

EVALUATION FINDINGS
FOR THE
SOUTH SLOUGH NATIONAL ESTUARINE RESEARCH RESERVE
MARCH 1999 THROUGH JUNE 2004

February 2005

Office of Ocean and Coastal Resource Management
National Ocean Service
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I. EXECUTIVE SUMMARY

A. OVERVIEW

Sections 312 and 315 of the CZMA require NOAA's Office of Ocean and Coastal Resource Management (OCRM) to conduct periodic performance reviews or evaluations of federally designated national estuarine research reserves (NERRs). This review examined the operation and management of the South Slough National Estuarine Research Reserve (SSNERR or Reserve) by the State of Oregon Department of State Lands during the period of March 1999 through June 2004.

It is the fundamental conclusion of this evaluation that the SSNERR is successfully implementing and enforcing its federally approved program and is adhering to its programmatic obligations defined by the terms of federal financial assistance awards and NERR System regulations under Section 315 of the CZMA. This document contains three recommendations that take the form of Necessary Actions that are mandatory and must be completed by the identified deadline, and nine Program Suggestions that denote actions OCRM believes the State should take to improve the program, but which are not mandatory at this time.

B. SUMMARY OF ACCOMPLISHMENTS

The evaluation team documented a number of accomplishments of the SSNERR, including:

Accomplishments – Operations and Management

- **Staffing:** The South Slough Reserve staff are highly dedicated, enthusiastic, and knowledgeable. They are recognized leaders in their fields and are sought out locally and nationally for support, advice, and their professional expertise.
- **Facilities, Facilities Plan, and Infrastructure:** The Reserve has completed significant additions and renovations to several elements of its physical facilities, providing enhanced access for visitors and an enhanced working environment for investigators and staff.
- **Coordination and Partnerships:** The South Slough Reserve has become an integral part of the local and regional community, seeking to coordinate its plans and activities with local and regional stakeholders. It is adept at forming partnerships to benefit a broad range of interests and entities. The local and regional community in turn views the Reserve as a significant and positive resource.

Accomplishments – Research and Monitoring

- **Research Activities:** The Reserve continues to be an active leader and participant in science and research programs focused on estuaries and coastal processes.
- **System-wide Monitoring Program:** The Reserve's System-wide Monitoring Program has become a respected and recognized program within the NERRS and provides leadership at the national level.

Accomplishments – Education and Outreach

- **Traditional Education Programs:** The Reserve places significant emphasis on education and outreach and on the role South Slough can provide for site based experiences. It has expanded the level and diversity of the educational programs it offers, the capacity of the Interpretive Center and its hours of operation, its outreach efforts to the community, and partnerships to local educational organizations.
- **Coastal Training Program:** The Reserve has established the Coastal Training Program, has hired a CTP coordinator, and is developing the CTP as a core activity at the Reserve.
- **Public Involvement and Volunteer Programs:** The Reserve has hired a full time public involvement coordinator and is establishing a structured program to recruit, train, and schedule volunteers.

Accomplishments – Stewardship and Resource Management

- **Restoration Activities:** Habitat restoration and stewardship activities remain a strong component of the Reserve's activities. The Reserve has hired a restoration monitoring coordinator, has initiated restorative management actions for habitats in the Anderson Creek watershed, and has published results from its restoration science program in the scientific literature. The Reserve staff is considering new and innovative directions and mechanisms to meet habitat restoration, resource management, and land acquisition goals.

C. SUMMARY OF RECOMMENDATIONS

In addition to the accomplishments discussed above, the evaluation team has identified areas where the SSNERR could be strengthened or improved. These include:

Operations and Management

- **PROGRAM SUGGESTION (Staffing):** If the research coordinator position is not shifted to 100% state funding during the 2005-2007 state biennium, the Reserve and the Department of State Lands should continue efforts to accomplish the transfer.

- **PROGRAM SUGGESTION (Staffing):** To support Reserve staff, the State is urged to:
 - 1) convert the Reserve's limited-duration positions to full-time permanent positions (regardless of funding source) when appropriate and possible;
 - 2) support opportunities for staff professional training and development;
 - 3) explore ways to support the Reserve's accounting and contract management needs;
 - 4) improve information management and communications technology.

- **PROGRAM SUGGESTION (Facilities, Facilities Plan, and Infrastructure):** The Department of State Lands and the Reserve should work together to identify sources of funding, staff positions, and/or other means to address the electronic communication and computer access problems, new technology requirements, any hardware/software needs, and maintenance of the communications technology at the Reserve as a result of facilities expansions.

- **PROGRAM SUGGESTION (Facilities, Facilities Plan, and Infrastructure):** The Reserve should complete the facilities plan update as quickly as possible in conjunction with the management plan revisions.

- **NECESSARY ACTION (Management Plan):** The Reserve must complete, finalize, and submit the revised management plan to NOAA according to the following schedule:
 - a) By April 1, 2005, submit a final draft to the OCRM Estuarine Reserves Division for review.
 - b) Within two months of the receipt of OCRM's comments, the Reserve must finalize the management plan. NOAA will publish a Federal Register notice regarding the management plan revision and authorize the Reserve to have the document printed. The Reserve is responsible for printing and distributing the revised management plan. The Reserve must provide NOAA with:
 - 1) documentation that the document has been submitted for printing, and
 - 2) a copy of the final document on a compact disc. The document must also be posted electronically on the Department of State Lands/South Slough Reserve web site at this time. Failure to meet this Necessary Action could result in the withholding of supplemental funding for biomonitoring and/or IOOS projects in FY 06.

Research and Monitoring

- **PROGRAM SUGGESTION (Research Activities):** NOAA supports and urges the Reserve to continue its efforts to attract research to Coos Bay and the Reserve. The Reserve should also pursue partnership opportunities to analyze data collected during "McArthur" ship time and pursue placement of a PACOS transect line at Coos Bay.

- **PROGRAM SUGGESTION (Geographic Information System):** The South Slough Reserve is urged to investigate and pursue opportunities with the Coos Watershed Association, the Oregon Coastal Management Program, or other entities with regard to further development, maintenance, and use of its geographic information system.

- **NECESSARY ACTION (Site Profile):** Within five months of the date of these findings, the South Slough site profile must be printed and distributed. If the printing is not completed at the end of five months, the Reserve must provide NOAA with documentation that the document has been submitted for printing and with a copy of the final document on a compact disc. The document must also be posted electronically on the Department of State Lands/South Slough Reserve web site at this time. Failure to meet this Necessary Action could result in the withholding of supplemental funding for biomonitoring and/or IOOS projects in FY 06.

Education and Outreach

- **NECESSARY ACTION (Traditional Education Programs):** Within one month of the date of these findings, the Reserve must submit a work plan to OCRM for approval, detailing the necessary steps and deadlines for completing the revisions to the Estuary Study Program curricula and completing the TIDES curriculum. Failure to meet the deadlines established in the work plan may result in financial consequences with regard to the Reserve's future financial awards.

- **PROGRAM SUGGESTION (Traditional Education Programs):** To bring focus to the education program, prioritize education activities, and utilize staff time and expertise efficiently, the Reserve is strongly urged to develop a strategy to consolidate and prioritize the many and varied activities and elements that are used for education and outreach. The ESP and TIDES curricula and any revisions and updates should be considered as part of this effort. The Reserve should consider appointing or convening an Education Advisory Group to assist in this endeavor.

- **PROGRAM SUGGESTION (Outreach):** The Reserve should consider development of a communications strategy or plan to target and prioritize outreach to specific user groups and to standardize operating procedures and messaging with respect to the numerous education and outreach mechanisms used by staff. The strategy should address the role of the Reserve's web site in outreach, how to renew investment in the web site, and whether to seek external assistance or develop staff capacity to improve and support web based communication and outreach.

Stewardship and Resource Management

- **PROGRAM SUGGESTION (Land Acquisition):** The Department of State Lands and the Reserve should continue efforts to seek legislative authorization to implement the Reserve's Cooperative Plan for Watershed Conservation and also to explore less traditional mechanisms for implementation, such as less-than-fee simple acquisition, land swap opportunities, etc.

II. INTRODUCTION

The Coastal Zone Management Act (CZMA) of 1972, as amended, established the National Estuarine Research Reserve System (NERRS), a network of reserves that are protected for long-term research, environmental monitoring, education, and coastal stewardship. Sections 312 and 315 of the CZMA require NOAA's Office of Ocean and Coastal Resource Management (OCRM) to conduct periodic performance reviews or evaluations of federally designated national estuarine research reserves (NERRs). This document describes the evaluation findings of the Director of NOAA's OCRM with respect to the operation and management of the South Slough National Estuarine Research Reserve (SSNERR or Reserve) by the Oregon Department of State Lands (DSL) during the period of March 1999 through June 2004. It contains an executive summary of the review findings, a description of the review procedures, a description of the program, evaluation findings, major accomplishments during the review period, recommendations, a conclusion, and appendices.

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

Necessary Actions address programmatic requirements and must be carried out by the date(s) specified;

Program Suggestions describe actions that 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.

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 must be reiterated in consecutive evaluations to address continuing problems may be elevated to Necessary Actions. NOAA will consider the findings in this evaluation document in making future financial award decisions relative to the South Slough NERR.

III. REVIEW PROCEDURES

A. OVERVIEW

The Office of Ocean and Coastal Resource Management (OCRM) evaluation staff began its review of the South Slough NERR in February 2004. The §312 evaluation process involves four distinct components:

- An initial document review and identification of specific issues of concern;
- A site visit to Oregon, including interviews and a public meeting;
- 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 necessary actions specified in the draft document.

B. DOCUMENT REVIEW AND ISSUE DEVELOPMENT

The evaluation team reviewed a wide variety of documents prior to the site visit, including: 1) the SSNERR federally-approved Environmental Impact Statement, management plan, and program documents; 2) financial assistance awards, performance reports, and work products; 3) official correspondence between the program and OCRM; 4) the previous §312 evaluation findings; and 5) other relevant information.

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

- status of general administration of the reserve and the management plan revision;
- facilities development and land acquisition efforts;
- status of implementation of the reserve's research, monitoring, and education programs;
- status of reserve staffing and needs;
- the manner in which the reserve coordinates with other governmental and non-governmental organizations and programs in the state and region;
- major accomplishments during the review period; and

- how the reserve has addressed recommendations in the Section 312 findings released in 1999.

C. SITE VISIT TO OREGON

Notification of the scheduled evaluation was sent to the Oregon DSL, the South Slough NERR, relevant federal agencies, and the Oregon congressional delegation. The South Slough NERR published notification of the evaluation and scheduled public meeting. In addition, a notice of NOAA's "Intent to Evaluate" was published in the *Federal Register* on May 17, 2004.

The site visit to Oregon was conducted from June 21 - 25, 2004. The evaluation team consisted of Ms. L. Christine McCay, Evaluation Team Leader, OCRM National Policy and Evaluation Division, and Ms. Nina Garfield, SSNERR Program Specialist, OCRM Estuarine Reserves Division.

During the site visit, the evaluation team met with SSNERR staff, some South Slough Reserve Management Commission members, senior Oregon DSL and other state officials, state legislators, coastal researchers, civic group representatives, and non-governmental organizations. Appendix A contains a listing of individuals contacted during this review.

As required by the CZMA, a public meeting was held (in conjunction with a celebration of the Reserve's 30th anniversary) on Thursday, June 24, 2004, at 7:00 p.m., at the North Bend Public Library, large conference room, 1800 Sherman Avenue, North Bend, Oregon, where members of the general public were given the opportunity to express their opinions about the overall operation and management of the South Slough NERR. Appendix B lists persons who attended the public meeting.

Written comments are also accepted. Appendix C contains responses to written comments received in response to the evaluation.

The South Slough NERR staff were crucial in setting up meetings and arranging logistics for the evaluation site visit. Their support is most gratefully acknowledged.

IV. RESERVE PROGRAM DESCRIPTION

A. THE NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

The Coastal Zone Management Act of 1972, as amended, established a system of National Estuarine Research Reserves that are funded cooperatively by NOAA's Office of Ocean and Coastal Resource Management and the host states or territories, which also manage the reserves. The Reserve Program has two primary missions: (1) to establish and maintain, through federal and state cooperation, a national system of reserves representative of various biogeographic regions in the U.S.; (2) to conduct long-term research, educational, and interpretive activities in support of national coastal zone management priorities.

Toward those missions, reserve sites are selected to represent the range of biogeographic regions, estuarine types, and coastal management challenges occurring throughout the U.S. To date, NOAA has designated 26 National Estuarine Research Reserves that collectively protect more than one million acres of estuarine land and water. Two additional sites are currently in various stages of the designation process.

B. RESERVE SITE DESCRIPTION

The South Slough National Estuarine Research Reserve (South Slough NERR or the Reserve) was federally designated in 1974 as the first site in the National Estuarine Research Reserve System and was celebrating its 30th anniversary during the site visit. The Reserve is located on the south-central coast of Oregon, in Coos County, south of the communities of Charleston and Barview. The Reserve encompasses approximately 4,700 acres of uplands, tidelands, and open water in the South Slough watershed. The slough is a short, narrow, and shallow sub-system in the southwestern portion of the Coos Bay estuary. Valino Island marks the northern boundary of the SSNERR, with the Long Island Point peninsula dividing Reserve waters into west and east arms. South Slough is a well-mixed system with salinity ranging from 0-34 parts per thousand. Channel depths range from less than one foot to approximately four feet below Mean Lower Low Water.

The diverse natural features of the South Slough drainage basin form a complex ecosystem containing numerous upland and wetland habitats. Uplands are dominated by coniferous forests of hemlock, spruce, Douglas fir, cedar, and by hardwood and mixed forest areas. Most of the forested areas have been logged in the past, and several areas in the Reserve have been clearcut in the last 25 years. Shrub thickets are scattered throughout riparian areas. There is a small but healthy stand of introduced American chestnut (an Eastern species) on Valino Island. One of the notable plant species found on site is the carnivorous sundew (*Drosera rotundifolia*), which is not commonly seen in this area.

Estuarine wetlands are found in the northern portions of South Slough, and as tidal influence diminishes, these grade into freshwater wetlands. Great expanses of mud flats support seasonal algal beds, eelgrass beds, and benthic diatom populations. Although South Slough is considered generally pristine, the area has been modified by numerous dikes, many of which have been breached over the years.

A wide variety of bird and wildlife species utilize the South Slough area. Many of these are resident for part of the year; the mudflats are also an important feeding stopover for birds migrating along the Pacific Coastal Flyway. Among the birds found in the SSNERR are raptors, waterfowl, shorebirds, wading birds, gulls and terns, and songbirds. Of special note are a blue heron rookery and bald eagle roosting site near the Reserve, and nesting areas for osprey and several species of ducks in South Slough. Wildlife found in the Reserve are typical of this part of the Oregon coast. Mammals include elk, blacktail deer, bobcat, mountain lion, black bear, beaver, and harbor seal.

South Slough contains important habitats for myriad fish and invertebrate species. The estuary serves as a feeding and nursery area for salmonids (salmon and trout), flounders, and many other fish. The site also supports large populations of mollusks, crustaceans, and marine worms.

The Reserve and surrounding area have been used historically for a number of commercial and recreational activities. Agriculture once was important locally, but is less so now. Logging remains a major economic activity. Fish and shellfish are locally important economic resources, with the culture of Pacific oysters taking place in Reserve boundaries. Shipping, fish processing, and recreational tourism have become economically significant as outgrowths of the area's rich resources.

C. RESERVE ADMINISTRATION

The South Slough NERR was initially an element of the Oregon Coastal Management Program. In 1977 Oregon enacted HB 3269, authorizing the State Land Board to acquire public and private lands for incorporation into the Reserve, and, through the South Slough National Estuarine Research Reserve Management Commission (SSMC or Commission), to manage and protect acquired lands for research, education, and low-intensity recreation uses.

The SSMC serves as the policy making board for the Reserve. Commission members are appointed by the Governor for two to four year terms, depending on the position. The composition of the SSMC is defined by Oregon statute (ORS 273.55) as a representative of each of the following:

- Division (now Department) of State Lands (Director or designee), as permanent chair;
- Coos County Board of Commissioners;
- Port of Coos Bay;

- University of Oregon, Institute of Marine Biology (OIMB);
- Oregon State University;
- common schools in the reserve area;
- general public; and
- OCRM.

Reserve staff are responsible for preparing background information for Commission members and for implementing the Commission's directives. An Advisory Group was formed in 1986 to provide guidance to the SSMC and Reserve staff on issues facing the SSNERR. A single body replaced separate citizen and scientific/technical advisory groups largely because there were insufficient scientific and technical matters to deliberate on at the time. The Advisory Group currently has 13 members representing a wide variety of interests. Members are appointed by the SSMC and include private individuals, representatives of local interest groups and a Native American corporation, and staff from federal, state, and local government; their backgrounds range from fishing, forestry, and the sciences to business and education. The group has reviewed plans and provides advice to the SSMC on a number of issues, such as staffing, traditional uses of the Reserve, and user fees.

The SSNERR is located in the Oregon Department of State Lands (DSL) for administrative purposes. The DSL is also responsible for wetlands and submerged lands management as well as the state's natural heritage program.

V. REVIEW FINDINGS, ACCOMPLISHMENTS, AND RECOMMENDATIONS

A. OPERATIONS AND MANAGEMENT

The Reserve, the Coos Bay region, and the state of Oregon have all dealt with significant changes in the ecological, political, and economic environments since the last evaluation. The fisheries and timber industries have declined and the regional economy is in transition from resource and extraction-based industries to tourism and growth related development; the state budget has been squeezed; state land acquisition is on hold; and issues of security have all affected Reserve management decisions.

The local/regional economy has been largely dependent upon resource extraction activities, primarily fisheries and the timber industry. However, many fisheries have declined significantly (notably salmon and rockfish) and the timber industry is significantly depressed. Recently, development has begun on several golf courses and condominium developments in the area. Many local businesses see this as evidence of positive growth and are hoping this will increase tourism opportunities and provide both a boost to, and new direction for, the local economy.

Revenues from activities on lands managed by the Department of State Lands are deposited into the Oregon Common School Fund (CSF), which provides funds to support and maintain common schools in each school district in all Oregon counties. The State Land Board is the trustee of the CSF and the Department of State Lands is the administrative agency of the board. Staff of the Department of State Lands manage lands and their various mineral, timber, and other resources under the State Land Board's jurisdiction, including the submerged and submersible lands underlying the state's tidal and navigable waterways. In addition to supporting public schools, the CSF supports the South Slough Reserve (as well as other state land related programs, such as removal and fill of wetlands). Because of economic pressures limiting the overall funding provided to schools from all sources, greater pressure has been placed on the CSF by the Legislature to direct CSF resources to the public school system. This has had an impact on state funding to the Reserve. There has been some discussion about shifting CSF support for the Reserve to other revenue sources, and if this happens, the Reserve could be asked to look for revenue-generating opportunities.

The Management Commission has been responsive to evaluation findings, continues to make the Reserve available to the public, and is operating the Reserve in accordance with federal and state statutes and regulations. Management Commission members with whom the evaluation team spoke are supportive of Reserve staff and hold them in high regard.

1. Staffing

The heart and strength of the Reserve is its staff. They have assumed leadership roles in many areas as they, the region, and the state face numerous changes. During the period covered by this evaluation, the Research Coordinator has served as the chair of the Port of Coos Bay's environmental advisory committee and participates in several national level committees (Integrated Ocean Observing System [IOOS], systemwide monitoring program [SWMP], and the NERRS strategic committee). The Education Coordinator serves on the NERRS education committee and strategic committee; the Stewardship Coordinator chairs the NERRS restoration science committee. The Monitoring (SWMP) Coordinator is a national leader in implementing SWMP and in data quality assurance/quality control issues, which was a deficiency noted in the last evaluation findings. The Reserve Manager serves on the Boards of Directors of the Coos Watershed Association and OCEAN (Oregon Coastal Environments Awareness Network); he also serves as a founding member on the Port of Coos Bay's Charleston Marina advisory committee and Oregon State University's Coastal Oregon Marine Experiment Station advisory board.

Staff members have tackled additional responsibilities and new challenges, particularly since the last evaluation. Much of this work is discussed throughout other sections of these findings. Many of the people with whom the evaluation team met commended the staff on their enthusiasm, dedication, and knowledge. Since the last evaluation, the stewardship coordinator and the education program assistant have been made full-time permanent, as opposed to limited duration, positions. A public involvement coordinator, coastal training program coordinator, and SWMP technician have also been hired in full-time limited duration positions since the last evaluation.

ACCOMPLISHMENT: The South Slough Reserve staff members are highly dedicated, enthusiastic, and knowledgeable. They are recognized leaders in their fields and are sought out locally and nationally for support, advice, and their professional expertise.

One of the Program Suggestions from the previous evaluation findings recommended that the research coordinator position be fully funded with state monies, rather than primarily funded with federal funds. In February 2004 the Reserve submitted a budget proposal to shift the research coordinator position to 100% state funding at the beginning of the 2005-2007 fiscal biennium; during the site visit, the administration of the Department of State Lands forwarded that proposal for consideration by the Oregon Legislature. The DSL is commended for these actions in recognizing the strength and value of the Reserve staff and in supporting OCRM's expectation that reserve core positions (manager, education coordinator, and research coordinator) be state-funded. If the Legislature does not act positively on this proposal, the Reserve and DSL are urged to continue to seek full state funding for the position.

PROGRAM SUGGESTION: If the research coordinator position is not shifted to 100% state funding during the 2005-2007 state biennium, the Reserve and Department of State Lands should continue efforts to accomplish the transfer.

The Reserve staff has expanded the hours the Interpretive Center is open to the public and tries to meet public demand for increased diversity and quantity in educational programs. The Reserve's implementation of the systemwide monitoring program (SWMP) and other research activities have increased programmatic capacity. This expansion creates issues of staff capacity and security. For example, at least two people need to be at the Interpretive Center or in boats at any given time. Blind spots in radio transmission within the Reserve create security risks for the staff. Reserve staff have no enforcement authority and therefore are not authorized to carry sidearms for protection in remote areas or when working alone. While several people are always at the Interpretive Center during normal week day hours, there is cause for concern now that the Center is open seven days a week during peak visitation season and on Saturdays in the winter. Finally, maintenance of larger facilities and expanded roads and trails to the current high standards that the staff now provides will become more difficult. The Reserve has been creative in attempting to deal with this staffing issue, but it is important that the state provide stable and long-term staffing support. In particular NOAA urges the state to convert Reserve positions from limited duration to full-time permanent, regardless of funding source, whenever possible. Full-time permanent positions provide greater stability to the Reserve staffing base, help to keep staff for the long term, thereby ensuring program growth and stability, and acknowledge the importance of the Reserve and staff's ongoing work.

Another area in which the state can recognize and support the Reserve staff is in professional and job-related training and development. The Reserve is somewhat isolated geographically; this can make it difficult logistically to find and participate in training and development opportunities and to stay up to date and in touch with others in terms of professional expertise and changing developments in a professional field. This issue holds true for both the Reserve's long-time staff members and those who are relatively new, even though their training and development needs may be different. If Reserve staff are going to maintain the respect they have earned for their leadership roles in the region and the NERR system, it is imperative that they remain current in their professions. Although economic and fiscal factors often hinder authorization for training and travel, NOAA urges the state to support opportunities for staff training and development – both management/supervisory and non-manager/supervisory staff – to include conferences, meetings, symposia, workshops, courses, and other opportunities to increase professional knowledge, as well as those opportunities usually offered by the state.

The increase in Reserve activities and in federal funding over the last several years has stretched the existing staff capacity in accounting and contract management. One staff member is responsible for all accounting, grants and contract management tasks and activities for the Reserve, including NOAA cooperative agreement awards, contracts to complete facilities and infrastructure expansion and renovation, and other contracts associated with the assumption of

new Reserve activities such as the Coastal Training Program. The grant management process has improved since the last evaluation; however, this activity is but one part of the staff member's responsibilities, and the associated tasks increasingly involve more detailed knowledge and expertise in financial management as the grants management process continually changes among funding agencies. The growth in Reserve programs requires a corresponding growth in administrative capacities.

Finally, issues of information management and communications technology have stretched thin and stressed existing Reserve staff. These are discussed in greater detail in other sections of this document, but it is very difficult for the Reserve to deal with problems created by existing electronic infrastructure (e.g., e-mail communication failure on a very regular basis, frequent inability to access the worldwide web), with the need to maintain large data bases, and with the need to more fully develop the Reserve's web site to increase its capabilities and capacity as an important communications tool.

PROGRAM SUGGESTION: To support Reserve staff, the State is urged to:

- 1) convert the Reserve's limited-duration positions to full-time permanent positions (regardless of funding source) when appropriate and possible;**
- 2) support opportunities for staff professional training and development;**
- 3) explore ways to support the Reserve's accounting and contract management needs;**
- 4) improve information management and communications technology.**

2. Facilities, Facilities Plan, and Infrastructure

During the period covered by this evaluation, the Reserve has expanded and renovated several facilities. A four-bay, covered vehicle shelter has been added to the maintenance facility. The size of the Interpretive Center was doubled, creating a new exhibit gallery, a lecture hall, and a classroom, and classroom furnishings have been purchased. Spruce Ranch, an existing house at the Reserve used to house visiting investigators, is being renovated (septic tank replacement and bathroom asbestos abatement). This renovation also includes the placement of two large "yurts" on permanent wooden pads adjacent to Spruce Ranch to provide even more seasonal sleeping space for investigators. The road and trail system adjacent to the Interpretive Center has been repaired, improved, and made accessible to the disabled in some instances; maintenance of the trails is excellent. Planning is ongoing for co-locating the Reserve's administrative offices with the Charleston Visitors Center at a location yet to be determined. The location will, however, be more visible and accessible than the Interpretive Center location.

ACCOMPLISHMENT: The Reserve has completed significant additions and renovations to several elements of its physical facilities, providing enhanced access for visitors and an enhanced working environment for investigators and staff.

All of these activities are very positive. A severe space shortage has been resolved: the Interpretive Center houses the education, public involvement, and volunteer efforts of the Reserve and provides more space for staff and visitor activity; the ECOS lab houses the research and stewardship staff and functions; and the administrative functions of the Reserve will be located in a more visible location, providing additional staff space and making a first contact with the Reserve by the public more accessible. However, some facility/infrastructure problems will remain and in some cases are exacerbated. Staff are now physically separated from each other, making face-to-face meetings and communication harder, and placing a greater emphasis on electronic communication. The physical location and geographic isolation of the Interpretive Center has caused problems with electronic communication (computer, e-mail, radio), and the multi-component campus design of the Reserve as it expands its facilities is compounding the problem. A “T-1 line” serves the ECOS lab and research staff for computer communication and access, but the Interpretive Center has no T-1 line. Sharing of data and databases, communicating via e-mail internally and externally, communicating by radio and phone between staff and visitors dispersed throughout the Reserve will become increasingly essential, and the compatibility of equipment and systems among several geographic locations will become more complex. Reserve staff with no expertise in this area are now forced to spend time working to solve these problems or must postpone work items until the problem is solved. It is important for the Reserve to invest in communications infrastructure and conduct a communications assessment and strategy that includes an assessment of needs, existing capacity, options, training, and staff support.

PROGRAM SUGGESTION: The Department of State Lands and the Reserve should work together to identify sources of funding, staff positions, and/or other means to address the electronic communication and computer access problems, new technology requirements, any hardware/software needs, and maintenance of the communications technology at the Reserve as a result of facilities expansions.

The 1999 findings included a Program Suggestion recommending that the Reserve update the 1991 facilities plan. The facilities plan is now in the process of revision and a contractor has been hired to update it. Because the draft revised management plan has a section entitled “Operations: Facilities and Public Access,” NOAA suggests that the facilities plan be clearly linked to this section. The relocation of the Reserve’s administrative offices to a shared location in Charleston with the Charleston Visitors Center is both an integral part of the facilities plan and affects other facilities planning.

PROGRAM SUGGESTION: The Reserve should complete the facilities plan update as quickly as possible in conjunction with the management plan revisions.

3. Management Plan

The evaluation findings dated August 19, 1999, included a Necessary Action requiring Reserve staff to develop a schedule for reviewing and revising the then-current management plan (1994 plan) and to complete the revisions prior to the next evaluation.

The management plan has not been completed and is still in the process of revision. The evaluation team received a copy of a draft during the site visit. It clearly articulates ideas, issues, and actions and reflects significant staff thought, time, and effort. However, the staff member in charge of writing and editing the plan has accepted a new job. Although she might be able to provide some advice or assistance from her new location, her last day at the Reserve was at the end of the evaluation site visit. There are sections of the plan yet to be completed. The Reserve has had more than five years since the last evaluation findings to complete the management plan but has not done so. It is imperative that the Reserve complete and finalize the revised management plan. NOAA will take failure to complete this plan into consideration in making future financial award decisions.

NECESSARY ACTION: The Reserve must complete, finalize, and submit the revised management plan to NOAA according to the following schedule:

- 1) By April 1, 2005, submit a final draft to the OCRM Estuarine Reserves Division for review.**
- 2) Within two months of the receipt of OCRM's comments, the Reserve must finalize the management plan. NOAA will publish a Federal Register notice regarding the management plan revision and authorize the Reserve to have the document printed. The Reserve is responsible for printing and distributing the revised management plan. The Reserve must provide NOAA with: a) documentation that the document has been submitted for printing, and b) a copy of the final document on a compact disc. The document must also be posted electronically on the Department of State Lands/South Slough Reserve web site at this time. Failure to meet this Necessary Action could result in the withholding of supplemental funding for biomonitoring and/or IOOS projects in FY 06.**

4. Coordination and Partnerships

Perhaps because of its relatively isolated location, the South Slough Reserve is a very integral part of the local and regional community. Although an integrated approach may have required effort during the initial years of the Reserve's development, it was obvious to the evaluation team that staff members now plan for and implement many activities in partnership with the local community stakeholders, seeking out ways to actively assist with local issues and recognizing when the Reserve could use assistance or when a specific group or agency could help the Reserve. The Reserve staff believes that a critical part of all of its functions is to "invest" in the community, being willing to serve as an experiment for how an estuarine research reserve can integrate into the local community and to find ways where research, monitoring,

restoration, and education activities that meet the Reserve's goals and objectives can also be of practical use to the community.

Some of these efforts involving coordination and partnership are discussed within the Education and Outreach section of these findings. These efforts are perhaps the most visible because one of the Reserve's statutory directives is to enhance public awareness and understanding of estuarine areas and provide suitable opportunities for public education and interpretation. This naturally lends itself to coordinating and partnering with schools and other groups. However, there are several other initiatives that are mentioned here. The Reserve is working with the Oregon Department of Environmental Quality (DEQ) and the local community to address high bacterial concentrations near a local fish processing plant/cannery. The source of the high concentrations is somewhat difficult to determine. The cannery is important to the local economy, but it is threatened with fines or closure by the DEQ because of water quality violations. The Reserve is working as an intermediary among the parties and is working in partnership with the operators to characterize the nature of the problem and to help develop possible solutions. This will help the partners design best management practices and recommend prudent investments to improve the operation of the plant.

The Reserve and the Port of Coos Bay continue to work together on issues of water quality at the Port, where a significant oil spill event, the grounding of the vessel *New Carissa* less than two miles from the marine inlet to the Reserve, occurred just one month before the 1999 evaluation site visit. Reserve staff assisted in the port cleanup following the spill and continue to be involved in port planning and response activities. The Port is in the process of providing a location on port-owned land for canoe access to the Reserve, which would help with visitor access and visibility.

The Reserve and the Coos Watershed Association (CWA) have coordinated their efforts and have an excellent working relationship, with the Reserve Manager serving on the board of directors of the CWA, a nonprofit organization whose staff members have strong educational credentials and who have the institutional capacity to solicit and administer grant funds. It represents a variety of member interests, including local and tribal governments; federal and state land managers; timber, fisheries, aquaculture, agriculture and ranching interests; and port and waterfront industry. The organization has been managing the stream flow and weather gauges installed on the Coos and Millacoma Rivers to monitor flow rates in relation to rainfall in the upper Coos watershed. These gauges were installed following the recommendations from a 1997 modeling workshop that NOAA and the CWA sponsored in Coos Bay.

During the site evaluation visit, the CWA and Reserve staff discussed a partnership involving GIS (geographic information system) technology. Each has a capacity and a need that are mutually complementary. The Reserve has hardware, software, and funding from NOAA for uses related to PAGIS (Protected Area GIS) technology but lacks staff capacity to develop, maintain, and fully use the system. The CWA lacks hardware and software but has staff capacity and expertise for GIS development, use, and maintenance. A collaboration to support the complementary capacities of both could enhance access to information for a broad range of

stakeholders within the Coos watershed and would enhance the existing GIS data layers both entities already have. NOAA supports the effort and opportunity to enhance the effectiveness of the PAGIS technology in the Coos Bay watershed.

The Reserve is also seeking funding and technical assistance for the development of a water circulation and sediment transport model – a hydrodynamic model – for the Coos Estuary. This has long been recognized as a priority interest area, particularly since the grounding of the *New Carissa*. The model is discussed at greater length elsewhere in this document. The point made here is that, although development of a hydrodynamic model is clearly in the interests of the Reserve, discussion about the model by Reserve staff is always in terms of needs of and benefits to “our community.” The Reserve has taken the lead in addressing this need, but from the perspective as a partner in the community, seeking input from numerous groups and offering its capacity to coordinate and facilitate this process.

Reserve staff have also taken advantage of opportunities for collaboration and coordination on some research and monitoring activities, projects, and proposals. The EPA regional and branch staff have worked with the Reserve on several efforts and indicated a strong desire for increased collaboration on data collection/data analysis in a variety of estuarine topics, including invasive species monitoring, habitat mapping, and PNCERS studies. Reserve staff and Sea Grant staff have also coordinated on a number of education and outreach activities, as well as some habitat restoration-related activities. The Reserve and Bureau of Land Management (BLM) have done some work on restoration at Dalton Creek and are now exploring a partnership in research and restoration within a spruce forest ecosystem as exists at South Slough, rather than a Douglas fir forest where BLM already conducts research, and the integration of salmon issues with forest management. During meetings with Bureau of Land Management and U.S. Fish and Wildlife Service staff, those members indicated their satisfaction at partnering with the Reserve on numerous projects and activities, particularly in areas where the Reserve has complementary resources.

NOAA supports all of these efforts and encourages the Reserve to continue to seek out and develop other opportunities for coordination.

ACCOMPLISHMENT: The South Slough Reserve has become an integral part of the local and regional community, seeking to coordinate its plans and activities with local and regional stakeholders. It is adept at forming partnerships to benefit a broad range of interests and entities. The local and regional community in turn views the Reserve as a significant and positive resource.

B. RESEARCH AND MONITORING

Research at South Slough focuses on enhancing the understanding about the complex interactions of physical and biological components that comprise the estuarine ecosystem. The

isolated nature of the Reserve and its distance from large population centers require the Reserve staff to seek out research opportunities, researchers and investigators, and to actively promote the South Slough estuary for research and monitoring. To some extent this has resulted in research focused within the broader bioregion rather than more specifically within Coos Bay. The Reserve has participated in NOAA's Graduate Research Fellowship program and has provided excellent support for the fellows who have conducted or are conducting research at the Reserve during the time period covered by this evaluation.

1. Research Activities

Since the last evaluation, Reserve researchers developed and submitted approximately 20 research and monitoring proposals, authored almost that many manuscripts and technical reports, and participated in dozens of research-oriented outreach activities, seminars, and field trips. The Research Coordinator has served on the Research Team for the Pacific Northwest Coastal Ecosystems Regional Study (PNCERS) and as a principal investigator (for habitat change and the ecology of seagrass beds) for PNCERS. The PNCERS project, which was completed in 2003, was a joint effort of the Oregon Coastal Management Program, the Washington State Sea Grant Program, and the National Marine Fisheries Service (NMFS). The PNCERS project sponsored studies of the nearshore and estuarine ecosystems of the Pacific Coast between the Strait of Juan de Fuca to the north and Cape Mendocino to the south, including five study estuaries: Grays Harbor, Willapa Bay, Tillamook Bay, Yaquina Bay, and Coos Bay.

The Research Coordinator also has participated in data collection on board the NOAA vessels McArthur and the McArthur II. The McArthur data collection has served research needs for PNCERS as well as for the Pacific Coastal Observing System (PACOS). PACOS was established by the NMFS to provide biological data collection along specific transect line runs out from various locations such as Humboldt, Newport, and the mouth of the Columbia River and is the biological component of the Integrated Ocean Observing System (IOOS). At this time no transect line runs offshore from Coos Bay. NOAA encourages the Reserve to work with NMFS to establish placement of a PACOS transect line at Coos Bay, especially if a hydrodynamic model is developed for Coos Bay and the nearshore waters. Some data collection time aboard the McArthur is scheduled by the Research Coordinator when the opportunity for ship time is available, which has been approximately every two years for the past 10 years. Data is not collected to answer any specific research questions or as part of a particular study. As a result, it has not been analyzed in any systematic way. Because analysis of the data may help to understand the dynamics of continental shelf waters and how they affect the ecological dynamics of the estuary, NOAA suggests that the Reserve assess the partnership opportunities with the University of Oregon Institute of Marine Biology and other entities to analyze the McArthur samples and contribute to the scientific literature.

The Reserve has received funding from the Oregon Department of Environmental Quality to develop a two-dimensional hydrodynamic model for the area near the fish processing plant/cannery that exhibits high nutrient concentrations. Staff at the Reserve have also been conducting research in Humboldt Bay, California, since 2001 in conjunction with the Western

Regional Aquaculture Center to identify and quantify potential ecological impacts of commercial oyster mariculture on tideflat habitats, eelgrass beds, and invertebrate communities. This research is of great interest to both the oyster industry and regulatory agencies locally in the Coos Estuary, where there is discussion about restoring native oysters.

ACCOMPLISHMENT: The Reserve continues to be an active leader and participant in science and research programs focused on estuaries and coastal processes.

PROGRAM SUGGESTION: NOAA supports and urges the Reserve to continue its efforts to attract research to Coos Bay and the Reserve. The Reserve should also pursue partnership opportunities to analyze the data collected during “McArthur” ship time and pursue placement of a PACOS transect line at Coos Bay.

2. System-wide Monitoring Program (SWMP)

The Reserve has made significant progress since the last evaluation site visit with regard to the SWMP. The 1999 evaluation findings included a Necessary Action requiring the Reserve to fully implement the SWMP, including the transmission of more than three year’s worth of backlogged data to the NERRS Centralized Data Management Office (CDMO), by hiring a research technician. At that time, the Reserve operated two long-term water quality monitoring stations and a weather station.

Since the last evaluation, the Reserve’s SWMP has become a strong program and provides leadership at the national level. A full-time estuarine and coastal monitoring coordinator has been hired, although the position is a limited-duration position. (See the discussion under “Staffing” in regard to this.) This monitoring coordinator is responsible for all aspects of the SWMP, and the Reserve hopes to hire a SWMP assistant. (The DSL and the Reserve have permission to spend federal funds for the salary of such a position but do not yet have permission from the state to create a position.) The Reserve now operates four water quality monitoring stations and a weather station. Staff are conducting bacterial sampling during water quality sampling as well. All backlogged quality assured/quality controlled datasets have been submitted to the CDMO, new datasets are now submitted in a timely fashion, and the 2003 SSNERR data submission was almost error-free. The Monitoring Coordinator has become the source for other NERR SWMP technicians to seek out about technical issues and to troubleshoot data. Graduate students assist with data collection, although turnover there sometimes places additional workload on the Reserve staff. The Reserve would like to move to real time data collection but cannot do so until the issues of information technology involving phone/computer/telemetry links can be resolved. (See the related discussion under the section entitled “Facilities, Facilities Plan, and Infrastructure” on pp. 14-15, and the related Program Suggestion on p. 15.)

ACCOMPLISHMENT: The Reserve’s System-wide Monitoring Program has become a respected and recognized program within the NERRS and provides leadership at the national level.

3. Geographic Information System (GIS)

As noted elsewhere in these findings, the Reserve’s GIS program is not as effective as was hoped. The Reserve has the hardware and software for a GIS and wants to develop, maintain, use, and share a functional system, but existing staff have neither the time nor capacity to carry out those necessary actions. NOAA funding has been made available to the Reserve for the Protected Areas GIS (PAGIS). The Reserve has expended the funds for minimal development of the PAGIS but has been unable to develop a robust program. The PAGIS project was begun as part of phase 3 in the development of SWMP to enable each reserve to develop GIS/habitat information for future phases of the SWMP. Each reserve received some hardware and software as part of the PAGIS program. Since then each site receives funds annually from NOAA to pursue GIS-related work. Although there is a great deal of latitude on how these funds can be spent (labor, equipment, maps, etc.), there must be some relationship to the phase 3 component of SWMP. As is discussed in the “Coordination and Partnerships” section of this document, the Coos Watershed Association (CWA) and the Reserve staff have discussed a possible partnership involving GIS technology. NOAA encourages the effort and opportunity to partner and enhance the effectiveness of the PAGIS technology in the Coos Bay watershed.

During the site visit, the evaluation team and Reserve staff also met with the manager of the Oregon Coastal Management Program (OCMP). The OCMP has greater information technology management capacity and provides technical assistance to local governments for GIS hardware, software, training, and data input, and even helps with some staffing costs. NOAA believes that the Reserve could benefit from coordination with either or both the CWA and the OCMP on GIS issues, supports this type of mutually beneficial partnership, and urges the Reserve to pursue such an opportunity.

PROGRAM SUGGESTION: The South Slough NERR is urged to investigate and pursue opportunities with the Coos Watershed Association, the Oregon Coastal Management Program, or other entities with regard to further development, maintenance, and use of its geographic information system.

4. Site Profile

The August 1999 findings included a Necessary Action addressing the South Slough Estuary Site Profile and requiring the Reserve to publish, print, and distribute the profile within one year of the final findings. A review draft of the site profile was completed and distributed in March 2002 for comment but has not been printed and distributed. According to Reserve staff, the finalized document was delivered to the state's printing office months ago, but for a variety of reasons totally out of the Reserve's control, the profile has yet to be printed. State regulations require that it be printed there rather than by a private vendor. It is imperative that the Reserve finalize the site profile, although NOAA recognizes the situation involving the final printing is now beyond control of the Reserve.

NECESSARY ACTION: Within five months of the date of these findings, the South Slough site profile must be printed and distributed. If the printing is not completed at the end of five months, the Reserve must provide NOAA with documentation that the document has been submitted for printing and with a copy of the final document on a compact disc. The document must also be posted electronically on the Department of State Lands/South Slough Reserve web site at this time.

Failure to meet this Necessary Action could result in the withholding of supplemental funding for biomonitoring and/or IOOS projects in FY 06.

C. EDUCATION AND OUTREACH

Since the last evaluation, the Reserve has expanded the level and diversity of the educational programs it offers, the capacity of the Interpretive Center and its hours of operation, its outreach efforts to the community, and partnerships with local organizations such as the CWA, Port of Coos Bay, OCEAN (Oregon Coastal Environments Awareness Network), and CELN (Coastal Environments Learning Network). Every Reserve staff member is involved in education. The Reserve has hired a Public Involvement Coordinator who has begun to establish a volunteer recruitment and training program. The Friends of South Slough (FOSS) organization forms a dedicated core of volunteers, helping out in a myriad of activities, which include leading guided trail walks, hosting special events, and operating a gift shop at the Interpretive Center. The Reserve is participating in the Coastal Training Program (CTP), and is developing the CTP as a core activity at the Reserve.

1. Traditional Education Programs

The education program staff members are enthusiastic about what the Reserve can offer and have tackled a broad range of education activities. They offer an education program "menu" outlining numerous program formats (e.g., distance learning, A/V presentation, field experience) and anywhere from three to six different programs offered to eight different age levels, from pre-kindergarten to college level and beyond. There is a monthly calendar of activities that includes paddling tours, birding, and "insect investigation" for toddlers. The Reserve also is developing a curriculum program called TIDES (Teaching Investigation and Discovery through Estuary

Study), which is a classroom and field based curriculum for 6th through 8th grades. Another curriculum program known as MARE (Marine Activities, Resources and Education) was developed by the University of California at Berkeley, but the Reserve was instrumental in bringing the MARE program to the attention of K-12 schools in the community. Although the Oregon Institute of Marine Biology is currently taking the lead role in supporting the delivery of this program to local schools, the Reserve offers the 3rd grade classroom and field-based component addressing wetlands. The Reserve has also begun using the Estuary Live curriculum guides for internet-based learning for grades 3 through 12. In addition, the Reserve has developed “Estuary Management Issue Papers” on six different subjects that are intended to provide a higher level of information to coastal decision-makers in the broad sense and interested individuals. The Reserve website also provides a mechanism for education and outreach to various audiences.

ACCOMPLISHMENT: The Reserve places significant emphasis on education and outreach and on the role South Slough can provide for site based experiences. It has expanded the level and diversity of the educational programs it offers, the capacity of the Interpretive Center and its hours of operation, its outreach efforts to the community, and partnerships to local educational organizations.

The Reserve is to be commended for the enthusiasm and dedication the staff has shown in emphasizing the significance of the South Slough and Coos Estuary and the importance of environmental resource education. There is a possibility of over-extending and taxing the limited staff resources available, however – essentially spreading the human resources and the program offerings too thin. Throughout the site visit the evaluation team was impressed with the desire to educate and reach out to the community. However, NOAA recommends that the Reserve prioritize its educational and outreach activities and workload. NOAA encourages the Reserve to convene an education advisory committee of education experts, teachers, product/end users, and others to conduct an educational needs assessment and assessment of Reserve offerings. An education advisory committee could also address target audiences, curricula and resources, and mechanisms for delivery of those resources to audiences. Oregon Sea Grant has educational experience, knowledge, and expertise in the areas of audience, message, and medium and would be a valuable partner on such a committee. Prioritization should not mean that elements of the existing outreach and education programs are ignored; rather, primary emphasis and effort are directed at a smaller set of activities and audiences before other elements are addressed. This can provide focus to the program and activities and leave staff members with a more manageable workload.

PROGRAM SUGGESTION: To bring focus to the education program, prioritize education activities, and utilize staff time and expertise efficiently, the Reserve is strongly urged to develop a strategy to consolidate and prioritize the many and varied activities and elements that are used for education and outreach. The ESP and TIDES curricula and any revisions and updates should be considered as part of this effort. The Reserve should consider appointing or convening an Education Advisory Group to assist in this endeavor.

The previous evaluation findings included a Necessary Action requiring the completion of revisions to the Estuary Study Program (ESP) curricula, including printing, within one year of the 1999 findings. The ESP curricula were developed during 1981-82 for elementary (K-6) school children, were designed to be applicable to any estuary in the Pacific Northwest, and at the time of the 1999 evaluation site visit, all South Slough NERR area school programs utilized the curricula. At the time of this evaluation site visit in 2004, the Reserve considers that the ESP curricula will be updated with the addition of the TIDES curriculum. Nevertheless, the Necessary Action has not been met at the time of the site visit. The 1996 Program Suggestion dealing with the ESP curricula revisions was elevated to a Necessary Action in the 1999 findings because "...performance reports and correspondence from the Reserve to OCRM denotes that the task was nearing completion or completed. This is very serious and is in direct violation of the financial assistance award." The ESP curricula revisions via completion of the TIDES curriculum must be completed and without additional federal funds. Failure to do so may result in decisions affecting future financial awards to the Reserve. NOAA believes that any further updates to the ESP and TIDES curricula should be considered in the context of the entire education and outreach program prioritization effort.

NECESSARY ACTION: Within one month of the date of these findings, the Reserve must submit a work plan to OCRM for approval, detailing the necessary steps and deadlines for completing the revisions to the Estuary Study Program curricula and completing the TIDES curriculum. Failure to meet the deadlines established in the work plan may result in financial consequences with regard to the Reserve's future financial awards.

2. Coastal Training Program (CTP)

South Slough Reserve is participating in the NERRS Coastal Training Program and is developing the CTP as a core activity at the Reserve. During the period covered by this evaluation, the Reserve established a CTP Advisory Group to assist in determining the focus of CTP training efforts and provide guidance to the South Slough Reserve; hired a CTP Coordinator; and completed a market analysis of existing environmental training programs serving the Oregon coast, an audience assessment, program strategy, and marketing

plan. Coastal decision-maker workshops have been held since 1996, prior to the development of the CTP. Since the last evaluation, the Reserve has held over two dozen coastal decision-maker oriented workshops, addressing such diverse topics as criteria for sustainable forestry, assessment needs training, shoreline change, tideland restoration, oil spill response and containment, and waterbased trails and ecotourism. The CTP Coordinator believes the CTP can move beyond primarily offering workshops and become an information products and services program that uses a variety of delivery mechanisms, including workshops. NOAA encourages the Reserve to clarify and establish the focus of the CTP program as it develops as a core activity of the Reserve.

ACCOMPLISHMENT: The Reserve has established the Coastal Training Program, has hired a CTP coordinator, and is developing the CTP as a core activity at the Reserve.

3. Public Involvement and Volunteer Programs

The Reserve has taken significant steps since the last evaluation to address a Program Suggestion that recommended development of a strategy to consolidate elements of the Reserve's fragmented volunteer program including training, recruitment, and recognition, and to explore ways to develop a public involvement position for addition to the Reserve staff. A Public Involvement Coordinator has been hired. She has begun to develop a formal volunteer training program and has produced a brief "Become a Volunteer!" brochure and a volunteer program application. At the time of the site visit, she had also produced a draft volunteer handbook, which will eventually include general Reserve information as well as volunteer rights and responsibilities, policies and procedures, and performance standards and guidelines. This more structured approach to public involvement and a formal volunteer program adds considerable strength to the program, provides clarity for both Reserve staff and volunteers in terms of expectations and work load, and places less burden on the Friends of South Slough, upon whom much of the weight of the Reserve's need for volunteers has traditionally fallen.

ACCOMPLISHMENT: The Reserve has hired a full time public involvement coordinator and is establishing a structured program to recruit, train, and schedule volunteers.

4. Outreach

The Reserve has a variety of mechanisms, initiatives, and approaches to reach and involve the public. These include traditional educational opportunities; the volunteer program; the Reserve's web site; the South Slough Newsletter; brochures; publications, press releases; a "lunch and learn" series; opportunities to write and submit articles to newspapers, the Department of State Lands and other agency and organizational newsletters; presentations to researchers and others at conferences, workshops, seminars, and meetings; and exhibits and

booths at local community events. All of the Reserve staff are involved in public involvement and outreach activities of various kinds at various times.

During the course of the evaluation site visit, the team discussed with several persons the need to provide information about the Reserve and its activities to members of the state legislature, budget analysts and staff members for legislators, and local government officials and their staff. This could include a briefing book and even a site visit. A local legislator is interested in reconvening the state’s legislative Coastal Caucus, comprised of members representing coastal localities. The Oregon Coastal Zone Management Association or the Oregon State University Institute for Natural Resources could serve as a mechanism by which information could be provided to legislators, the coastal caucus, and other government officials and staff.

It could prove useful for the Reserve to develop a communications strategy or plan that standardizes and addresses operating procedures to guide the production, dissemination, and presentation of information and communications such as press releases, brochures, issue papers, exhibits, and the web site. The strategy could also identify and prioritize mechanisms to reach various target groups such as the coastal caucus, the general public, program partners, etc. The web site does not now reach its potential as an outreach tool, and the Reserve needs to determine its importance to, and role in, these activities as part of a communications strategy. If the web site is a priority, the Reserve should focus on making a renewed investment in it. If there is no internal staff capacity to do this, the Reserve should investigate whether the DSL can provide assistance or whether another entity or contractor can be used. This communications strategy would thus support the need for additional web site development and should incorporate requirements of and the need for communications technology discussed earlier under the “Facilities, Facilities Plan, and Infrastructure” section.

PROGRAM SUGGESTION: The Reserve should consider development of a communications strategy or plan to target and prioritize outreach to specific user groups and to standardize operating procedures and messaging with respect to the numerous education and outreach mechanisms used by staff. The strategy should address the role of the Reserve’s web site in outreach, how to renew investment in the web site, and whether to seek external assistance or develop staff capacity to improve and support web based communication and outreach.

D. STEWARDSHIP AND RESOURCE MANAGEMENT

The stewardship program at the Reserve has a strong restoration element, particularly restoration of estuarine wetlands as part of a strategy to improve the overall health of Coos Bay.

1. Restoration Activities

Over 80% of the tidal wetlands in the South Slough ecosystem have been lost to diking, draining, fill, and development. The Winchester Tidelands Restoration Project (WTRP) construction was begun in 1996. Prior to that a plan had been developed to incorporate restoration research with restorative actions designed to re-establish full estuarine wetland function to the Winchester Tidelands sites. Phase I of the WTRP was designed to restore the Kunz and Cox Canyon marshes. Phase II focuses on restoration of Dalton Creek, Fredrickson, Tom's Creek, and Tracy marshes. The research and stewardship/restoration programs within the Reserve collaborated on pre- and post-restoration monitoring that showed no change in water bacterial levels and co-authored an article about marsh surface elevation manipulation in Kunz Marsh that was published in *Restoration Ecology*, the journal of the Society for Ecological Restoration. The restoration work has generated information and data about a wide range of topics, including the diverse strategies for how salmon within a single year-class use river and estuarine habitats. Habitats in the Anderson Creek watershed have been treated with restorative management actions during the period covered by these findings. The stewardship/restoration program also has used and will increase the coordination with the CTP to further restoration activities.

The Reserve has hired a restoration monitoring coordinator to develop and implement long-term restoration science monitoring. It is a limited-duration position, which is addressed in the "Staffing" section of these findings. This is in keeping with the stewardship coordinator's desire to bring the restoration, monitoring, and stewardship elements of the Reserve into more equal balance.

ACCOMPLISHMENT: Habitat restoration and stewardship activities remain a strong component of the Reserve's activities. The Reserve has hired a restoration monitoring coordinator, has initiated restorative management actions for habitats in the Anderson Creek watershed, and has published results from its restoration science program in the scientific literature. The Reserve staff is considering new and innovative directions and mechanisms to meet habitat restoration, resource management, and land acquisition goals.

2. Resource Management

The total area of the South Slough watershed is approximately 25,000 acres. The Reserve occupies about 5,000 acres of that total. Within the Reserve boundaries, nearly 4,000 acres are forested uplands, which are the focus of one of the newer directions for Reserve stewardship and resource management. Timber management and fire control are of increasing concern to land managers, including the Reserve. The Coos Watershed Association, the Bureau of Land Management (BLM) staff, and the Reserve all discussed the need for some sort of regional fire plan. There is a need to map roads, structures, and timber stands, to develop tools for local fire responders, and to devise arrangements with private land owners who are concerned about controlling access. The BLM staff also see a partnership potential because of their interest in working with a spruce forest characteristic of coastal areas (as at South Slough)

rather than the Douglas fir forest where much of the BLM work has focused. The management of forested uplands can and is being integrated with salmon and salmon spawning habitat restoration. The Reserve is considering the creation of an upland restoration science working group to assist in this relatively new resource management direction.

3. Land Acquisition

In 1994 Chalmer Gustafson bequeathed his estate worth approximately \$1.6 million to the Oregon Department of State Lands for the sole use and purpose of acquiring land to be added to and become a part of the South Slough NERR. The South Slough Reserve convened a community steering committee to develop a plan for purchasing land from willing landowners, and in 1999 the SSNERR Management Commission adopted the South Slough NERR Cooperative Plan for Watershed Conservation. The Plan was consistent with the 1994 Management Plan provisions that called for the improvement of the Reserves services by addition of key land areas to address specific needs. The Reserve has located willing sellers of property, and in mid-2001 the DSL sought approval from the Oregon legislature to expend Gustafson estate funds as match to federal NOAA funds to purchase two parcels of property.

Since that time, however, the Legislature has not authorized the purchase of any lands by the state regardless of funding source or willing sellers. There may be several reasons contributing to this, one of which is the belief that during this period of economic decline, no privately owned lands should be removed from the state and county tax base through purchase by the state.

The Reserve staff have been discussing more creative options other than direct purchase that would be beneficial for habitat restoration, including facilitation of a land swap between the BLM and Coos County Forest property, or a mechanism to pay the County the value of timber (if it were harvested) but not harvest it. This would help improve or maintain good water quality in some salmon spawning reaches.

PROGRAM SUGGESTION: The Department of State Lands and the Reserve should continue efforts to seek legislative authorization to implement the Reserve's Cooperative Plan for Watershed Conservation and also to explore less traditional mechanisms for implementation, such as less-than-fee simple acquisition, land swap opportunities, etc.

VI. CONCLUSION

Based upon the recent evaluation of the South Slough National Estuarine Research Reserve, I find that the state of Oregon is adhering to the programmatic requirements of the National Estuarine Research Reserve System in its operation of the South Slough NERR.

The South Slough NERR has made notable progress in the following areas: (1) Operations and Management; (2) Research and Monitoring; (3) Education and Outreach; and (4) Stewardship and Resource Management.

The evaluation team identified the following areas where the South Slough NERR could be strengthened or improved: (1) Operations and Management; (2) Research and Monitoring; (3) Education and Outreach; and (4) Stewardship and Resource Management.

These evaluation findings contain 12 recommendations: three Necessary Actions that are mandatory and nine Program Suggestions that should be considered by the South Slough National Estuarine Research Reserve prior to the next §312 evaluation of the program.

This is a programmatic evaluation of the South Slough National Estuarine Research Reserve that may have implications regarding the state's financial assistance awards(s). However, it does not make any judgment about, or replace any financial audits related to, the allowability or allocability of any costs incurred.

Date

Eldon Hout, Director
Office of Ocean and Coastal
Resource Management

LIST OF PERSONS CONTACTED

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Honorable Gordon H. Smith

U.S. Representatives

Honorable Peter A. DeFazio

Department of State Lands

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Jane Bacchieri, Interim Habitat Restoration Monitoring Coordinator
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Elected Officials

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Joanne Verger, Oregon House of Representatives District 9
Ken Messerle, Oregon Senate District 5

Federal Agency Representatives

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Tim Barnes, Bureau of Land Management
Sharon Crawley-Morse, Bureau of Land Management
Roy Lowe, U.S. Fish and Wildlife Service
Dr. Walt Nelson, U.S. Environmental Protection Agency
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Academia

Dr. Bob Malouf, Oregon State University Sea Grant

Dr. George Boehlert, Director, Oregon State University Hatfield Marine Science Center

Dr. Lavern Weber, Oregon State University Hatfield Marine Science Center and Vice Chair,
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Other Organizations and Representatives

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Margery Whitmer, Charleston Merchants Association

Mike Campbell, Charleston Merchants Association

Pat Kinney, Charleston Merchants Association

PERSONS ATTENDING THE PUBLIC MEETING

The public meeting was held on Thursday, June 24, 2004, at 7:00 p.m. in the Large Conference Room, North Bend Public Library, 1800 Sherman Avenue, North Bend, Oregon. The meeting was held in conjunction with a 30th anniversary celebration for the South Slough NERR. The list of attendees below does not differentiate between those attending for one purpose or another; there were some attendees who chose not to sign in for the public meeting.

Rich Hamel, Friends of South Slough, Inc., and SSNERR Management Commission member

Jody Hamel

Margie Ryan

Jamie Fereday

Jim Odum

Mary Ann Sherlock

Marilyn Torpy

Tom Yonker

Mrs. Tom Yonker

Tom Elledge

Anne Donnelly

Dave Lunde

Martha Gregor

Meg Gregor

Gabriel Gaskill

Anterra (no other name provided)

David M. (no last name provided)

Mike Graybill, South Slough NERR

Robin Elledge, South Slough NERR

Jane Bacchieri, South Slough NERR

Sue Powell, South Slough NERR

Katherine Andreasen, South Slough NERR

Tom Gaskill, South Slough NERR

John Bragg, South Slough NERR

Craig Cornu, South Slough NERR

Tory Poulton, South Slough NERR

Pam Kylstra, South Slough NERR

Christine McCay, NOAA/OCRM Evaluation Team

Nina Garfield, NOAA/OCRM Evaluation Team

WRITTEN COMMENTS RECEIVED AND RESPONSES

NOAA received written comments regarding the South Slough NERR. Each of the comments is summarized below and followed by NOAA's response.

**Jamie Fereday
Margie Ryan
Coos Bay, Oregon**

Mr. Fereday and Ms. Ryan both noted that they consider the Reserve as one of the top assets about living in Coos Bay. They appreciate the opportunities and services that the staff at South Slough provide and equally appreciate the area of land set aside for non-extractive economy. They also appreciate the positive effects of the Reserve in many way on citizens of all ages. They indicated that the management of the Reserve is in good hands and said that all the staff are professional, friendly, hardworking and a true benefit to the community. Their only regret is that more land has not been added to the Reserve.

NOAA's Response: NOAA recognizes the value of the Reserve to the community and concurs with the assessment of staff's dedication and expertise. The issue of land acquisition is, at this time, a state issue, which is discussed in this findings document.

**Bill and Joan Russell
Shoreline Education for Awareness, (SEA) Inc.
Bandon, Oregon**

On behalf of SEA, Inc., the Russells indicate the organization's pleasure in partnering with the Reserve and acknowledge the tremendous work that the Reserve staff accomplishes.

NOAA's Response: NOAA concurs and thanks SEA, Inc., for its work with the Reserve.

**Carol Ventgen, President, and Alice Carlson, Action Chair
League of Women Voters of Coos County
Coos Bay, Oregon**

The League of Women Voters of Coos County is a supporter of Coastal Zone Management programs and believes that its support for the Reserve has been amply rewarded. The Reserve is able to provide critical data and information needed to make intelligent and informed decisions. The research being done at the Reserve in terms of how water moves in the estuary is a good example of work that has a practical effect. The League is also supportive of the educational programs conducted by the Reserve. It would like to see more federal support that could be

translated into increased staffing, but it is concerned about the lack of land acquisition and supports the process of trying to integrate additional lands into the Reserve boundaries.

NOAA's Response: NOAA concurs with the League's comments about the Reserve's research and educational programs. Any additional federal support will have to come about through additional appropriations from Congress to the National Estuarine Research Reserve System. The issue of land acquisition is, at this time, still a state issue, which is discussed in this findings document.

George Tinker
South Slough Management Commission Member

Mr. Tinker was unable to meet with the evaluation team during the site visit and sent written comments. He notes that Reserve staff are involved in many local and scientific community endeavors but is concerned that sometime the staff is overextended. He believes the systemwide monitoring program and research functions continue to be the most active and ambitious efforts of the Reserve. He is concerned that the education component has yet to produce a written K-12 curriculum product from its original three tiered programs and is in need of a replacement product for public schools. He also supports more opportunities for staff training in technology applications and within their respective job assignments and recognizes that computer and technology support functions are difficult. Mr. Tinker believes that administrative procedures within the state need revisions as they apply to South Slough, particularly dealing with the timing of budget issues and grant opportunities. Finally Mr. Tinker is concerned about the status of land acquisition in the state.

NOAA's Response: NOAA thanks Mr. Tinker for his support of staff, and concurs with his comments and recognizes the success of the Reserves systemwide monitoring program and research activities. NOAA also has suggested in this findings document some actions to address concerns about the education component. NOAA also concurs with and has made recommendations regarding opportunities for staff training and development and the computer and technology needs.

The state's administrative procedures dealing with timing of budget issues and the issue of land acquisition are both state issues. The land acquisition issue is discussed in this findings document.

RESPONSE TO PREVIOUS (1999) EVALUATION FINDINGS

PROGRAM SUGGESTION: The DSL is encouraged to continue to pursue the necessary state funds to support 100% of the Research Coordinator's position. State support for this position will ensure program stability for research and monitoring consistent with the requirements of the South Slough NERR Management Plan. Additionally, the DSL is encouraged to continue with its efforts to establish the Land Steward position as a permanent, state funded position of the Reserve. A status report on these efforts should be included in each performance report and annual report submittal to OCRM.

Response: The Reserve continues to seek state funds to support 100% of the Research Coordinator's position. In February 2004 the Reserve staff submitted a budget proposal to shift the research program coordinator position to 100% state funding at the beginning of the 2005-2007 fiscal biennium. During the site visit, that proposal was forwarded by the administration of the DSL for consideration by the Oregon Legislature. The 1999-01 budget approved by the Oregon legislature granted permanent status to the education program assistant and the stewardship program coordinator at the level of 65% federal and 35% state funds.

NECESSARY ACTION: Reserve staff should begin to develop a schedule for reviewing and revising the current management plan, as required by the NERRS regulations. Within six (6) months of issuance of these final findings, the state must submit a timeline to complete a revised management plan. Additionally, the Reserve must complete and submit this revised management plan prior to the next evaluation.

Response: The Reserve has nearly completed the revision of the management plan. The process has taken nearly three years to complete. *At the time of the site visit, a draft was provided to the evaluation team, but the plan is not yet completed and has not been submitted in final to NOAA.*

NECESSARY ACTION: South Slough NERR must prepare and submit annual reports pursuant to the guidelines presented in the SOPs following the completion of the State of Oregon's 1999 fiscal year and every year thereafter.

Response: The South Slough NERR 2000 Annual Report was completed and submitted to NOAA. *(There is no longer a requirement in the SOP requiring this type of annual report.)* In addition to providing NOAA with quarterly reports prepared for the SSNERR management commission and quarterly progress reports for each grant from NOAA, the Reserve has submitted annual grant reports to NOAA since 1999.

NECESSARY ACTION: The South Slough NERR must allocate staff time and funds to complete the revisions of the Estuary Study Program curricula, including printing within one (1) year of these findings. Funding for this task cannot be supported with additional Federal funds.

Response: The Estuary Study Program curricula will be updated with the addition of the TIDES (Teaching Investigation and Discovery through Estuary Study) curriculum. This new set of activities will be available on-line through the Reserve's website and in downloadable PDF format for printing on demand. Printed copies will be made available upon request.

NECESSARY ACTION: The South Slough NERR must fully implement the System Wide Monitoring Program (SWMP), including the transmission of backlogged data, by hiring a research technician with either state or Federal funds within six (6) months of these findings.
and

NECESSARY ACTION: The Research Coordinator must develop a plan that prioritizes his workload so that Quality Assurance/Quality Control and submittal of the data to the CDMO is done in a timely and continuous manner. This plan must be submitted to OCRM within three (3) months of these findings.

Response: All backlogged data was transferred to the CDMO at the time of the receipt of the 1999 draft findings. The data submitted by SSNERR are now recognized as among the top submitted in the NERR system. Since 1999, 100% of the Regional Watershed Coordinator's time has been dedicated to the SWMP program. In addition, the Reserve has supplemented the time dedicated by the Regional Watershed Coordinator by involving students supported by NOAA's Graduate Research Fellowships in the acquisition of SWMP data.

NECESSARY ACTION: The South Slough NERR must take the necessary actions to complete the site profile. The Research Coordinator must: (a) make adjustments in his workload in order to devote time to the completion of the project, or (b) submit a request to NOAA to change the present task in order to hire a competent contractor to expeditiously complete the document, including publication and printing. The Reserve must submit to NOAA a strategy, including deadlines to complete this project, within (1) month of these final findings. Additionally, the site profile must be published, printed and distributed within one (1) year of these final findings.

Response: A review draft of the site profile was printed and distributed in 2003. Preparation of the final draft is in development.

PROGRAM SUGGESTION: The Reserve should develop a strategy for effective communication between Reserve staff that will foster better integration of Reserve programs, projects, and results. This strategy should include scheduled meetings, specific projects that require a "team" approach, and/or necessary hardware (i.e., computers, telephones) to accomplish this objective. The strategy will need to take into consideration the impediments that may occur as a result of the South Slough NERR facility expansion and staff relocation.

Response: The Reserve has held weekly coordination meetings since 1999. In the fall of 2003, the staff meeting schedule was changed to include focused coordinating meetings for work groups centered at the interpretive center and the estuarine and coastal science laboratory. Bi-weekly all staff meetings and workgroup meetings have been held since the fall of 2003. All offices have full internet connections including e-mail.

PROGRAM SUGGESTION: The South Slough NERR is encouraged to continue the process of developing a Cooperative Plan for Watershed Conservation. Furthermore, the Reserve is encouraged to continue to actively engage the community, local landowners, businesses and other stakeholders in the development and decision making process for exploring ways to integrate additional lands into the South Slough NERR.

Response: The SSNERR Management Commission identified several land owners in the South Slough watershed who expressed an interest in selling property to the Reserve. The Commission was not successful in obtaining legislative authority to acquire these parcels. During the 2001 session of the Oregon legislative assembly, the Department of State Lands introduced a legislative concept designed to enable the SSNERR management commission to acquire land located north of Valino Island. This concept was withdrawn before the draft bill had a hearing. During the 2003 legislative session of the Oregon Legislature, the state representative from the local district introduced a bill designed to enable the SSNERR Management Commission to acquire land within the South Slough watershed. This bill did not progress through the Legislature. The Reserve acquired a small parcel in the Anderson Creek Valley from Coos County since the 1999 program evaluation. The parcel was a county-owned roadway that was purchased by the Reserve as part of the Anderson Creek Valley restoration activities. No other property has been acquired for inclusion to the Reserve since the 1999 evaluation.

PROGRAM SUGGESTION: The Reserve is encouraged to continue with its plans for facility enhancements including repairs to the Interpretive Center and other renovations to Reserve-held facilities, as funding is available. In coordination with the updating of the Management Plan, the Reserve should update the 1991 facilities master plan in an effort to develop a strategy and priority list for further capital improvements.

Response: A four bay, covered vehicle shelter was added to the SSNERR maintenance facility in 1999. In 2003, the Reserve completed a major renovation of the interpretive center and visitor investigator housing at Spruce Ranch. Two 24 ft. diameter yurts have been purchased to augment the capacity of the Reserve to accommodate seasonal work crews. The yurts will be installed adjacent to the Spruce Ranch house. Summer work crews have constructed approximately ½ mile of new trails. NOAA funding has been obtained to hire a contractor to update the 1991 facilities plan. The Reserve is presently conducting a study to determine the feasibility of relocating SSNERR's administrative offices to a location in Charleston.

PROGRAM SUGGESTION: The South Slough NERR should develop a strategy that would consolidate the various elements of the Reserve's fragmented volunteer program, including

training, recruitment, and recognition. The Reserve is encouraged to explore different avenues by which a public involvement position could be created and added to the Reserve staff.

Response: The Reserve established a limited duration public involvement coordinator position in 2001. The position is supported with federal funds.