conduct specific Reserve operations activities, thus reducing issues with the Reserve's available spending authority. A very limited number of Reserves use this approach, and OCRM must agree with the selection of such a partner and its abilities to conduct and complete the tasks identified for it.

Whatever actions are taken, the Reserve must not seek nor accept Section 315 funds for Reserve operations and management in an amount greater than the amount of the Reserve's state budget authority.

Since the site visit, the ODNR Division of Wildlife and Reserve staffs worked with OCRM's Estuarine Reserves Division (ERD) to craft a solution for FY10 funding. No-cost extensions to June 2011 were granted for the open FY 08 and 09 Section 315 awards. From the FY10 Section 315 funds, no monies were awarded to the Reserve, but \$90,000 was granted directly to the Erie Soil and Water Conservation District to conduct stewardship activities and to pay the salary of the watershed coordinator position. The Division of Wildlife and the District entered into a memorandum of understanding so this could occur. The remainder of FY 10 Section 315 funding generally available to the Reserve was then made available to the NERR system. The ODNR has indicated it will use only budgeted authority as the basis for future awards and will use OCRM guidance for future cooperative agreement applications.

NECESSARY ACTION: The Reserve, ODNR Division of Wildlife, and OCRM should discuss options to overcome the lack of sufficient state budget authority available to the Reserve. The Reserve must submit financial assistance award applications consistent with the available spending authority and must follow guidance from OCRM to address awards open at the time of the issuance of these final findings.

2. Management Plan

The Reserve's management plan was originally completed and approved in 1983. It has been updated twice since then, most recently in 1999. Because NERRS regulations require management plans to be updated every five years, the Reserve's plan revision is long overdue. The last evaluation findings dated December 2006 included a Necessary Action that required the Reserve to submit a final draft plan to OCRM no later than May 31, 2007. The Reserve had started the revisions before the last site visit but has still not completed them at the time of these final findings. As previously noted in the "Program Review Procedures" section, failure to address Necessary Actions may result in a future finding of non-adherence and the invoking of interim sanctions, as specified in CZMA §312(c). The findings in this evaluation document will be considered by NOAA in making future financial award decisions relative to the Old Woman Creek Reserve.

NECESSARY ACTION: Updates to Old Woman Creek Reserve's management plan are overdue by five years beyond the five year update period. The Reserve must complete updated revisions to its management plan. The completed final plan must be submitted to OCRM no later than September 30, 2010.

3. Facilities and Infrastructure

During this evaluation period, the Reserve completed two additional trail sections near the Mike DeWine Center for Coastal Wetlands (the Reserve's Visitor Center) and an access path for stewardship activities on the east side of Old Woman Creek estuary. As part of a partnership with Erie-Huron-Ottawa Vocational Education, summer work crews funded with American Recovery and Reinvestment Act monies built paths, did boardwalk cleaning, and trimmed trees, and volunteers have also helped with boardwalk enhancements, among other projects. Other routine maintenance tasks (e.g., custodial service, lawn mowing, and aquarium care) were outsourced to allow staff to devote time to priority tasks.

The Reserve's exhibits in the Visitor Center are being renovated. Funding was approved and awarded, and the Reserve contracted with a museum consultant, who conducted a focus group to incorporate the group members' feedback in exhibit planning. The 1980s-era exhibit panels being replaced are moveable, which has allowed the space they occupy in the Visitor Center to be used for larger group meetings, coastal training program events and trainings, and K-12 and community education programs when necessary. That larger space will be lost when the new and immobile exhibits are installed. The Reserve added a distance learning capability to its one small classroom to conduct educational programs remotely, but education staff indicated that existing facilities and a smaller Visitor Center open space do not and will not meet the existing needs of teachers and students. In addition, office space at the Visitor Center is at capacity, with very limited options for additional staff.

As research activities have increased, the research dormitories have reached capacity during the summer field season. Researchers with whom the evaluation team met noted difficulty in finding dorm space during the summer.

Several Old Woman Creek NERR Advisory Council members and many of the researchers, educators, and partners with whom the evaluation team met expressed concern about facility limitations and a desire to see the Reserve's facilities expanded. The Reserve's management plan includes a "Facilities" section, but the Reserve may want to consider a more definitive or immediate master planning process to address the current need for additional meeting, classroom, office, and dormitory space, as well as ongoing and periodic maintenance needs that are larger or more complex than can be handled by volunteers or janitorial services. Because some people acknowledged that a needed expansion may also increase the number of visitors without an increase in staff to assist and provide programming and may affect the resources of the Reserve, a facilities master planning process would be an appropriate place to consider those visitor and resource impacts as well. This process could be an action identified in the Facilities section of the management plan for completion or, if completed before the management plan is

completed, could be incorporated into or inform the management plan Facilities section.

PROGRAM SUGGESTION: The Reserve should plan and implement a master planning process to address facility needs for classroom programs, teacher training, CTP training, public meeting space, staff office space, and lodging/dormitory space for students, teachers, and visiting researchers. The planning process should also take into account visitor and resource impacts of facilities expansion and ongoing and periodic maintenance requirements to ensure informed decision-making.

4. Coordination and Partnerships

The staff focuses on coordinating and integrating the Reserve's Coastal Training Program, education, research, and monitoring programs. For example, the Reserve has provided water quality monitoring opportunities as part of an educational component (also discussed in the Monitoring Section). One of the Reserve's interns developed high school level educational curricula based upon research done by a NOAA Hollings Scholar at Old Woman Creek.

The Reserve has effective partnerships with a variety of agencies and organizations. The major partners are the Ohio Coastal Management Program (housed within ODNR), Ohio Sea Grant, the Erie Soil and Water Conservation District, and the Lake Erie Commission. (The Lake Erie Commission is composed of the directors of the Ohio Departments of Agriculture, Development, Health, Natural Resources, and Transportation as well as the Ohio Environmental Protection Agency). Along with the Reserve, these partners are contributing to the implementation of the CTP, the Lake Erie Partnership and Lake Erie Literacy, and Old Woman Creek Watershed Action Plan. These programs and efforts will be discussed elsewhere in these findings.

The Reserve and the NOAA National Weather Service (NWS) have partnered for a number of years. The NWS maintains and upgrades the Reserve's weather station and provides a real-time weather display in the Visitor Center at no cost to the Reserve. During this evaluation period, NWS staff members in Cleveland also have been working with the Reserve in developing the content of an interactive NOAA kiosk at the Visitor Center. Under the rubric of the *One NOAA* initiative, the kiosk will demonstrate the relationship of the Reserve and the NWS. It also will discuss how weather conditions affect the Reserve and show the effects of climate change on the Great Lakes and Old Woman Creek. When completed, it will raise the visibility of the NWS and NOAA at the Reserve and provide educational opportunities for the Reserve and its visitors.

In July 2009, Erie MetroParks, the Reserve, and the Friends of Old Woman Creek partnered to host Bio Blitz 2009, using MetroPark properties within the watershed at Hoffman Forest and Edison Woods in addition to the Reserve. Volunteers were also able to participate in this 24-hour extensive study of all the life in one particular area.

In 2008 the Reserve partnered with Bowling Green State University-Firelands, the Firelands Tributaries Coastal Watershed Program, the Firelands Tributaries Coastal Volunteer Stream Monitors, and the Erie Soil and Water Conservation District to provide real-life chemistry experience for students and to support volunteer water quality monitoring efforts.

ACCOMPLISHMENT: The Old Woman Creek has been very successful during this evaluation period in using partnerships to conduct significant programs such as the Ohio Coastal Training Program. Many of these partnerships also serve to integrate the Reserve's many education, research, and stewardship activities.

5. Volunteer Support and Non-profit "Friends" Group Support

The Reserve receives support from both individual volunteers and the *Friends of Old Woman Creek* non-profit organization. Volunteer activities include helping to staff the Visitor Center; assisting with education programs, research, and stewardship activities; providing some clerical and maintenance support; and helping with special projects and events. Two program volunteers received awards from the Erie County Volunteer Center in recognition of their service to the Reserve. As tracked by the Reserve's volunteer coordinator, there was a 90 percent increase from 2006 to 2008 in volunteer service hours. During this evaluation period, volunteer efforts included construction and siting of wood duck boxes, and trail and interpretive markers. The Reserve also received additional support through the efforts of the Firelands Coastal Tributaries Watershed "Trib Team" of volunteer monitors (also discussed under the "Monitoring" section of these findings).

The *Friends of Old Woman Creek*, founded in 1998, supports the mission and goals of the Reserve through operation of a gift shop; financial support for special equipment, projects such as the watershed program or research and education efforts; fund raising; publication of a *Friends* newsletter; and assistance to Reserve staff. The *Friends* provided support and assistance to the Reserve in hosting the NERRS/NERRA 2006 Annual Meeting in Ohio and participated in other NERRS/NERRA annual meetings during this evaluation period.

Because of the shortage of office and other space in the Visitor Center, it is possible that the space occupied by the *Friends* gift shop would have to be given up to accommodate additional staff or the Reserve might have to charge the *Friends* a rental fee for the space. The evaluation team hopes both of those possibilities can be avoided. It could mean that the gift shop would be shut down entirely or that the relationship between the *Friends* and ODNR or the Division of Wildlife could deteriorate.

ACCOMPLISHMENT: Volunteers and *The Friends of Old Woman Creek* organization have increased and broadened activities in support of the Reserve and its mission. During this evaluation period, volunteers constructed and sited wood duck boxes and trail and interpretive markers. *The Friends* also assisted the Reserve in hosting the NERRS/NERRA 2006 Annual Meeting.

6. Advisory Council

The Old Woman Creek NERR Advisory Council was established in 1982 and meets quarterly. It is composed of at least nine members, representing local government, local, regional, and statewide interest groups, agriculture, educational institutions, and a Great Lakes research

institution, all appointed by the ODNR Director. The evaluation team met with the Advisory Council during the site visit and was impressed with the strong support the members expressed for the Reserve, its activities, and the role it plays in the community. When the Reserve was transferred to the ODNR Division of Wildlife from the ODNR Division of Natural Areas and Preserves, it was hoped that the Council could increase its reach in terms of spreading a message about the Reserve's role and activities to traditional Division constituencies and help to counteract perceptions about any differences between the Division and Reserve missions and objectives, particularly as it relates to the Reserve's research responsibilities. The members said they believed that the public's perception of the Reserve has improved and that the Reserve's partnerships and collaborations with other public agencies and entities continue successfully. Given concerns raised by researchers in meetings with the evaluation team (see discussion under the "Research and Monitoring" section in these findings), there is still a role for the Council to play in communication and coordination.

7. Geographic Information System (GIS) Program

During this evaluation period, the GIS program developed products for the management plan revision, land acquisition, and other research or stewardship applications. It also acquired a plotter and a map-grade GPS unit.

When the Reserve was transferred to the Division of Wildlife, a joint appointment between the Reserve and the Ohio Coastal Management Program was developed to provide GIS support to the Reserve. Shortly before the end of this evaluation period, that position became vacant, and at the time of the site visit, a wildlife biologist from the Division of Wildlife had taken the lead role in supporting the GIS program at the Reserve. Part of his salary is paid from the Ohio Coastal Management Program's Section 309 funding. However, his primary responsibilities are related to offshore wind energy planning and development. Because there is an ongoing need for GIS capability at the Reserve and with its many partnerships and programs, the Reserve may experience a gap in that capability. The Reserve may want to look for ways to address its need for GIS capacity on a more permanent basis.

B. RESEARCH AND MONITORING

1. Research Activities

The evaluation team was impressed with the breadth and depth of research conducted at the Reserve. Many researchers have been conducting research at the Reserve for years. Students, Reserve staff (including non-research staff members), and volunteers have conducted a variety of research projects at Old Woman Creek in addition to university and college professors and researchers. Five NERRS Graduate Research Fellows (GRFs) began or finished research projects during this evaluation period, while two NOAA Hollings Scholars conducted research at the Reserve as well. The Reserve and its research partners complete 35 publications, including theses, papers in peer-review journals, and technical reports during the time covered by this evaluation.

Some examples of research being conducted at the Reserve during this evaluation period include, but are not limited to:

- Primary production in Old Woman Creek estuary. This study is determining primary production rates using SWMP data collected by four dataloggers in the estuary.
- Chemical patterns and trends within the Old Woman Creek estuary. This study is examining the 25+ years of chemical data collected in monitoring programs to determine both annual and spatial trends in this data.
- Benthic macroinvertebrate populations associated with *Phragmites* and with *Typha* stands and the impact of *Phragmites* control techniques on these populations. This is but one of several research activities at the Reserve involving *Phragmites*.
- Understanding the role of a natural swale in mitigating the runoff from urban development. This work is a long-term project that will determine the effectiveness of a natural vegetated drainage swale in removing or transforming pollutants that result from a housing development after construction is completed. Research is being conducted by Reserve staff.
- Adaptation of a nutrient management tool to the waters of Old Woman Creek. This study adapts a GIS based tool and graphical user interface previously developed to model how farming practices can be modified to reduce nutrient loading (primary nitrogen) in Old Woman Creek.
- Carbon sequestration in lotic wetlands in temperate and tropical climates. This study looks at the role of different wetlands (in both the tropics and in the temperate zones) in trapping carbon in the sediments.
- Photochemical degradation of non-point source pollutants in the waters of Old Woman Creek NERR. This work examined the role of the estuary in breaking down selected organic compounds, particularly several pharmaceuticals such as ibuprofen, which may or may not be harmful to aquatic wildlife. The study was conducted by one of the Reserve's GRFs and was subsequently highlighted in the NOAA Coastal Services Center January/February 2010 edition of *Coastal Services*.
- Reduction of agricultural pesticides in the sediments of a coastal Lake Erie wetland. This work builds on earlier work that examined the photolytic breakdown of pesticides in the water column. This research examines the role of natural reducers in the sediments and their pore water for similar degradation of agricultural pesticides. It looks at the role of wetland sediments in breaking down sediment bound pesticides and was featured in the Ohio Sea Grant 2009 Fall/Winter Edition of *Twineline*.

ACCOMPLISHMENT: The Reserve continues to provide excellent staff support and facilities for a varied range of researchers, including NERR Graduate Research Fellows and NOAA Hollings Scholars, many of whom return to conduct long-term projects.

The Lake Erie Partnership agencies—the Old Woman Creek NERR, Sea Grant Ohio, the Lake Erie Commission, and the Ohio Coastal Management Program—have created a coastal research advisory panel. Researchers from the Partnership agencies meet to identify common research themes or needs and can then often identify projects which they can co-fund.

The evaluation findings dated December 2006 contained a discussion that indicated several people were concerned about the compatibility of the Division of Wildlife's single species approach and the Reserve's emphasis on ecosystems. Research partners expressed a strong desire for coordination and communication between researchers and the Division of Wildlife and for an opportunity to meet with DOW managers and administrators to discuss research projects and the Division's view of the research and coordinated goals and strategies. It included a program suggestion that the Reserve facilitate periodic meetings between DOW upper-level managers and administrators and Reserve researchers.

The Reserve's response to that program suggestion indicates various activities and actions that the Reserve staff and manager have taken to increase agency understanding of the Reserve program, its goals, and projects. It appears, however, that there were no meetings between DOW management and researchers who are not Reserve staff.

Based upon discussions the evaluation team had with researchers during the site visit, those researchers still expressed a strong desire for an opportunity to meet with DOW managers to discuss specific research projects and research in the Reserve in general. Those types of meetings might have prevented a serious situation that occurred. In addition to being a NERR, the Reserve is also a designated state preserve, and as such, it is managed according to ODNR land management goals and objectives, including aerial spraying to control *Phragmites*. As noted above, there are several ongoing research projects that involve studies of *Phragmites*. Either because of miscommunication or lack of communication, ODNR spraying to control *Phragmites* occurred and destroyed designated research project control plots. That situation also poses serious risk to students and others who might be in the field and be unaware that spraying is going to occur. Two long-time researchers indicated that they would conduct research elsewhere if the lack of coordinated planning and communication continues. Overall, the Reserve has provided a supportive environment for research and collaborative research between organizations. It has also been quite successful in bringing GRFs and other undergraduate and graduate students to the Reserve. However, the Reserve must ensure that communication and planning between researchers and DOW land stewardship staff, upper-level managers, and administrators is improved so that the Reserve is managed for long term resource protection and as a stable platform for research.

In comments provided on the draft evaluation findings (letter dated April 29, 2010), the Department of Natural Resources indicated that since the site visit, the Reserve manager planned the upcoming summer (2010) *Phragmites* treatment in the Reserve after consulting with researchers and determining their field season research objectives, then advising DOW staff as to areas to be targeted for control and areas that must be avoided. OCRM believes that this type of ongoing communication should be effective in preventing future treatment of areas included within ongoing research projects.

The letter indicates that the DNR does not think that "...continued management of *Phragmites* constitutes a threat to the Reserve as a stable platform for research." In fact, the goal of treatment is to restore natural conditions...." OCRM is not opposed to management of an invasive species. However, the destruction of areas of *Phragmites* that are part of ongoing research projects does threaten the Reserve's status as a stable platform for research. If it occurs without advance notice, it also threatens the health and safety of anyone in the immediate area.

The letter also questions whether the requirement included in the Necessary Action for a process to establish periodic meetings between researchers and Division of Wildlife staff serves a better purpose than does communication between researchers and the Reserve manager and research coordinator. A Program Suggestion was included in the previous findings dated December 2006 very similar to the Necessary Action below. The intent of these recommendations was and is not to replace communication from researchers to the Reserve manager to the DOW staff. Rather, as noted above, the intent was to provide a mechanism to address the perception still held by some that the DOW has a single species approach, while the Reserve's emphasis is on ecosystems, as well as to foster communication and coordination. Research partners in particular expressed a desire for periodic opportunities to meet face-to-face with managers and administrators in the DOW at the Reserve.

NECESSARY ACTION: The Reserve must manage the lands and waters within its boundary for long term protection and as a stable platform for research. To that end, the Reserve must establish a process that allows Old Woman Creek Reserve staff to facilitate periodic meetings between researchers and Division of Wildlife land stewardship staff, upper-level managers, and administrators. Such meetings must foster communication, ensure coordination on proposed management actions affecting reserve lands and water, and promote increased awareness of reserve research and stewardship programs. The Reserve must provide a written description of the process to OCRM no later than September 30, 2010, and provide information about these meetings in the Reserve's semi-annual progress reports.

2. Monitoring

The Reserve's System-wide Monitoring Program (SWMP) is in compliance with NERR SWMP requirements. The SWMP has four data loggers that are maintained at sites selected to provide information on both the impact of storms on the estuary and the role of the estuary in mitigating the storm runoff. Two sites near the mouth of Old Woman Creek provide information on the extent of lake water intrusion during wind setup and seiche events. Two of the sites are telemetered so that real-time data is transmitted to the Visitor Center for viewing.

Since the last evaluation, the Reserve has assisted with the development of the Firelands Coastal Tributaries Watershed Program's volunteer stream monitoring program called the Tribs Team. It began in 2007 and trains volunteers to investigate the water quality of two local streams. The Reserve also benefitted from Bowling Green State University-Firelands undergraduate chemistry students who analyzed water quality samples.

The Reserve has been able to replace and update datasonde infrastructure on an annual basis within the CZMA Section 315 operations awards. Given the significant problem the Reserve faces in terms of insufficient budget authority to spend those funds, however, it may become difficult to maintain that annual replacement and update schedule. According to NERRS SWMP equipment data in OCRM, Old Woman Creek Reserve will need to recapitalize SWMP sondes in FY 2012. The Reserve also lacks a SWMP technician, and that absence may be more keenly felt when the research coordinator, who assumes most of the SWMP responsibility, retires within several years.

C. EDUCATION AND OUTREACH

1. Education and Outreach Programs

The Reserve continues to maintain strong partnerships with numerous educators and offers a variety of programs for both K-12 students and teachers. Because the Reserve is located in a relatively rural area, the educational programs are carried out at schools, at the Reserve with planning and reservations in advance, and through a few distance learning opportunities. Because of significant funding reductions that local schools faced during this evaluation period, the Friends of Old Woman Creek established a Transportation Assistance Grant Program to support 4th – 6th grade environmental education field trips to the Reserve for the 2008-2009 school year. Grant amounts of \$150 per school in Erie and Huron counties were offered on a first come, first served basis.

All the educators with whom the evaluation team met praised the Reserve staff for knowledge and dedication in providing or adapting programs to meet particular needs. All agreed, however, that the lack of enough staff, and in particular an education coordinator, and insufficient classroom space were serious detriments to allowing the Reserve to meet demand for its education programs. Staff estimated that approximately 100 requests per year for education programs had to be turned down. As noted in the earlier section entitled “Administration and Staffing,” an education coordinator has now been hired. The CTP coordinator will continue to have general oversight responsibility for all of the Reserve’s education programs.

The Reserve’s community outreach and stewardship education series, Estuary Explorations, was initiated during this evaluation period. The series introduces the public to wetland ecology, current research at the Reserve, and other relevant topics. In 2007, public canoe excursions were added to the Estuary Explorations calendar.

The Reserve also offers professional teacher development opportunities. During the time period covered by this evaluation, the Reserve partnered with the Center for Ocean Sciences Education Excellence-Great Lakes and the Sea Grant programs of Ohio and Pennsylvania to design and host a two-day workshop for formal and non-formal educators of students in grades 4-10. The workshop focused on research investigating pesticide and pharmaceutical degradation in the sediment of Old Woman creek estuary. Teachers collected estuary sediment cores, extracted pore water, analyzed chemical composition, and discussed how this research could be

incorporated in their science curricula.

The Reserve's education specialist received facilitator training and then held workshops to train local teachers in the curricula of Project WILD, which is a wildlife-focused conservation program of the Council on Environmental Education; and in the curricula of Aquatic WILD, which emphasizes aquatic wildlife and aquatic ecosystems. It is organized in topic units and is based on the Project WILD conceptual framework. These activities are designed for integration into existing courses of study.

As in many other aspects of the Reserve's operation, the education staff takes advantage of working with a variety of local and state partners. For example, Bio Blitz 2009 was a cooperative effort between the Reserve and Erie MetroParks to provide an educational opportunity for citizens to join researchers and learn scientific collection techniques and assist with data collection.

Old Woman Creek NERR, the Ohio Coastal Management Program, Ohio Sea Grant, and the Ohio Lake Erie Commission have formed the Lake Erie Partnership and are developing a unified strategic plan for Lake Erie education and outreach. This five year outreach and education plan will actively engage coastal constituents in an effort to build knowledge on topics relevant to Ohio's role in the Great Lakes coastal ecosystem to achieve greater environmental literacy, personal safety, and an improved state economy. The plan will also create efficiencies within all four organizations through: more accurate outreach materials, less staff required at public events, increased public knowledge of the agencies and issues, clear lines of communication, and reduced duplication of efforts. As an initial part of this effort, the agencies identified a need for a place-based environmental literacy framework for Lake Erie. As a result, the *Lake Erie Literacy* project is being adapted from *Ocean Literacy: The Essential Principles and Concepts*. Lake Erie principles and concepts are being developed and undergoing public review.

ACCOMPLISHMENT: The Old Woman Creek Reserve and its partners in the Lake Erie Partnership are developing a five-year outreach and education plan and have initiated the *Lake Erie Literacy* project.

2. Coastal Training Program

The Reserve's Coastal Training Program (CTP) has developed as a regional partnership of four programs—Old Woman Creek National Estuarine Research Reserve, Ohio Sea Grant College Program, ODNR Office of Coastal Management, and the Ohio Lake Erie Commission—that collaborate to conduct research, provide education, and manage the natural resources of the Lake Erie coastal region. It is formally referred to as the Ohio Coastal Training Program, and its scope is the Lake Erie basin. These programs regularly join forces with non-profit organizations, universities, and other agencies to deliver science-based training to professionals throughout the Lake Erie watershed.

Based on partner input and decision-maker needs, the Ohio CTP's coastal training strategy for the Lake Erie basin was revised and reflects priority issues and training needs in stormwater and

watershed management, wastewater treatment, source water protection, renewable energy technologies, sustainable design and construction, and shore erosion management.

The CTP helped plan and sponsor the 2009 Ohio Stormwater Conference. In partnership with the Northeast Ohio Stormwater Training Council, the University of New Hampshire (UNH) Stormwater Center, CICEET, and the NOAA Coastal Services Center, the CTP offered “Stormwater System Design and Performance,” a multi-site workshop and field tour featuring the UNH Stormwater Center’s research on stormwater system design and performance. Over 200 engineers and stormwater professionals participated. The Ohio CTP planned and held a workshop called “Coastal Community Planning and Development.” During the course of this evaluation period the CTP offered 21 training events focused on stormwater, watershed and land use planning issues to over 1,800 local government officials, including engineers, plan reviewers, land use planners, zoning boards, and planning commissions.

The CTP agencies partnered with Ohio EPA and over a dozen other agencies and organizations to form a regional stormwater education training council. This council then developed a stormwater training mini-grant program to support collaborative efforts to meet the needs of local governments and professionals.

The Reserve’s CTP Coordinator has established an exit survey feedback and evaluation process for all workshops. The survey results are used to modify the training workshops. The CTP Coordinator is considering a follow-up survey six to 12 months after the course to track behavior changes and impacts of the training.

<p>ACCOMPLISHMENT: The Ohio Coastal Training Program is a strong collaborative partnership, which has led to a coordinated training approach that taps into the strengths and resources of each partner.</p>

D. STEWARDSHIP AND RESOURCE MANAGEMENT

Within the NERR system, many reserves conduct or accomplish programs or activities related to land acquisition, enforcement, restoration, restoration science, technical advice and support, and community education under the general rubric of stewardship and resource management. Because the Reserve has so successfully integrated its research and education components, elements of stewardship and resource management are identifiable in almost all of its activities and programs, as can be seen in the discussions above.

Although many of the NERRs have a dedicated stewardship coordinator, Old Woman Creek Reserve does not, nor is it required to have one. Instead, the Reserve manager serves in that capacity and depends upon strong partnerships to accomplish activities. The previous evaluation findings dated December 2006 noted some of the weaknesses with this situation. As an example, the 2006 evaluation findings described the Reserve’s inability to find willing sellers in its land acquisition efforts, which often requires an ongoing concerted effort. The Reserve manager, who has a full workload, was not able to make a sustained effort. The 2006 findings included a Program Suggestion to explore strategies and options for identifying a position or person to assist

with land acquisition and other stewardship activities. The Reserve's response indicated that the Reserve continues to take a networked approach to stewardship. Although a particularly strong partnership (discussed below) achieved much in the way of stewardship during this evaluation period, the evaluation team remains uncertain that the Reserve manager has the time to perform the coordinating duties for stewardship.

The Reserve has continued to depend upon strong partnerships, and during this evaluation period, one particular partnership has been of clear stewardship value. The Reserve recognizes that community-driven watershed stewardship is essential for the protection of the estuary downstream. In response to interest shown by the *Friends of Old Woman Creek* in establishing a local watershed program, the Reserve, the Friends, and a great number of other organizations and individuals formed the Firelands Coastal Tributaries (FCT) Watershed Council. With the Friends acting as the fiscal agent and providing local match dollars, the Council received state grant funding from the Ohio Watershed Coordinator Grant Program (within the Department of Natural Resources). The Watershed Coordinator Grant Program funds are used to pay the salary of a watershed coordinator, for development of a watershed action plan, and ultimately for implementation of that plan. The four-year grant award will end in December 2010. The Erie Soil and Water Conservation District (one of the FCT Watershed Council members) now employs a watershed coordinator who works with local officials and community members to develop an action plan for Old Woman Creek.

The FCT Watershed Council has helped to update the Erie County stormwater and floodplain regulations, coordinated water quality monitoring training sessions for volunteers, coordinated a hardwood restoration project (Darrow Road tree planting) at the Reserve, established rain garden demonstration sites and conducted workshops, and has developed plans for Brod Ditch and Old Woman Creek restoration projects.

At this point an Old Woman Creek Watershed Action Plan has been developed and has received full endorsement from the ODNR and the Ohio EPA. The Action Plan provides an accounting of natural resource management objectives, including problems and concerns, and activities that watershed stakeholders will pursue to improve the watershed. The Reserve's site profile provided science and data that played a significant role in the management planning in the watershed. With funds available from the Great Lakes Restoration Initiative, having a watershed action plan in place may help the FCT Watershed Council in responding to request for proposals from the Initiative.

The work by the watershed coordinator, whose funding for the position ends in December 2010, has resulted in a variety of stewardship activities to complement activities conducted by Reserve staff. Since the evaluation site visit, the Reserve has formalized its partnership with the Erie Soil and Water Conservation District (ESWCA) to support reserve stewardship and watershed coordination activities. The ESCWA is expected to receive an FY10 federal financial assistance award to support these activities.

<p>ACCOMPLISHMENT: The Reserve and the Firelands Coastal Tributaries Watershed Council successfully found a funding source, employed a watershed coordinator for four years, and received full endorsement of the Old Woman Creek Watershed Action Plan.</p>

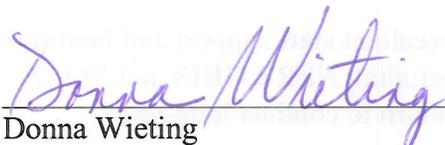
V. CONCLUSION

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

The Old Woman Creek Reserve has made notable progress in: Administration and Staffing; Coordination and Partnerships; Volunteer Support and Non-profit "Friends" Group Support; Research Activities; Education and Outreach; Coastal Training Program; and Stewardship.

These evaluation findings also contain four (4) recommendations: three (3) Necessary Actions that are mandatory and one (1) Program Suggestion. The state must address the Necessary Actions by the date indicated. The Program Suggestion should be addressed before the next regularly-scheduled program evaluation, but it is not mandatory at this time. Program Suggestions that must be repeated in subsequent evaluations may be elevated to Necessary Actions. Summary tables of program accomplishments and recommendations are provided in Section VI.

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



Donna Wieting
Acting Director, Office of Ocean and Coastal
Resource Management

JUN 11 2010

Date

VI. APPENDICES

Appendix A. Summary of Accomplishments and Recommendations

The evaluation team documented a number of the Ohio ODNR Division of Wildlife and Reserve’s accomplishments during the review period. These include:

Issue Area	Accomplishment
Administration and Staffing	The Reserve has transferred three core staff positions to 100 percent state funding. This provides ongoing state support for those positions and a significant portion of non-federal match dollars.
Coordination and Partnerships	The Old Woman Creek has been very successful during this evaluation period in using partnerships to conduct significant programs such as the Ohio Coastal Training Program. Many of these partnerships also serve to integrate the Reserve’s many education, research, and stewardship activities.
Volunteer Support and Non-profit “Friends” Group Support	Volunteers and <i>The Friends of Old Woman Creek</i> organization have increased and broadened activities in support of the Reserve and its mission. During this evaluation period, volunteers constructed and sited wood duck boxes and trail and interpretive markers. <i>The Friends</i> also assisted the Reserve in hosting the NERRS/NERRA 2006 Annual Meeting.
Research Activities	The Reserve continues to provide excellent staff support and facilities for a varied range of researchers, including NERR GRFs and NOAA Hollings scholars, many of whom return to conduct long-term projects.
Education and Outreach	The Old Woman Creek Reserve and its partners in the Lake Erie Partnership are developing a five-year outreach and education plan and have initiated the <i>Lake Erie Literacy</i> project.
Coastal Training Program	The Ohio Coastal Training Program is a strong collaborative partnership that has led to a coordinated training approach that taps into the strengths and resources of each partner.
Stewardship	The Reserve and the Firelands Coastal Tributaries Watershed Council successfully found a funding source, employed a watershed coordinator, and received full endorsement of the Old Woman Creek Watershed Action Plan.

In addition to the accomplishments listed above, the evaluation team identified several areas where the program could be strengthened. Recommendations are in the forms of Program Suggestions and Necessary Actions. Areas for improvement include:

Issue Area	Recommendation
Administration and Staffing	NECESSARY ACTION: The Reserve, ODNR Division of Wildlife, and OCRM should discuss options to overcome the lack of sufficient state budget authority available to the Reserve. The Reserve must submit financial assistance award applications consistent with the available spending authority and must follow guidance from OCRM to address awards open at the time of the issuance of these final findings.
Management Plan	NECESSARY ACTION: Updates to Old Woman Creek Reserve’s management plan are overdue by five years beyond the five year update period. The Reserve must complete updated revisions to its management plan. The completed final plan must be submitted to OCRM no later than September 30, 2010.
Facilities and Infrastructure	PROGRAM SUGGESTION: The Reserve should plan and implement a master planning process to address facility needs for classroom programs, teacher training, CTP training, public meeting space, staff office space, and lodging/dormitory space for students, teachers, and visiting researchers. The planning process should also take into account visitor and resource impacts of facilities expansion and ongoing and periodic maintenance requirements.
Research Activities	NECESSARY ACTION: The Reserve must manage the lands and waters within its boundary for long term protection and as a stable platform for research. To that end, the Reserve must establish a process that allows Old Woman Creek Reserve staff to facilitate periodic meetings between researchers and Division of Wildlife land stewardship staff, upper-level managers, and administrators. Such meetings must foster communication, ensure coordination on proposed management actions affecting reserve lands and water, and promote increased awareness of reserve research and stewardship programs. The Reserve must provide a written description of the process to OCRM no later than September 30, 2010, and provide information about these meetings in the Reserve’s semi-annual progress reports.

Appendix B. State's Response to Previous (2006) Evaluation Findings

Program Suggestion: The Reserve should facilitate periodic meetings to be held at the Reserve between upper level managers and administrators in the Division of Wildlife and Reserve researchers to discuss ongoing research and projects; the needs of researchers; the Division's need for specific research, its mission and strategies, and how the Reserve fits in; and how the Reserve setting can provide a mutually beneficial opportunity for collaboration and cooperation on research.

Response: Since the 2006 program evaluation, the Chief and Assistant Chief have participated in OWC NERR Advisory Council meetings. The Reserve has hosted Wildlife Management, Business, and Information and Education meetings. Annually, the Reserve manager provides a presentation to regional Wildlife district meetings about the Reserve and specific research underway at the facility. The reserve manager has worked for the last year on a Division-wide steering committee to update the Wildlife strategic plan. These interactions have increased agency understanding of the Reserve program, its goals, and projects.

In 2008, the Division hired a project employee wildlife biologist through 309 funds from the Office of Coastal Management. The biologist has been stationed at the Reserve and is supervised by the Reserve manager. The primary task for this employee has been to develop protocols for avian species monitoring at prospective wind energy facilities.

The Reserve is one of the survey sites for an upcoming Ohio State University research project relating to *Lasiurine* bat species and their movements during migration along the Lake Erie shore. The wind energy biologist will be the research point of contact for this work and designed its methods and scope. The information from this study is critical to the Division of Wildlife to inform siting of wind energy facilities in the coastal zone.

Necessary Action: The Reserve and Division of Wildlife must continue to seek ways to maintain fully staffed education and CTP programs and must have a full-time education coordinator in place by the date of the next evaluation site visit.

Response: The Reserve has received permission to develop and post a full-time, three-year project employee position. The position will be posted this fall, following a national recruitment.

Necessary Action: The Reserve must complete updated revisions to its management plan. The completed final draft plan must be submitted to OCRM no later than May 31, 2007.

Response: The Reserve has submitted a complete draft for ERD review. The draft was completed in response to initial ERD comments received April 2009. The plan required extensive analysis of partner short term goals and strategies to facilitate on-going collaborations.

Program Suggestion: The Division of Wildlife should work with the ODNR and state information technology specialists to find a way to allow the installation and operation of the Reserve's distance learning infrastructure and to provide internet connectivity in the Reserve's classrooms and exhibit hall.

Response: No response provided. (However, distance learning infrastructure has been installed in the classroom area of the Visitors Center.)

Program Suggestion: The Reserve and Division of Wildlife should seek ways to create a permanent CTP Coordinator position that has sufficient time dedicated to maintaining and implementing a fully functional Coastal Training Program that meets all performance requirements.

Response: The CTP coordinator position has been transformed from a temporary project employee position to a classified position within the Division of Wildlife as a wildlife communication specialist. This could not have been accomplished without the strong support of the action by the Wildlife Management and Research Group Administrator and the Human Resources Group Administrator, given the current hiring climate.

Because of the nature of planning and scheduling training, there have been reporting periods wherein no programming was scheduled, which does not meet NERRS performance standards for content hours for that specific period. Otherwise, Ohio CTP training programs consistency perform at or above NERRS metrics. The program recently received ERD approval for its strategic plan for the upcoming three year period. The plan illustrates several collaborations on priority training topics such as land use planning and stormwater management practices

Program Suggestion: The Division of Wildlife and the Reserve should explore strategies and options for identifying a position or person to assist with land acquisition and other stewardship activities.

Response: The Reserve continues to take a networked approach to stewardship. The primary Reserve staff responsible for land management is the Reserve manager and part-time facilities manager. In order to be more efficient and provide more time to devote to land/habitat management, the Reserve has outsourced tasks like minor facility work, landscaping, etc. The Reserve participated in an OODNR job stimulus program this past summer. A crew of from three to five youth worked daily at the Reserve assisting with land management tasks. Within the Reserve boundary, Wildlife District Two staff assists with invasive species control, deer management, and law enforcement. Central office staff secures funds through sources like the USFWS aquatic invasive species grant to be used to treat invasive plants at the Reserve.

Without question, the greatest area of progress the Reserve has made toward stewardship goals has been through its support of local watershed planning and management through its affiliations with the Firelands Coastal Tributaries watershed program. The Friends of Old Woman Creek provide the local match for a watershed coordinator to develop a restoration/conservation plan

for Old Woman Creek consistent with a Total Maximum Daily Load Report from Ohio EPA. The Reserve has a synergistic relationship with the watershed program, providing research for the plan's resource inventory, training volunteer water quality monitors, and serving in leadership roles for the watershed program's education, restoration, and administration. The watershed coordinator has completed a watershed plan for Old Woman Creek and stands poised to begin project implementation after receiving plan approval from EPA and OODNR. The plan prioritizes several restoration projects that will reduce sediment and nutrient loading into the stream, estuary, and Lake Erie.

One of the initial restoration projects of the watershed program took place within Reserve boundaries. The coordinator planned and executed a volunteer tree planting in an emergent wetland area on the Reserve southern boundary. The area is being treated to remove reed canary grass. Water-tolerant tree species like Swamp White Oak and Pin Oak were planted to shade out the understory over time.

Appendix C. Persons and Institutions Contacted

Ohio Department of Natural Resources

Dave Graham, Chief, Division of Wildlife

Randy Miller, Assistant Chief, Division of Wildlife

Jim Marshall, Assistant Chief, Division of Wildlife

Dave Scott, Acting Group Administrator, Wildlife Management and Research, Division of Wildlife

Sue Howard, Group Administrator, Business Administration, Division of Wildlife

Michelle Ward-Tackett, Group Administrator, Human Resources, Division of Wildlife

Jen Dennison, Education Coordinator, Division of Wildlife

Sue Demers, Revenue Administrator, Division of Wildlife

Mickey Nygaard, Grants Coordinator, Division of Wildlife

Keith Lott, Biologist, Division of Wildlife

Jay Dorsey, Division of Soil and Water Conservation

John Watkins, Chief, Ohio Coastal Management Program

Matt Adkins, Nonpoint Pollution Program Coordinator, Ohio Coastal Management Program

Brenda Culler, Public Information Officer/Internet and Education Coordinator, Ohio Coastal Management Program

Brittany Huaracus, crew chief, Recovery Conservation Corps

Old Woman Creek National Estuarine Research Reserve

Frank Lopez, Reserve Manager

Dr. David Klarer, Research Coordinator

Heather Elmer, Education Programs Coordinator and Coastal Training Program Coordinator

Phoebe Van Zoest, Education Specialist

Marge Bernhardt, Volunteer Coordinator

Gloria Pasterak, Office Assistant

Dick Boyer, Facilities and Equipment Maintenance Specialist

Colin Ward, NERR Graduate Research Fellow

Old Woman Creek NERR Advisory Council

Bob Beidler, local landowner

Herb Chapin, local real estate agent

Dr. Bob Heath, Director, Water Resources Research Institute, Kent State University

Dr. Jeff Reutter, Director, Ohio Sea Grant College Program

Melinda Huntley, Tourism Extension Program Director, Ohio Sea Grant College Program

Floren James, retired extension agent

David Snook, Superintendent, Berlin-Milan Local Schools

Tom Stockdale, retired, Ohio State University School of Natural Resources

Steve Deehr, watershed farmer

Tom Ritzenthaler, Erie County Conservation Club

Yetty Alley, Local Liaison/CMAG Coordinator, Ohio Coastal Management Program

Friends of Old Woman Creek

Sue Cloak	Barbara Berg	Elaine Waterfield
Pam Leszynski	Sandy Burris	Linda Feix
Sandy Wright	Marian Hancy	Dorothy Koontz
Ed Enderle	Pat Krebs	

Federal and State Agency Representatives

Paul Svoboda, NOAA National Weather Service
Mike Abair, NOAA National Weather Service
Paige Gill, NOAA Coastal Services Center
Katie McKibben, Ohio Environmental Protection Agency
Chris Riddle, Ohio Lake Erie Commission

Local Government Representatives

Eric Dodrill, Erie County Soil and Water Conservation District
Breann Hohman, Erie County Soil and Water Conservation District
Celine Hemminger, Erie County Soil and Water Conservation District
Harry Stark, Cuyahoga County Board of Health
Lisa Beursken, Erie County Solid Waste Management Authority

Academic/Educational Representatives

James Houle, University of New Hampshire, Stormwater Center
Dr. Linda Cornell, Bowling Green State University, Firelands College
Dr. Bob Whyte, California University of Pennsylvania
Dr. Joe Holomuzki, Ohio State University at Mansfield
Dr. William Mitsch, Ohio State University
Kathleen Failor, Firelands Montessori Academy
Donna Fraelich, Western Reserve Middle School
Daila Shimek, Great Lakes Environmental Finance Center, Cleveland State University
Kirby Date, Maxine Goodman Levin College of Urban Affairs, Cleveland State University
Sharon Opfer, Erie-Huron-Ottawa Vocational Career Center

Other Organizations and Individuals

Sharon Barnes, Barnes Nursery
Kathie Mueller, Friends of Pipe Creek
Eddie Herdendorf, Ecosphere & Associates
Amy Brennan, Chagrin River Watershed Partners
Jeff Reutter, Director, Ohio Sea Grant College Program
Jill Jentes Banicki, Assistant Director, Communications Coordinator, Ohio Sea Grant College Program
Joe Lucente, Ohio Sea Grant College Program
Frank Lichtkoppler, Ohio State University Sea Grant Extension
Glenn Odenbrett, Science Education for New Civic Engagements and Responsibilities

Appendix D. Persons Attending the Public Meeting

The public meeting was held on Wednesday, October 7, 2009, at 6:00 p.m. at the Old Woman Creek National Estuarine Research Reserve Visitor Center, 2514 Cleveland Road East, Huron, Ohio. The following attended the meeting:

Gene Wright
Jim Randall
Tim Fields

Appendix E. NOAA's Response to Written Comments

NOAA received no written comments regarding the management or administration of Old Woman Creek National Estuarine Research Reserve.