

FINAL Evaluation Findings

Rookery Bay National Estuarine Research Reserve

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I. EXECUTIVE SUMMARY

The Coastal Zone Management Act (CZMA) of 1972, as amended, established the National Estuarine Research Reserve System (NERRS). Sections 312 and 315 of the CZMA require the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic performance reviews or evaluations of all federally approved National Estuarine Research Reserves (NERRs). The review described in this document examined the operation and management of the Rookery Bay National Estuarine Research Reserve (RBNERR) during the period of May 2001 through June 2005. The Rookery Bay National Estuarine Research Reserve is administered by the Florida Department of Environmental Protection (DEP) Coastal and Aquatic Managed Areas Division (CAMA).

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

The evaluation team documented a number of RBNERR accomplishments during this review period. The Reserve continues to serve as a leader in estuarine research and education, and is highly regarded in both state and national coastal management communities. Strong relationships and open communication with coastal managers in southwest Florida have made RBNERR's programs very effective. Reserve programming during this evaluation period included successful initiatives such as: the development of performance measures using information gained through the research and monitoring program; the facilitation of a large scale hydrological restoration project; the development of new estuarine curricula; and the implementation of their Coastal Training Program. RBNERR has also enhanced its program by completing a new Environmental Learning Center, expanding the Reserve boundaries, and further developing their partnership with the Florida Gulf Coast University.

The evaluation team also identified areas where the Reserve and its programming could be strengthened. All recommendations for RBNERR are in the form of Program Suggestions, and describe actions that NOAA believes DEP should take to improve the program but that are not currently mandatory. As mentioned above, RBNERR has achieved substantial program enhancements during this review period--including new facilities, a boundary expansion and many new, successful initiatives. This program development motivated evaluation recommendations that address Reserve capacity, which is understandably challenged by such growth. Program suggestions thus include: hiring an assistant manager to help with day-to-day Reserve administration; identifying routine programs that could be transitioned to partners as well as needs or projects that may be outsourced; and developing a timeline for their Management Plan revision. RBNERR could also improve programming and strengthen Reserve capacity by engaging their Reserve Advisory Committee in discussions to identify roles and responsibilities for the group, and working with the Friends of Rookery Bay to create a strategic vision for the organization.

II. PROGRAM REVIEW PROCEDURES

A. OVERVIEW

NOAA began its review of RBNERR in April 2005. The §312 evaluation process involves four distinct components:

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

B. DOCUMENT REVIEW AND ISSUE DEVELOPMENT

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

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

- Status of RBNERR's management plan revision and compatibility of existing and planned uses;
- Major accomplishments during the review period;
- Status of the reserve's general administration, including grants, fiscal management and staffing;
- Status and visibility of research, education and stewardship programs, including local and system-wide initiatives such as the System-wide Monitoring Program (SWMP) and the Coastal Training Program (CTP);
- The manner in which RBNERR coordinates with other federal, state, and local agencies and programs;
- Status of RBNERR facilities, land acquisition projects and resource management;
- The status and effectiveness of RBNERR staffing and programs, and participation in

national research, monitoring and education programs;

- RBNERR's role at the local level, and its integration with partners; and
- The manner in which RBNERR has addressed the recommendations contained in the §312 evaluation findings released in 2001.

C. SITE VISIT TO FLORIDA

Notification of the scheduled evaluation was sent to DEP, RBNERR, relevant federal environmental agencies, Florida's congressional delegation and regional newspapers. In addition, a notice of NOAA's "Intent to Evaluate" was published in the *Federal Register* on March 9, 2005.

The site visit to Florida was conducted on June 21-23, 2005. Kimberly Penn, Evaluation Team Leader, OCRM National Policy and Evaluation Division; Erica Seiden, RBNERR Program Specialist, OCRM Estuarine Reserves Division; and Michael De Luca, Reserve Manager, Jacques Cousteau National Estuarine Research Reserve, New Jersey, formed the evaluation team.

During the site visit, the evaluation team interviewed RBNERR staff, senior DEP and other state officials, federal agency representatives, coastal researchers, educators, nongovernmental representatives and private citizens. Appendix B lists persons and institutions contacted during this review.

As required by the CZMA, NOAA held an advertised public meeting during the evaluation on June 22, 2005, at 6:00 p.m., at the Rookery Bay Environmental Learning Center, 300 Tower Road, Naples, Florida. The public meeting gave members of the general public the opportunity to express their opinions about the overall operation and management of RBNERR. Appendix C lists individuals who registered at the meeting.

The exceptional support of RBNERR staff with the site visit's planning and logistics is gratefully acknowledged.

III. 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 (NERRS) that are funded cooperatively by NOAA's Office of Ocean and Coastal Resource Management (OCRM) and the host states or territories, who manage the reserves. The NERRS 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 United States; and (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 Nation. To date, NOAA has designated 26 NERRs that collectively protect more than one million acres of estuarine land and water, and represent 17 of the 29 biogeographic subregions identified by the program. One additional site is currently in the designation process.

B. THE ROOKERY BAY NATIONAL ESTUARINE RESEARCH RESERVE

1. Reserve Site Description

Rookery Bay is located in Collier County on the southwest coast of Florida, between Naples and Marco Island. Collier County is the second largest county in the State, with approximately 2,025 square miles of land. Over 50% of this area has been set aside under public or private ownership for conservation purposes. These areas include: Big Cypress National Preserve, Everglades National Park, Corkscrew Swamp Sanctuary, Fakahatchee Strand State Preserve, Florida Panther and Ten Thousand Islands National Wildlife Refuges, Picayune Strand State Forest; Collier Seminole State Park, Delnor Wiggins Pass State Recreation Area and Rookery Bay NERR.

The Rookery Bay NERR is comprised of 110,000 acres of open water, mangrove wetlands, and uplands. The total estimated surface area of open waters encompassed within Reserve boundaries is 70,000 acres. The remaining 40,000 acres are composed primarily of mangroves, fresh to brackish water marshes, and pine and oak upland habitats. Approximately 3,772 acres within the RBNERR boundaries are leased to the Department of Environmental Protection by National Audubon Society, The Nature Conservancy, and Conservancy of Southwest Florida. State-owned lands, including 70,000 acres of submerged lands and approximately 22,928 acres of acquired lands, are held in fee simple title by the Board of Trustees. Approximately 13,300 additional acres within the boundaries were acquired by the state as part of a settlement agreement with the Deltona Corporation. Parcels totaling approximately 500 acres represent privately-owned inholdings within RBNERR.

Rookery Bay is located in the West Indian biogeographic region and represents a nearly pristine mangrove estuarine system. The Rookery Bay and Ten Thousand Islands estuarine ecosystem contains bays, interconnected tidal embayments, lagoons, and tidal streams. Sources of

freshwater drainage include sloughs, strands, a series of tidal creeks and channels, surface and sub-surface sheetflow, and canals. Twelve habitats occur within the Reserve and adjacent lands, including mangrove forests, barrier beaches, coastal dry-zone scrub, pine flatwoods, seagrass beds, tropical hardwood hammocks, fresh and salt water wetlands, oyster reefs, and open shallow waters. The three dominant habitats are mangrove, saltwater marshes, and freshwater marshes. These comprise more than 90% of the emergent wetland vegetation. A unique feature of the Reserve and adjacent region are shell mounds. These are mostly kitchen middens and refuse sites used by Native Americans. The mounds form prominent topographical features above the low-lying contiguous tidelands of the Reserve.

2. Reserve Administration

Rookery Bay NERR is housed in the Florida Department of Environmental Protection (DEP), Office of Coastal and Aquatic Managed Areas (CAMA). Florida's other two Reserves are also part of CAMA. In 1977 as a condition of the NERRS designation process, three landholders, the Collier County Conservancy, now the Conservancy of Southwest Florida (CSF), the National Audubon Society (NAS), and The Nature Conservancy (TNC) signed an agreement with the State that leased land holdings around Rookery Bay to the State of Florida for a period of 99 years. A three-member Reserve Management Board including DEP, CSF, and NAS conducts reviews of local issues. Site management is outlined in the lease agreement. The Reserve Advisory Committee, an ad hoc committee approved by the Reserve Management Board, represents widely divergent interests and has provided input from local individuals including the members of the Reserve Management Board, city, county, federal and state officials, local business owners, educators, and non governmental representatives.

Florida Statutes, Chapters 258 and 253 establish the proprietary management overview role of the Governor and Cabinet, sitting as the Board of Trustees of the Internal Improvement Trust Fund. Management responsibilities assigned to the Trustees may be fulfilled by staff acting as "agents" of the Trustees, pursuant to delegations of authority, management agreements, and other legal mechanisms. Management authority for RBNERR uplands is delegated by the 1990 lease agreement with the Board of Trustees. In addition, there is an MOA between Florida Gulf Coast University (FGCU) and DEP/RBNERR to define how the two parties can coordinate their research efforts by sharing facilities, equipment and knowledge. There is also a cooperative agreement between DEP and the U.S. Fish and Wildlife Service (USFWS) which outlines elements of co-management of the resources of the Ten Thousand Islands.

IV. REVIEW FINDINGS, ACCOMPLISHMENTS AND RECOMMENDATIONS

A. OPERATIONS AND MANAGEMENT

Overall, NOAA finds that Florida's management of Rookery Bay National Estuarine Research Reserve (RBNERR) operations is excellent.

1. Reserve Administration

RBNERR is a recognized leader in the region and across Florida for their research and education on, and stewardship of, coastal resources. Many of their initiatives have also served as successful models for the NERR System. NOAA commends RBNERR on their innovative programming and enthusiasm in sharing ideas with partners and colleagues.

RBNERR and its Manager are highly regarded throughout the state and national coastal management communities. In addition to the Rookery Bay Aquatic Preserve and Cape Romano/Ten Thousand Islands Aquatic Preserve which are managed by the RBNERR, the Reserve Manager serves as the Department of Environmental Protection's Coastal and Aquatic Managed Areas (CAMA) regional administrator for Southwest Florida. He is thus also responsible for oversight of the Aquatic and Buffer Preserve field offices in Charlotte Harbor, Estero Bay and Tampa Bay. Given the extent of his knowledge and expertise, he is frequently called upon to participate in regional and national initiatives. These opportunities often result in new productive partnerships, innovative initiatives and increased visibility for RBNERR.

However, as RBNERR commitments in the region and across the state continue to increase, the Reserve Manager's availability to manage the breadth of Reserve programs and initiatives will understandably be challenged. The evaluation team believes that the best way for CAMA to balance Reserve-specific priorities with other regional and state obligations is by hiring an assistant manager for the RBNERR. An assistant manager would help to provide depth in Reserve administration and to encourage greater coordination among Reserve programs. He or she would also be able to focus attention on Reserve-specific programs and initiatives, something that the current management structure does not allow. This option was discussed during the evaluation with the then Director of CAMA, and was met with support.

Program Suggestion: NOAA strongly encourages DEP to explore means by which they can hire an assistant manager for RBNERR to help with day-to-day operations and administration.

Reserve programming is guided by a Management Team which includes the Reserve Manager, department heads such as the research, education, stewardship and Coastal Training Program coordinators, and the facilities manager. RBNERR's staff is one of the largest in the system, and so Management Team leads are not only accountable for much of their individual program's oversight and advancement, but also responsible, in practice, for supervising team staff. The evaluation team found that the Management Team does a highly commendable job in these

respects. NOAA believes this is a practical operations strategy for RBNERR given the depth of Reserve programs and the regional extent of the Reserve Manager's responsibilities.

Accomplishment: RBNERR's Management Team is to be commended for their significant role in guiding and developing Reserve programming.

RBNERR has seen substantial turnover and an increase in personnel recently, with over half of the staff coming on board since the previous evaluation. Though this has served to increase capacity at the Reserve, the number of initiatives that are guided and supported by staff have also multiplied. Department heads seem to be overwhelmed by the number of projects they are managing and the sheer number of emails they receive for information. Reserve staff demonstrate great knowledge and enthusiasm, and the evaluation team observed that there are several staff members with the potential to assume depth in programs. RBNERR should identify and offer opportunities for professional development to help staff develop new skills and grow as leaders.

The evaluation team found that the widespread success of RBNERR's programs is directly attributable to the engaged and dedicated staff. They demonstrate a keen understanding of current issues, and of the opportunities for cooperative management and mitigation of them. Staff also do an excellent job of collaborating with regional partners in research, education and resource management. It is evident that this enthusiasm and capacity has allowed the Reserve to take on many innovative and valuable initiatives during this evaluation period. However, in order to protect against staff taking on too many responsibilities, the Reserve should use the current management plan revision to focus on their unique niche for the next five years and evaluate potential new initiatives with respect to the plan. In addition, RBNERR should strive to be more comprehensive when reporting on programs and projects in their semi-annual performance reports. NOAA mandated performance reports are an excellent opportunity to demonstrate the activities and accomplishments of all Reserve programs.

2. Management Plan

Reserves are required by Federal regulation to have a current NOAA-approved management plan (15 C.F.R. Part 921.13). The plan should describe the reserve's goals, objectives and management issues, as well as strategies for research, education and interpretation, public access, construction, acquisition and resource preservation, and, if applicable, restoration and habitat manipulation. A management plan so written has four valuable functions: (1) to provide a vision and framework to guide reserve activities during a five year period; (2) to enable the reserves and NOAA to track progress and realize opportunities for growth; (3) to Present reserve goals, objectives, and strategies for meeting the goals to constituents; and (4) to guide program evaluations. Regulations also require that a reserve's plan must be updated every five years. RBNERR has begun the process of updating their management plan. The revised plan will reflect the Reserve's vision and strategy for the years 2007 to 2011. The Reserve has decided to employ an issue-based approach for their new management plan, with chapters devoted to characterizing priority management issues and an emphasis on further integrating core programs.

RBNERR's management team has already received training on logic models for application in the revision. Staff are currently characterizing priority issues, a process that includes engaging and involving the many Reserve partners who also address the issues identified. Given that the Reserve Manager is also the regional administrator for the Aquatic and Buffer Preserves in southwest Florida, NOAA encourages him to coordinate and incorporate their plans where appropriate. This coordination will provide for more complementary and comprehensive management of the state-owned coastal areas in the region. RBNERR anticipates a draft of the revised management plan will be complete by the end of 2006. NOAA encourages RBNERR to develop a timeline for the revision.

Program suggestion: RBNERR should develop a timeline for their Management Plan revision, including dates for when the outline, draft document and final plan will be submitted to the Estuarine Reserves Division.

3. Florida Gulf Coast University

RBNERR's relationship with the Florida Gulf Coast University (FGCU) has grown tremendously during this review period. Their partnership has evolved from collaborating on education initiatives to include a contractual agreement under which many Reserve employees are supported, and a lease agreement for land within the Reserve boundaries. These new endeavors are interrelated, as FGCU waived their usual contract overhead for RBNERR in anticipation of the development of a marine science center for the University at the Reserve.

Currently about half of RBNERR's staff are supported via this contract, some of whose salaries are cost-shared with FGCU. All of those under the contractual agreement are considered University employees with merit pay and raise plans. The cost-share portion of the agreement is in place for positions such as the dock master and GIS technician, whose skills and/or work products will likely be utilized by University students and researchers once the marine science center is active. RBNERR is working with DEP's Division of State Lands to sublease 20 acres of land to FGCU for the development of these facilities, which will be located adjacent to Reserve headquarters. The center will include classroom space, research laboratories, aquarium facilities, boat storage and offices. This arrangement will also allow FGCU the use of the three existing field stations located within the Reserve and the dock at Shell Island Road, as well as 110,000 acres of coastal habitat as classroom. Both University and Reserve management believe this will be a successful partnership that will enhance coastal and estuarine research and education, and serve to attract visiting investigators to Rookery Bay.

Accomplishment: RBNERR has further developed their partnership with FGCU, which will increase opportunities not only for University students and faculty, but also for research and education programs at the Reserve.

4. Reserve Advisory Committee

A Reserve Advisory Committee (RAC) composed of diverse and dedicated individuals can significantly assist a reserve in furthering its mission and increasing its visibility. The RBNERR

RAC includes representatives from many of the Reserve's key partners (including the Conservancy of Southwest Florida, the National Audubon Society's Corkscrew Swamp Wildlife Sanctuary, and U.S. Fish and Wildlife Service), as well as local government, community and commercial interests. Currently, the primary role of the RAC is for the dispersal of information from the Reserve to their formal and informal partners. The RAC meets biannually for such updates from the Reserve.

In order to make the RAC more beneficial to Reserve operations and management, RBNERR should carefully consider program needs and align the Committee's function accordingly. Involving the RAC in the management plan revision process will provide a good opportunity for the Reserve and Committee to jointly develop roles and responsibilities of the RAC to reflect current and future needs of RBNERR.

Program Suggestion: NOAA encourages RBNERR to involve the Reserve Advisory Committee in their current management plan revision, and to consider how to best align roles of the Committee with Reserve needs.

5. Reserve Boundaries, Land Acquisition and Management

As proposed in their current Management Plan, the RBNERR expanded the Reserve boundaries in 2003 to include most of the area from Gordon Pass to the north through the adjacent state-owned uplands and submerged lands within the Ten Thousand Islands region to the south. The Reserve prioritized this boundary expansion because it would define a larger, more diverse estuarine ecosystem to represent the West Indian Biogeographic Region. With this addition, Reserve land and water components now total approximately 110,000 acres—approximately ten times what they had previously. NOAA commends RBNERR on successfully completing their boundary expansion.

Given the extent of the Reserve's new boundaries and the diversity of landowners within and adjacent to them (federal, state, nonprofit, private citizen), land acquisition and management in the region must be coordinated and cooperative. The evaluation team had the opportunity to meet with coastal managers representing many of these entities during the site visit. A common theme throughout the discussions was the importance of a collaborative approach to carry out management/stewardship activities such as prescribed burns, exotic species control, enforcement, and public access and education. NOAA finds that RBNERR is doing an excellent job working with these partners to accomplish such activities on a project-by-project basis. However, much could be gained by adopting a more coordinated approach to resource management. This could be achieved via periodic meetings with landowners and managers in the region to share stewardship and management strategies.

Program Suggestion: NOAA encourages RBNERR to identify a regular process through which landowners within the Reserve and its watershed can share stewardship strategies and work to implement coordinated management approaches.

6. Facilities

Environmental Learning Center

Completion of the new Rookery Bay Environmental Learning Center (ELC) in 2004 was a significant accomplishment during this evaluation period. The state-of-the-art, 16,500 square foot facility successfully combines a variety of interpretive and functional uses. The center includes educational areas with interactive displays and live exhibits, classrooms and a 140-seat auditorium. There are also four new research laboratories and a live-specimen holding area, parts of which are viewable by the public. Hallways throughout the ELC serve as galleries to display and promote work by local artists via joint programming with the United Arts Council, and landscaping around the Center uses native plants and includes interpretive signage. Future plans include a trail system that will provide visitors with access to mangrove wetlands, pine flatwoods, scrub oak, and the opportunity to see habitat restoration projects in progress. The ELC has already proven to be a tremendous resource for the Reserve, the community and the region. Through the ELC, the Reserve is able to provide education, training and community services to southwest Florida. While the hands-on exhibits and interpretive trails are enjoyed by all, the ELC also provides a home for the Reserve's Coastal Training Program which reaches stakeholders ranging from the local community to coastal managers to elected officials.

While the ELC was obviously a major success for RBNERR, it was also a new challenge for Reserve staff. The lengthy construction process and subsequent time to bring the center fully online created a considerably different workplace reality. Staff had to be flexible and resourceful with their time and energy as new roles and responsibilities arose. NOAA commends Reserve staff for their willingness to help with the variety of special projects that surfaced throughout the process. The dedication and creativity of staff has made the ELC a highly regarded and successful facility.

Reserve staff continue to look for ways to enhance the visitor experience and promote the RBNERR, its research and education, and the stewardship of Florida resources. The second phase of interpretive exhibits have been designed and are under construction. Voluntary evaluations were implemented in early 2005 for visitors to the ELC. Responses to these have helped to prioritize next steps for the facility, which include adding interpretive language to trails and building a core group of docents to provide more programming and one-on-one interaction in the Center. The Reserve also plans to expand the evaluation to identify what visitors take away from their experience, which will help guide the development of more stewardship information.

Identifying and acquiring financial support for the day-to-day operation of a facility such as the ELC is often quite challenging. Though NOAA does provide some funding to RBNERR for ELC operations, maintenance and equipment, it could never cover all costs. The Reserve has thus proactively identified other means of financial support. Currently, RBNERR does charge a nominal fee for admission, and uses a set scale for room rental fees. In addition, the Florida legislature has passed a bill providing substantial state support (approximately \$200,000 annually) for maintenance and outsourcing. This demonstrates great commitment on the State's part, and helps to guarantee the ELC's future operation. NOAA commends RBNERR on the

successful completion of the Environmental Learning Center, which has considerably increased the Reserve's outreach, research and education capabilities.

Accomplishment: RBNERR successfully completed their new facility, the Environmental Learning Center (ELC). The ELC will advance the Reserve's mission to inform coastal stewardship and decision-making through research and education.

Henderson Creek Bridge

Henderson Creek is the main tributary to Rookery Bay and runs just adjacent to the Environmental Learning Center. In order to enhance the visitor experience at the Reserve, RBNERR planned to construct a pedestrian bridge that will connect the ELC to a boardwalk and interpretive trails through coastal habitat on the opposite side of the Creek. Since the evaluation, RBNERR has been awarded NOAA and matching state funds to construct the bridge as well as the first phase of the boardwalk. Initial plans are for a 250 foot long, 10 foot wide, cable-stayed suspension bridge to be completed in 2007. The Rookery Bay Foundation is still working to identify additional funding sources for the remainder of the boardwalk and trail. NOAA believes this will be an excellent addition to the ELC.

Hurricane Evacuation Plan

The increase and changes in staff and facilities on RBNERR properties necessitated the development of new, clear and comprehensive hurricane preparation and evacuation procedures. The Reserve thus created a hurricane evaluation plan that includes: a flow chart with color-coded response levels that coincide with a storm's position and level of alert; a team duties check list with tasks organized according to the level of response deemed appropriate for the storm; and emergency phone numbers. The plan has been tested a number of times over the past few years and has proven to be an invaluable tool. The facilities manager was instrumental in the initial formation of the new plan, and regularly reassesses its efficacy. NOAA commends RBNERR on addressing hurricane preparedness and evacuation in this comprehensive plan. The conceptual layout of the plan is transferable and could certainly be a guide for other Reserves.

Enhanced enforcement

As discussed above, the Reserve has recently expanded its boundaries to encompass ten times the land it had previously. Given RBNERR's size and the distributed location of its facilities, enforcement within the Reserve has had its challenges. Gill-netting, poaching and fires are the most common violations. Recently, however, the Florida Fish and Wildlife Conservation Commission (FWCC) law enforcement entered into a creative leasing agreement with the Conservancy of Southwest Florida (CSF), to take over the former Briggs Environmental Center on Shell Island Road. The FWCC renovated the facility, and now 17-20 law enforcement officers operate out of the Collier Field Office. The proximity of FWCC and RBNERR facilities will improve their ability to work together, greatly enhancing resource protection, public education, and law enforcement in the Reserve.

7. Gulf of Mexico Alliance

The Gulf of Mexico Alliance was formed in 2004 as a regional partnership to improve collaboration among states bordering the Gulf on issues of ecosystem health. The Alliance identified five priorities as a starting point for action: reducing pollution and nutrient loading; improving and protecting water quality; restoring coastal wetlands and estuarine ecosystems; identifying and characterizing Gulf habitats to support coastal management; and expanding environmental education to improve stewardship. In the summer of 2005, Rookery Bay NERR hosted environmental officials from the White House and five neighboring states to discuss and develop a plan to strengthen protection for the Gulf of Mexico. At the meeting, the states and federal government outlined a shared ecosystem-based approach which included coordinated coastal research, ocean education and water quality safeguards. RBNERR, and the Reserve manager specifically, have been leaders in this effort. NOAA commends and supports the Reserve's involvement.

B. RESEARCH AND MONITORING PROGRAM

Overall, the evaluation team found RBNERR's research and monitoring program efforts to be excellent. The mission of RBNERR's research program is to provide the scientific information necessary to support an adaptive management strategy for conservation of natural biodiversity for the area managed by the Reserve. The strategy includes identifying management needs, planning and conducting field experiments, and providing information gained from the research to environmental managers and decision makers. In order to implement this strategy, the research coordinator fosters relationships with resource management, academic and research communities, and actively seeks opportunities where information gained via Reserve research and monitoring can be applied to coastal management.

1. Reserve Research

NOAA finds that RBNERR is conducting essential and applicable research, which will benefit resource management in the Reserve and throughout southwest Florida. The research staff has doubled in size since the past evaluation, which has fostered greater depth in their projects. Research priorities are identified by coastal managers in southwest Florida, who have come to rely on RBNERR for their sound science and ability to translate information gained through research and monitoring into management options.

The current priority areas include characterizing freshwater inflow and developing performance measures and targets for restoring critical habitat and healthy estuarine communities. One of the Reserve's key partners in this effort is the South Florida Water Management District (SFWMD). SFWMD is a regional state agency charged with managing and protecting water resources of the region by balancing and improving water quality, flood control, natural systems and water supply. RBNERR works closely with SFWMD to develop performance measures (for bays, streams, etc.) that are based on data from their various monitoring programs. The Reserve has

also worked with other partners on a variety of performance measure efforts, including one to identify hydrological and ecological performance measures and targets for the Faka Union Canal and Bay in the Ten Thousand Islands region.

The Reserve is currently working with the Florida Wildlife Research Institute (and partners at the University of South Florida and SFWMD) to develop the capacity for habitat suitability modeling using their wealth of monitoring data. Fakahatchee Bay will be used as a control for natural biodiversity, which will be the driver for the models. NOAA supports and encourages the Reserve's efforts in this direction.

Accomplishment: RBNERR successfully uses information collected via their research and monitoring programs to inform and improve coastal management in southwest Florida.

There is also research occurring in the Reserve that is not conducted by RBNERR. A primary goal of the NERRS is to provide long-term protection of estuarine resources to ensure a stable environment for research. This makes Rookery Bay a valuable resource for scientists from all over the country. Visiting investigators benefit not only from the natural environment in the Reserve, but also from the partnerships and information gained by working with RBNERR staff. In addition, research by these investigators complements the Reserve's own research program and increases RBNERR visibility. Unfortunately, there is not currently an adequate system for tracking visiting investigators and their research conducted in the Reserve. To address this issue, the research coordinator reinstated a five-member Research Advisory Committee during the review period, with a mission of increasing and supporting the Reserve's visiting investigator program. The committee membership is new and includes a representative from Florida International University, the University of South Florida, the United States Geological Survey Louisiana Wetland Research Center, Florida Gulf Coast University, and the Conservancy of Southwest Florida.

Program Suggestion: NOAA encourages RBNERR to continue to work with their Research Advisory Committee to develop a process to track research that occurs within the Reserve.

2. Monitoring Programs

RBNERR conducts a suite of monitoring efforts in Rookery Bay and its tributaries. Variables range from abiotic water quality parameters, mandated by the NERR System-Wide Monitoring Program, to biological monitoring of indicator species specific to Rookery Bay. NOAA commends RBNERR for developing strong and wide-ranging monitoring programs. Monitoring this breadth of variables is integral to resource management and research programs in and around Rookery Bay, as well as to the NERR system as a whole.

The goal of the NERR System-wide Monitoring Program (SWMP) is to identify and track short-term variability and long-term changes in estuarine water quality, habitat and land use in each reserve. The data gathered through SWMP provides standardized information about how

estuaries function and change over time, enabling scientists to predict how these systems will respond to anthropogenic changes. RBNERR is fully compliant with NERRS SWMP requirements. Reserve staff monitor four water quality stations: Henderson Creek, Blackwater River, Faka Union Bay and Fakahatchee Bay. The sites selected represent bays with watersheds subject to varying degrees and types of freshwater flow alterations. The Reserve conducts nutrient monitoring at these sites and maintains a weather station in accordance with SWMP protocol. In addition, RBNERR has partnered with Florida International University, who monitors 200 water quality stations throughout the Reserve monthly.

Research staff are involved in several successful biological monitoring projects as well. Data on coastal waterbird populations in Rookery Bay have been collected monthly for the past ten years. There is now enough data that staff are able to use the information to identify management implications. The Reserve also has seven years of fish trawl data, which is being used to develop performance measures to evaluate restoration efforts. All of these monitoring programs rely heavily on volunteers; for the trawling alone, staff logs approximately 2000 volunteer hours annually. Engaging volunteers in these projects not only increases the Reserve's capacity to do such research, but also provides a valuable learning experience to those involved.

A Tier 1 NERRS biological monitoring project at RBNERR is also just getting underway. The Reserve is mapping and monitoring submerged aquatic vegetation (SAV) in a 2000 acre area near Cape Romano. The area will be mapped using both high-resolution aerial photography and side-scan sonar imagery. The Reserve will then assess the accuracy of the two techniques via ground-truth surveys of SAV species distribution, composition and density.

In addition to successfully administering their own monitoring programs, RBNERR is helping to develop capacity for a statewide water quality monitoring program. At present there are 41 dataloggers used throughout the Aquatic Preserve system. The Reserve hosted a workshop to train those interested in how to use and maintain YSI sondes, and to introduce water quality technicians to SWMP QA/QC protocols.

3. Geographic Information Systems Program

The Reserve has greatly enhanced their Geographic Information Systems (GIS) capacity during this evaluation period. As recommended in the previous evaluation findings, RBNERR has established a full-time position with benefits, contracted via FGCU, that is focused on the management of the Reserve's GIS program. This position is one of those cost-shared with the University, as FGCU anticipates increased use of the Reserve's GIS capabilities (mapping, training) as more students and faculty work onsite.

The GIS technician provides critical assistance in support of research, stewardship and education at the Reserve, and has made significant contributions to the RBNERR's expanding GIS database. Since the evaluation, the GIS technician has been trained by ESRI to be an Authorized Instructor for coastal management professionals, which allows her to use ESRI course materials to teach GIS applications. This capacity will greatly benefit coastal managers and the scientific

community in southwest Florida. NOAA commends the Reserve for identifying a means by which to permanently support this important position.

4. Site Profile

NERRS implementing regulations require each reserve to develop a comprehensive site profile. A site profile is designed to: (1) compile scientific datasets relating to the reserve, (2) characterize the physical and biotic components of the environment, (3) synthesize the known ecological relationships within the reserve and its watershed, (4) trace the impact of natural and human disturbances, and (5) explore the need for future research, education and management initiatives.

RBNERR contracted with the NOAA Coastal Services Center to produce their site profile, *Characterization of the Rookery Bay National Estuarine Research Reserve*, in 2003. This site profile is an interdisciplinary synthesis of information about the Rookery Bay and its watershed, in a multimedia, interactive format on CD-ROM. It is presented in a hypertext environment, where narratives are enhanced with pictures, graphs, data tables, and links to additional information. The characterization addresses all of the components required in a site profile, including: descriptions of physical, biological, human, and socioeconomic resources; narratives of current issues affecting these resources in the region; and approximately 100 spatial data layers for viewing and analysis in Geographic Information Systems. A bibliographic database is provided, along with software to conduct searches of the databases. NOAA believes this will be a valuable reference for scientists and managers in southwest Florida.

C. EDUCATION, INTERPRETATION AND OUTREACH

National Estuarine Research Reserves are federally designated "to enhance public awareness and understanding of estuarine areas, and provide suitable opportunities for public education and interpretation." The reserve system provides a range of educational programming to key audiences depending on watershed and community needs and the specific capacity of each reserve. RBNERR offers a variety of education programs for school groups, teachers, coastal decision makers and the general public. During this evaluation period, the Reserve had many accomplishments including the development of new curricula and expansion of the CTP. In addition, the Reserve's ability to reach new audiences was greatly enhanced with the completion of the Environmental Learning Center.

1. Education Program

The primary focus of RBNERR's education program is on-the-water field trips that emphasize estuarine and coastal ecology, providing an opportunity for students to gain first-hand knowledge about the coastal environment. In addition, during this evaluation period, the education team collaborated with Collier County Public Schools (CCPS) to develop a new fourth grade curriculum called *Estuary Explorers*. *Estuary Explorers* was created to help teachers and students learn more about southwest Florida's coastal resources by incorporating classroom

activities with on-the-water field trips. The curriculum includes Field Trip Specialist Training (through a workshop at the Reserve) and a Teacher's Guide with instructions for completing classroom and field activities. RBNERR and CCPS developed the curriculum to teach in accordance with two units of the Sunshine State Standards, "How living things interact with their environment" and "The nature of science." *Estuary Explorers* activities also incorporate critical thinking strategies, high level questioning and scientific techniques.

RBNERR has received much positive feedback on *Estuary Explorers*. In-school evaluations have shown a 20% gain in students' knowledge before and after introduction to the curriculum. Unfortunately, the limiting factor for school participation to date has been busing. In response, Collier County Public Schools will be budgeting \$10,000 annually for Reserve field trips in the future. The Reserve also hopes to initiate educational objectives for field trips, though this has met some resistance from teachers. NOAA commends the education team on the development of this successful curriculum, and on their focus on continuing to improve the educational experience.

Accomplishment: RBNERR successfully expanded and enhanced their education program with the development of a new curriculum, *Estuary Explorers*.

In addition to working with Collier County Public Schools, RBNERR has developed strong and productive relationships with Edison College (EC) and Florida Gulf Coast University (FGCU). They currently partner on a primarily informal level to provide quality K-12 and continuing education opportunities to communities throughout southwest Florida. Building on this, the Reserve and institution leaders are initiating a more formal collaboration with the goal of providing a continuum of educational opportunities in estuarine and marine ecology from grade school through college, and beyond to a career. They also plan to work with the local economic development council to involve regional employers in estuarine and marine industry, technology, research and management.

The evaluation team was able to participate in a planning discussion for this innovative education initiative. Excitement and energy among the partners was evident. They intend to work together to explore opportunities for new collaborations and funding. One option discussed was to apply for a grant from the Community Foundation of Collier County to hire a consultant who would form a working group to discuss and pursue partnership opportunities. NOAA commends RBNERR for working on this cooperative strategy to expand and enhance estuarine and marine education in the region, and encourages the Reserve to continue to be involved.

2. Coastal Training Program

An important aspect of a reserve's education program is the Coastal Training Program (CTP). The CTP is designed to inform coastal decision-making, improve coastal stewardship at local and regional levels through the application of science-based knowledge, and increase dialogue and collaboration among decision-makers. Planning for the program includes establishing a training advisory committee, conducting a market survey of training providers and an audience

needs assessment, developing a program strategy that outlines priority coastal issues to be addressed, prioritizing target audiences, and creating a marketing plan.

RBNERR had been conducting Coastal Decision-Maker Workshops, the model for NERRS' CTP, since 1988, but began development of their CTP in 2001. Working with their CTP Advisory Committee, the Reserve completed their market analysis and needs assessment in 2001, and hired their first fulltime coordinator in 2002. RBNERR's CTP became fully operational that same year, upon completion and submission of all supporting documentation required by NOAA.

Under auspices of both Coastal Decision-Maker Workshops and the CTP, the Reserve has hosted trainings and workshops for various audiences on a diverse suite of topics. Examples include:

- State of the Coast (for elected officials)
- Environmental Leadership Training (for coastal managers in southwest Florida)
- Agricultural Conversion of Coastal Lands
- Marine Law Enforcement training
- Prescribed Fire Management
- Manatee Issues Forum
- Coastal Processes
- Leadership Collier training (for elected and business leaders)
- Ecotourism Workshops

Though describing all of RBNERR's successful workshops is beyond the scope of this report, the State of the Coast workshop merits special mention. The State of the Coast workshop provided science-based information on coastal ecology, the economic impacts of natural resources, and the challenges facing the southwest Florida coast. The workshop was extremely well-attended, with approximately 75 elected and appointed officials participating. This audience can be a difficult one to address, and the Reserve worked hard to develop a thoughtful and productive workshop that could provide coastal policy-makers with the tools necessary to make informed decisions. NOAA commends them on their efforts.

The current strategic focus for RBNERR's CTP is to address changes in land use and the subsequent effects on estuarine health by targeting local land use policy makers. The CTP coordinator plans to target regulatory and permitting staff initially, and hopes to expand to include builders and developers in the region as well.

A secondary program focus addresses the increasing pressures of public access in estuarine and coastal areas. The Reserve has thus developed a series of workshops to provide science-based information about coastal resources to ecotourism professionals in south Florida. The goals of the workshops are to enhance the interpretive skills of tour operators and encourage increased stewardship of the resource. The ecotourism workshop series has been held each summer since 2003, and met with such success that ecotour operators formed their own Society for Ethical Ecotourism. This group then worked with the Reserve to develop a set of guidelines for ecotours. This workshop series has reached such a level of maturity that the Reserve is exploring opportunities to hand over responsibility for it to one of their partners. NOAA encourages the

Reserve to consider transitions such as this, where partners can take responsibility for routine programs to allow staff time for new program development.

At the time of the evaluation, the new CTP coordinator had only been in the position for a few months, prior to which the position was vacant for 6 months. With this change in leadership, RBNERR intends to reevaluate and refine the original CTP needs assessment with hopes of better serving the southwest Florida region. This might include placing greater emphasis on participant evaluations, including 12-18 month follow-up interviews, to determine the effectiveness of programs and identify behavioral changes. The Reserve plans to further enhance the program by pursuing more external partnerships and securing additional resources. NOAA commends RBNERR on this proactive approach to expanding their successful Coastal Training Program.

Accomplishment: RBNERR has developed and implemented a successful Coastal Training Program. Workshop content is diverse and utilized by a range of audiences in southwest Florida.

3. Outreach

Community outreach is another priority for the education team. Reserve staff provide environmental education programs to libraries, schools and a variety of civic organizations. Public outreach activities have included a birding festival, an ocean careers day (Dive into Ocean Careers), art shows, speaker presentations and Reserve tours. Completion of the Environmental Learning Center has allowed for enhanced outreach to community members and tourists, greater collaborations with partners, and increased exposure to local and state elected officials. Given this focus, RBNERR decided to combine staff on the education team with staff from the ELC. This larger, integrated team will be able to provide more comprehensive educational programming for all of RBNERR's audiences.

The evaluation team had the opportunity to engage in an informal discussion with legislative assistants for Congressman Mario Diaz-Balart, Senator Burt Saunders and Representative Dudley Goodlette during the site visit. All three demonstrated great support for Rookery Bay and noted the impact that the ELC has had on the Reserve's ability to reach and educate the public, as well as elected and appointed officials. They also provided constructive feedback on Reserve outreach to elected officials, specifically suggesting a newsletter or other such outreach mechanism for receiving information about RBNERR initiatives and educational opportunities.

Since the ELC opened, the Reserve's research translator has had to devote much of her time to responding to media requests, writing press releases, and developing other specific public relations documents. This has greatly helped in promoting the new facility, but has left little time to dedicate to general RBNERR newsletters or research translation pieces (i.e. the Reserve's *Finding Solutions* series). Materials such as the latter, with information on Reserve research, education and stewardship projects, are valuable outreach tools for connecting with regional stakeholders including elected officials and coastal managers. In order to develop the various outreach strategies and materials necessary for both marketing the ELC to the public and

informing coastal stakeholders, the Reserve has been considering outsourcing some of their communication needs.

Another, often invaluable, outreach tool employed by reserves is their website. Though the ELC is an excellent resource to attract and engage visitors to the RBNERR, those who are unable to visit the area, or who might be looking for additional information often go online. The evaluation team believes that the Reserve website does not currently reach its potential as such an outreach tool. Though it does include an up-to-date calendar of events, which is excellent, current information on successful Reserve research, stewardship and education projects is lacking. The Reserve should determine the website's importance to, and role in, outreach and as part of their communication strategy. If the website is a priority, the Reserve should focus on making a renewed investment in it. Currently, the Reserve works with the Friends of Rookery Bay (FoRB) to keep the website current. If FoRB does not have the time or funding to maintain the site, and there is no internal staff capacity to do this, the Reserve should investigate other options.

Program suggestion: RBNERR should identify which communication needs and/or outreach tools are best suited to outsourcing, and explore options to do so.

D. STEWARDSHIP PROGRAM

Over the past few years, the NERRS has focused on developing a stewardship component to complement its existing research and education programs. At most reserves, Stewardship Coordinators (and teams) participate in activities including research, monitoring, education, and implementation of resource management actions. The RBNERR Stewardship Program, established in 1994, continues to serve as a model for informed, responsible land management in the region and throughout the NERR System. The stewardship team manages Rookery Bay's coastal and estuarine habitats through restoration, monitoring and education, and by developing and implementing resource management practices on the Reserve. RBNERR's team of resource managers facilitate land acquisition, conduct habitat and hydrology restoration projects, eradicate and control invasive plants and animals, manage diverse habitats and wildlife, and conduct prescribed fires to sustain native biodiversity. In addition, the Stewardship Program is proactively addressing the multitude of issues related to increased visitor use in the area. NOAA finds that RBNERR's stewardship team has done an excellent job developing the program during the review period.

1. Habitat Restoration and Management

The stewardship team has been proactive in identifying Reserve and watershed restoration needs, and works closely with the research program and local resource managers to develop habitat restoration and management plans. In addition to ongoing restoration efforts that RBNERR performs on a daily basis, the stewardship program has also recently been working on some specific, larger-scale, projects in the watershed.

Accomplishment: RBNERR has developed and implemented several successful habitat restoration projects during this evaluation period.

Tarpon Bay Hydrological Restoration Project

Tarpon Bay encompasses 360 acres of submerged habitat located within the boundaries of RBNERR. In the late 1950s, a road was constructed to connect four islands, the Isles of Capri, that divide Tarpon and Johnson Bays. No culverts or bridges were incorporated into the road design, instead submerged lands between the islands were filled as a foundation for the road. Residents in the Isles of Capri began to notice deterioration of water quality in Tarpon Bay in the nineties and contacted RBNERR. Using historic and current aerial photography, the Reserve determined that the road construction probably brought about the water quality decline.

The Tarpon Bay Hydrological Restoration Project was thus initiated in 1995 to reestablish the natural tidal flow and flushing between Tarpon Bay and Johnson Bay. Upon completion, the restoration of natural hydrology between the Bays will improve water quality and essential aquatic habitats in the area. The project will include dredging the fill between the islands and installing two large culverts and a bridge where water historically flowed. During this evaluation period, the Reserve successfully obtained funding for the first phase of restoration through the U.S. Fish and Wildlife Service's Coastal Wetlands Conservation Grant Program and the Gulf of Mexico Community-Based Restoration Grant Program. The first culvert was successfully installed in spring 2004. RBNERR and partners, including the Isles of Capri, are still looking for funding to complete the second culvert and bridge construction.

As part of the project, the Reserve and partners are conducting water quality monitoring and wildlife and vegetation surveys throughout the restoration. NOAA encourages RBNERR to document lessons learned from the restoration of Tarpon Bay hydrology in order to guide a more ecological approach to coastal construction in the future.

McIlvane Marsh

The Reserve is also working on a project that includes the acquisition and restoration of undeveloped lands around McIlvane Marsh, which is adjacent to the Reserve's eastern boundary in Collier County. Development and the channelization of freshwater flow had disrupted parts of the system, but the acquisition of the undeveloped lands remaining would limit further disturbance. In 2005, RBNERR successfully acquired 1,000 acres around McIlvane Marsh with a grant from the U.S. Fish and Wildlife Service. Restoration planned for the marsh will restore surface water sheetflow to the adjacent area of the Reserve. The project will benefit a variety of wading birds, important recreational fisheries, and several federally listed species, including the largest population of the American crocodile.

Shell Island Road

Shell Island Road is the primary vehicle route into the RBNERR, providing access to the former Briggs Nature Center (now the Florida Fish and Wildlife Conservation Commission Collier Field Office), the Reserve field station and dock, and a boat ramp. The road is currently limerock and periodically gets washed out due to the natural flow of water through the surrounding low-lying

areas. Recent changes in Collier County's road maintenance operations, however, require the imminent resurfacing of Shell Island Road.

The Reserve is using this as an opportunity to demonstrate that the road can be resurfaced without sacrificing the restoration of natural sheetflow processes in the area. The Reserve is thus researching environmental road surfacing options that are sensitive to the infiltration of stormwater, reduction of pollutants, and impacts to ecosystem hydrology. The Reserve has been investigating eco-paving and construction practices such as permeable pavement and optimal culvert placement. NOAA commends the Reserve on using the necessary road enhancement as an opportunity to demonstrate sustainable construction options and restoration science.

2. Invasive Species Management

The stewardship team actively controls and monitors invasive species in the Reserve. Continual maintenance is necessary to keep exotics from re-invading restored habitat. The stewardship team utilizes a variety of methods to eradicate and control invasives on the Reserve, all of which require a significant investment of time and funding. NOAA supports RBNERR's commitment to invasive species management, and encourages them to continue working with program partners to identify outside financial support for the maintenance of their efforts.

During this evaluation period, RBNERR initiated a new method for the control of the invasive melaleuca. Native to Australia, melaleuca has invaded more than a half-million acres in central and southern Florida. It is an extremely fast growing tree that was brought to this country, and widely planted in Florida, in an attempt to dry up Florida marshes and swamps. In partnership with Coastal and Aquatic Managed Area Division of DEP, the South Florida Water Management District, the U.S. Department of Agriculture and others, RBNERR is testing the use of imported Australian leaf weevils for the biological control of melaleuca. NOAA commends the Reserve on participating in this innovative effort.

3. Visitor Use

Southwest Florida is one of the fastest growing regions in the nation. The increase in residents and tourists has intensified public use pressures on the coastal resources around Rookery Bay. In response to this and in order to enhance the visitor experience at the Reserve, RBNERR has developed the position of public access steward. Previously on the facilities team, this position has recently moved to work within the stewardship program and is dedicated to managing visitor use issues affecting the Reserve. Position duties include providing and managing public access to the Reserve, promoting resource uses that are compatible with the mission of the NERR, and monitoring use to assess impacts to environmental conditions. The steward works closely with both the stewardship and research teams, as well as with visiting investigators and other land managers in the region.

E. VOLUNTEER PROGRAM

Fundamental to inspiring a sense of resource stewardship within the coastal community is providing opportunities for the public to experience, to understand, and thus to care for, Rookery Bay. One way that the community can be active stewards of the resource is by volunteering. The Reserve's nonprofit volunteer group, the Friends of Rookery Bay (FoRB), was one of the first established Friends groups and has been in existence for almost 20 years. Friends assist Reserve staff by conducting presentations and field trips, working in the Environmental Learning Center, assisting with on-site research and ecological monitoring activities, and fundraising.

Both Reserve staff and the FoRB President describe the group as being in an active rebuilding phase, and have been thinking strategically about how to attract more active members. They had determined that the group and its initiatives should be more focused, and that it was time to proactively recruit for members on the Board. The Reserve's volunteer coordinator will play a critical role in this rebuilding and rejuvenation phase, as the Reserve will need to decide how best to engage FoRB in their activities and day-to-day operations. NOAA encourages RBNERR to work closely with FoRB to create a strategic vision for the group. A strong volunteer base, trained by Reserve staff, could support and enhance the Reserve's programs by participating in greater variety of education, stewardship and research program activities.

Program Suggestion: RBNERR should work with the Friends of Rookery Bay (FoRB) Board members to help focus the group's mission, and to identify how FoRB can best support Reserve goals and objectives.

The Reserve and FoRB have also recently formed the Rookery Bay Foundation to spearhead fundraising efforts for RBNERR activities and enhancements. FoRB is currently working to raise enough to hire an executive director for the Foundation. Both FoRB recruitment and Foundation fundraising will depend on successful outreach strategies. Southwest Florida is a very competitive market, given the relative wealth of environmentally-focused citizen support organizations. Though it will be challenging, NOAA believes these initiatives will greatly enhance FoRB's capacity.

V. CONCLUSIONS

For the reasons stated herein, I find that the State of Florida is adhering to the programmatic requirements of the National Estuarine Research Reserve System in the operation of its approved Rookery Bay National Estuarine Research Reserve (RBNERR).

RBNERR has made notable progress in the following areas: reserve administration; boundary expansion; facilities; research; education; and stewardship.

These evaluation findings also contain seven recommendations. These recommendations are in the form of Program Suggestions. The Program Suggestions should be addressed before the next regularly scheduled program evaluation, but they are not mandatory at this time. Summary tables of program accomplishments and recommendations are provided in the Appendix E.

This is a programmatic evaluation of RBNERR that may have implications regarding the state's financial assistance awards. However, it does not make any judgment on or replace any financial audits.

signed David M Kennedy
David M. Kennedy
Director, Office of Ocean and Coastal
Resource Management

6/2/2006
Date

VII. APPENDICES

APPENDIX A. RBNERR'S RESPONSE TO 2001 EVALUATION FINDINGS

1. Necessary Action: NOAA supports the Reserve's efforts to build GIS capability by working with partners in state and federal agencies and local and regional organizations. NOAA encourages the State to make the current GIS technician position permanent.

RBNERR Response: RBNERR established a partnership agreement with Florida Gulf Coast University (FGCU) in 2003 that included the development of a cost-shared full-time position with benefits, focused on management of the Reserve's GIS program. Since that time, this position has made significant contributions to the Reserve's research, stewardship and education mission. The Reserve anticipates that GIS training associated with this position, targeting both FGCU students and local professionals, will become an important part of their future program.

2. Program Suggestion: The Reserve is encouraged to seek opportunities for outreach and education to state house and senate members both during the legislative session and throughout the rest of the year to increase support state-wide for NERRS programs.

RBNERR Response: RBNERR has hosted numerous site visits by State representatives within the past several years, including Representatives Dudley Goodlette, Mike Davis, and State Senator Burt Saunders. In addition, the Reserve served as a host site for a national address delivered by President Bush in 2003, attended by Florida's Governor Jeb Bush, and Congressmen Porter Goss and Mario Diaz-Balart. DEP's Office of Coastal and Aquatic Managed Areas (CAMA) participated in Ocean Day activities at the State capital in 2005, including briefings to seven State Representatives on RBNERR by the Reserve manager. CAMA anticipates continuing involvement in this annual event.

3. Program Suggestion: The Reserve is encouraged to continue coordination and collaboration with CSF in conducting education projects and to assess and revise as necessary the memorandum of agreement that defines areas of cooperation.

RBNERR Response: Over the past several years, RBNERR staff have initiated a series of meetings involving staff of the Conservancy and the Reserve to review opportunities to partner on various issues and projects, with limited success. This is partly due to changing priorities within the Conservancy as they have been engaged in a strategic planning process lasting over two years, and in part due to the Conservancy's decision to close the Briggs Nature Center for financial reasons in 2003. Recently, the CEO of the Conservancy announced her resignation and the search is underway for a new director. Progress has been made in the past year in establishing a cooperative effort to resolve long-standing issues regarding Shell Island Road ranging from use of the boat ramp to safe access.

4. Program Suggestion: NOAA supports the completion of the MOA between DEP and USFWS and encourages the State to commit resources for co-management of this land.

RBNERR Response: In 2004, DEP and USFWS signed a cooperative agreement that establishes a shared management approach for the Ten Thousand Islands.

APPENDIX B. PERSONS AND INSTITUTIONS CONTACTED

Rookery Bay National Estuarine Research Reserve

Name	Title
Tad Bartareau	Environmental Specialist
Theodore Below	Research Consultant
Steve Bertone	Research Assistant
Laurel Chaplin	Education Assistant
Greg Curry	Park Services Specialist
Sara Davis	ELC Assistant Manager
Ann Ferguson	Operations and Management Consultant
Dave Graff	Environmental Specialist
Joy Hazel	Training Specialist
Amelia Horadam	ELC Office Assistant
Beth Housewert	Volunteer Coordinator
Tim Jones	Asst. Water Quality Technician
Pamela Keyes	Environmental Specialist
Keith Laakkonen	Stewardship Coordinator
Gary Lytton	Reserve Manager
Randy McCormick	Education Coordinator
Vicki McGee	Water Quality Project Manager
Cheryl Metzger	Grants Specialist
Amanda O'Connell	Receptionist
Donna Pace	Office Manager
Jill Schmid	Resource Management Specialist – GIS Technician
Mike Shirley	Research Coordinator
Brenda Varnes	Administrative Assistant
Tabitha Whalen Stadler	CTP Coordinator
Renee Wilson	Research Translator

State of Florida

Name	Title
Kacky Andrews	Formerly (at time of evaluation) FDEP, CAMA Director
Capt. Jayson Horadam	Florida Fish and Wildlife Conservation Commission

Representatives for Elected Officials

Name	Office
Steve Hart	Congressman Mario Diaz-Balart
Sandy Mummert	Senator Burt Saunders
Jessica Kardas	Representative Dudley Goodlette

Program Partners

Name	Affiliation
Jeff Allbritten	President, Edison College
Ray Baker	Superintendent, Collier County Schools
David Ceilly	Conservancy of Southwest Florida
Ben Nottingham	USFWS
Mike Spranger	SeaGrant
Lois Swaim	President, Friends of Rookery Bay
Clarence Tears	Southwest Florida Water Management District
Greg Tolley	FGCU

APPENDIX C: PERSONS ATTENDING THE PUBLIC MEETING

Name	Affiliation
Barbara Murphy	Public
Mike Murphy	Public

APPENDIX D: NOAA’S RESPONSE TO WRITTEN COMMENTS

NOAA did not receive any public comments regarding the Rookery Bay National Estuarine Research Reserve (RBNERR).

APPENDIX E: SUMMARY OF ACCOMPLISHMENTS AND RECOMMENDATIONS

Accomplishments

Issue Area	Accomplishment
Reserve Administration	RBNERR's Management Team is to be commended for their significant role in guiding and developing Reserve programming.
Florida Gulf Coast University Partnership	RBNERR has further developed their partnership with FGCU, which will increase opportunities not only for University students and faculty, but also for research and education programs at the Reserve.
Environmental Learning Center	RBNERR successfully completed their new facility, the Environmental Learning Center (ELC). The ELC will advance the Reserve's mission to inform coastal stewardship and decision-making through research and education.
Research and Monitoring Program	RBNERR successfully uses information collected via their research and monitoring programs to inform and improve coastal management in southwest Florida.
Research Tracking	NOAA encourages RBNERR to work with their Research Advisory Committee to develop and initiate a formal process to track research that occurs within the Reserve.
Education Program	RBNERR successfully expanded and enhanced their education program with the development of a new curriculum, <i>Estuary Explorers</i> .
Coastal Training Program	RBNERR has developed and implemented a successful Coastal Training Program. Workshop content is diverse and utilized by a range of audiences in southwest Florida.
Stewardship Program	RBNERR has developed and implemented several successful habitat restoration projects during this evaluation period.

Recommendations

All recommendations are in the form of Program Suggestions.

Issue Area	Recommendation
Reserve Administration	NOAA strongly encourages DEP to explore means by which they can hire an assistant manager for RBNERR to help with day-to-day operations and administration.
Management Plan	RBNERR should develop a timeline for their Management Plan revision, including dates for when the outline, draft document and final plan will be submitted to the Estuarine Reserves Division.
Reserve Advisory Committee	NOAA encourages RBNERR to involve the Reserve Advisory Committee in their current management plan revision, and to consider how to best align roles of the Committee with Reserve needs.
Land Management	NOAA encourages RBNERR to identify a regular process through which landowners within the Reserve and its watershed can share stewardship strategies and work to implement coordinated management approaches.

Research Tracking	NOAA encourages RBNERR to continue to work with their Research Advisory Committee to develop a process to track research that occurs within the Reserve.
Reserve Outreach	RBNERR should identify which communication needs and/or outreach tools are best suited to outsourcing, and explore options to do so.
Volunteer Program	RBNERR should work with the Friends of Rookery Bay (FoRB) Board members to help focus the group's mission, and to identify how FoRB can best support Reserve goals and objectives.