

Final Evaluation Findings

Sapelo Island National Estuarine Research Reserve

March 2008 to August 2018

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Summary of Findings

Administration's Office for Coastal Management to conduct periodic evaluations of the performance of state programs participating in the National Estuarine Research Reserve System. This evaluation examined the operation and management of the Sapelo Island National Estuarine Research Reserve by the Georgia Department of Natural Resources, the designated lead agency, for the period from March 2008 to August 2018. The evaluation focused on three target areas: program administration, coastal resilience, and community engagement.

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

Accomplishment: The Sapelo Island Research Reserve has worked both with the Georgia Department of Natural Resources and internally to implement measures that have improved administrative processes and interactions. These efforts will increase cohesion and communication within the reserve staff and work toward increased visibility within the Georgia Department of Natural Resources.

Accomplishment: The Sapelo Island Research Reserve has dramatically improved the learning experience for the students who participate in education programs. The program content, structure, and facilities have all been enhanced and reflect a renewed emphasis on science-based learning, resulting in higher numbers of students able to participate in learning about coastal and estuarine resources and processes in new and updated ways.

Accomplishment: The Friends of Sapelo nonprofit volunteer organization represents a tremendous asset to the reserve and is working well. They are consistent supporters and champions of the reserve and its mission. Their contribution of time in fiscal year 2018 is the equivalent of \$63,573, according to the [Independent Sector](#). The Friends of Sapelo reports that the reserve is routinely recognized within the reserve system for the most volunteer hours contributed.

Recommendation: The NOAA Office for Coastal Management encourages the Sapelo Island Research Reserve to consider opportunities for using its reinvigorated advisory group to better support and further reserve goals and objectives. The reserve manager has done an excellent job of reinvigorating the reserve's advisory group, which had lapsed for many years. However, the reserve could benefit by better leveraging this group and using it in more active roles to support reserve goals and objectives, and not just for feedback or review.

Recommendation: The reserve would benefit significantly from strengthening its profile with both the Georgia Department of Natural Resources, and externally with the broader community. The NOAA Office for Coastal Management strongly encourages Sapelo Island Research Reserve to:

- Explore opportunities for furthering its relationship with the Georgia Department of Natural Resources communications staff to augment the reserve's external outreach efforts and visibility within the department.
- Include in its draft management plan a communication plan to further the reserve's priority issues and increase community and partner awareness of the reserve's mission, accomplishments, and education and recreational opportunities. The plans should identify target audiences, key messages, desired outcomes, and strategic communication opportunities, with a focus on short-term priorities in the next three to five years.

Recommendation: The NOAA Office for Coastal Management encourages the Georgia Department of Natural Resources to look for additional efficiencies to streamline staffing actions in order to improve the continuity of core programs, which are negatively impacted when vacancies linger for long periods of time. The reserve manager and the Georgia Department of Natural Resources are commended for taking steps during the evaluation period to update antiquated position descriptions and classifications that no longer reflect the type, level, or amount of work done by reserve staff members, and to fill vacancies accordingly. The reserve and the department are strongly encouraged to complete the work of updating the position descriptions and classifications.

Recommendation: The NOAA Office for Coastal Management encourages the Sapelo Island Research Reserve to continue to work with island partners to ensure that it has access to adequate lab space or to pursue other options such as NOAA Procurement and Construction (PAC) funding to modify existing facilities to ensure that lab space is available long-term to meet the reserve's needs.

Recommendation: The NOAA Office for Coastal Management encourages the Sapelo Island Research Reserve, as a part of the management planning process, to use its advisory group and relevant partners to help define the reserve's niche in addressing emerging on-island, local, and regional issues related to community and ecological resilience.

Recommendation: The NOAA Office for Coastal Management encourages the Sapelo Island Research Reserve to consider strengthening the Coastal Training Program's role to include more engagement with local governments and taking an active role in developing and implementing collaborative multi-partner projects that bring together research, practitioners, and training expertise to ensure that the latest research is incorporated into decision-making and activities.

Recommendation: The NOAA Office for Coastal Management encourages the Sapelo Island Research Reserve to consider expanding the Coastal Training Program's geographic reach. Currently, the emphasis of the program's work is within McIntosh and Glynn Counties. As noted by many of the reserve's key partners, it would be beneficial to Georgia coastal communities, the state, and the nation in deepening understanding and in addressing the reserve's key issue areas to broaden the reserve's geographic scope to bring reserve science to the eleven Georgia coastal counties.

Recommendation: The NOAA Office for Coastal Management encourages Sapelo Island Research Reserve to work with Georgia Department of Natural Resources to enhance communication and collaboration among Sapelo Island partners, including the Hog Hammock community. They should continue to build direct connections between the reserve and the Hog Hammock community to further explore how the reserve can benefit them and how they could contribute to the reserve's goals.

Necessary Action: The Sapelo Island Research Reserve's current management plan expired in 2013 and therefore is more than five years out of compliance. The reserve must submit a full draft plan to NOAA by September 30, 2019.

This evaluation concludes that the Georgia Department of Natural Resources is adhering to the programmatic requirements of the National Estuarine Research Reserve System in the operation of the Sapelo Island National Estuarine Research Reserve.

Program Review Procedures

The NOAA Office for Coastal Management evaluated the Sapelo Island National Estuarine Research Reserve in fiscal year 2018. The evaluation team consisted of Pam Kylstra, evaluation team lead, Bill O'Beirne, Southeast and Caribbean regional director, Stephanie Robinson, regional specialist, and Donna McCaskill, communications director, all with the NOAA Office for Coastal Management; and Blaik Keppler, manager, ACE Basin National Estuarine Research Reserve. The support of the reserve staff was crucial in conducting the evaluation, and this support is most gratefully acknowledged.

NOAA sent a notification of the scheduled evaluation to the director of the Georgia Department of Natural Resources and published a notice of "Intent to Evaluate" in the *Federal Register* on June 27, 2018. NOAA also notified members of Georgia's congressional delegation. The reserve posted a notice of the public meeting and opportunity to comment in the *Darien News* on June 27, 2018.

The evaluation process included a review of relevant documents and a survey of stakeholders, which helped identify three target areas for the evaluation:

- Program Administration
- Coastal Resilience
- Community Engagement

A site visit was also conducted and the evaluation team held meetings with staff members and group discussions with stakeholders and program staff members about the target areas. In addition, a public meeting was held on Tuesday, August 21, 2018, at 6:30 p.m. at the Sapelo Island Visitors Center, 1766 Landing Road Southeast, Darien, Georgia, to provide an opportunity for members of the public to express their opinions about the implementation of the reserve. Stakeholders and members of the public were given the opportunity to provide written

comments via email or U.S. mail through Friday, August 31, 2018. A summary of the comments received, and the NOAA Office for Coastal Management's responses, are included in Appendix A. The Office for Coastal Management then developed draft evaluation findings, which were provided to the Georgia Department of Natural Resources and to the reserve for review, and their comments were considered in drafting the final evaluation findings.

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

Necessary Actions address programmatic requirements of implementing regulations of the Coastal Zone Management Act. These must be carried out by the dates specified. Failure to address necessary actions may result in a future finding of non-adherence and the invoking of interim sanctions, as specified in the Coastal Zone Management Act § 312(c).

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

Evaluation Findings

The Georgia Department of Natural Resources continues to successfully implement the federally approved Sapelo Island National Estuarine Research Reserve.

Program Administration

During the evaluation period, Sapelo Island National Estuarine Research Reserve has experienced almost complete turnover in its full-time staff, including the manager position, and the reserve's first and only research coordinator and stewardship coordinator positions. Although this turnover has presented significant challenges, it has also brought great opportunities to the reserve to reinvigorate its programs, and to do a comprehensive review of its mission, goals, and objectives. Led by the new manager, and with the support of all of the staff, a number of important efforts have been completed or are underway, including reforming the Sapelo Island National Estuarine Research Reserve and completely redrafting the reserve's management plan. These are significant accomplishments, and are a testament to the dedication of the reserve staff. However, these changes have also highlighted opportunities to enhance or streamline some aspects of program administration.

Advisory Group

The reserve is to be applauded for reinvigorating the advisory group. During the site visit, members of the advisory group expressed deep respect for the reserve and the staff, eagerness to serve, and ideas for increasing the group's effectiveness. Several advisory group members mentioned, however, that the group is akin to a rubber stamp for decisions already made by reserve staff and receives report-outs from staff about reserve activities. Instead, their desire is to serve the reserve in a true advisory fashion by being asked to provide meaningful advice and feedback about reserve issues that aid with decision-making regarding the reserve's goals, priorities, initiatives, staffing, and outreach. They also indicated that the reserve has not tapped the full potential of the advisory group in its outreach or reserve advocate roles and that it could help communicate the value of the reserve to the Georgia Department of Natural Resources and the region.

To put the advisory group to greater use for the reserve, members suggested they would rather have longer in-person meetings a few times a year to provide advice and feedback, while report-outs to the advisory group on reserve activities could be done via email. Additionally, how and when the group could serve as an extension of the reserve's outreach efforts and as an advocate of the reserve's value could be clarified.

It is also recognized that establishing and fostering an effective advisory group structure takes considerable work. One partner organization noted that it has 25 percent of a full-time equivalent devoted to the coordination and maintenance of its advisory board. At this time, Sapelo does not have 25 percent or even 10 percent of anyone's time to dedicate to this task. If

Sapelo determines that the advisory group is a priority, perhaps a portion of the new coastal training coordinator's time could be considered for this task.

Outreach: Internal and External

Many of the comments made by stakeholders in the stakeholder survey and during the site visit meetings were concerned with increasing the visibility of the reserve within the Georgia Department of Natural Resources, among potential partners, and within the regional community. This section is focused on the reserve's outreach efforts that broaden its reach and communicate the value of the reserve to both the surrounding community and the Georgia Department of Natural Resources. The "Community Engagement" section will emphasize the reserve's relationship-building interactions that develop from outreach activities.

The new reserve manager has developed a good relationship with the Georgia Department of Natural Resource's Sapelo Island manager and they work closely together on all issues that involve the reserve's resources, operations, and activities. The reserve manager attends monthly department on-island staff meetings held by the Sapelo Island manager. The reserve manager has also developed a sound relationship with the department's region supervisor despite infrequent direct interactions with him because he works in the Brunswick office.

The foundational element of any outreach effort is having something worthwhile to communicate. As such, the reserve should continue to provide high quality research, educational, training, and conservation products and services. A talented, competent staff dedicated to its work and committed to sharing the results of its efforts is the most important component of any outreach effort.

Given the reserve's staffing shortfall, for efficient and effective outreach, reserve staff members need to develop specific outreach goals along with target audiences, messages, and strategies for reaching these audiences. For example, if additional visiting researchers are desired, a target audience could be specific universities and departments within these universities, even specific people. Messages would contain information about what the reserve has to offer and what potential researchers have to do to participate. Through further assessment, reserve staff members would then identify the most effective ways to reach this audience, and assign tasks and deadlines to get the job done. This approach of focusing on a few strategic goals or approaches at a time, rather than random outreach efforts, and working down the list would help the staff members remain motivated and make forward progress in achieving the reserve's outreach goals and ultimately in improving the reserve.

Other examples of potential outreach goals that are linked with reserve audiences include the following:

- By using reserve research and training, the reserve would help local government officials increase community resilience to coastal hazards.
- Targeting civic groups within the region to increase awareness and implementation of community resilience best practices.

- Emphasizing outreach to peer organizations and Sapelo communities to broaden the scope of reserve efforts.
- Continuing to message reserve activities and accomplishments to NOAA and Georgia Department of Natural Resources to ensure relevance and continued funding.

As with any outreach effort, setting specific organizational goals is a key first step. NOAA's Office for Coastal Management has various products and trainings that the reserve staff members may use, including a simple outreach template that guides the user through the process for each target audience.

The evaluation team noted that there appear to be many parallels between the reserve and Gray's Reef National Marine Sanctuary. This organization, also realizing the importance of outreach while recognizing their staffing and access limitations, made some hard choices about which outreach targets they would and would not pursue. The reserve might consider working with staff from this peer organization to learn about the process they used and the outcomes.

The reserve stands out when compared to other programs in the Georgia Department of Natural Resources' portfolio, and this could be beneficial to both. The reserve can provide beautiful photos and interesting facts, information, expertise, and recreational and educational experiences. This material and the efforts of the reserve can add another dimension to the department's reputation and help it gain favor with and generate interest within a broader audience. To the reserve's benefit, the department's communication machine is well established and can raise and broaden the reserve's visibility within the department, with opinion leaders, and throughout the state.

Although reserve staff members have made great strides in improving their website and social media presence and should continue to do so, the evaluation team believes that the reserve should also consider making it a priority to arrange time for the department's communication staff to visit the island with the intent of helping to increase the reserve's value within the department. This would allow the department's communication staff to gain firsthand knowledge about the reserve and to aid in the development of creative ideas necessary to integrate the reserve's communication needs with the department's outreach activities as an additional outreach avenue for the reserve. During this visit, the reserve staff members could also learn about the different communication and outreach approaches used by the department and to collaboratively decide the best way for the reserve to contribute. For instance, perhaps the department's communication staff could assist with broadcasting reserve-generated press through the department's existing channels, including social media. Instituting a regular check-in mechanism and information exchange between the reserve and the department's communication staff could be one way to ensure that outreach efforts remain a priority.

The reserve has an opportunity in updating the management plan to incorporate these approaches into a communication plan section that will further the reserve's priority issues, and increase community and partner awareness of the reserve's mission, accomplishments, and

educational and recreational opportunities. As discussed above, to be effective, the plans should identify target audiences, key messages, desired outcomes, and strategic communication opportunities.

Staffing Actions

Despite the challenges posed by turnover of nearly the entire reserve staff, the reserve manager and the Georgia Department of Natural Resources are to be applauded for their diligence in working together to make progress in filling vacancies and reclassifying positions to better fit current job duties. One considerable challenge has been the process for updating antiquated position descriptions and classifications that no longer reflect the type, level, or amount of work done by the reserve staff to implement the management plan effectively. An additional staffing concern is that the extended vacancy of positions, such as that of the Coastal Training Program coordinator, inhibits the capacity of the reserve to ensure the continuity of core programs, implement its management plan effectively, and fulfill national reserve system requirements. For instance, there have been ongoing projects like the Public Access Plan and the Coastal Training Program's Market and Needs Assessment that were especially challenging to complete because of insufficient capacity and the current staff members being stretched thin. Although the staff members are highly dedicated and talented, the evaluation team was gravely concerned about the impact on staff retention created by the need for the current staff members to cover additional work created for them by the vacancies.

In the past several years, the reserve manager has reinstated regular staff meetings. This has helped to create cohesion and increase communication after a period of significant staff turnover. These monthly meetings provide great opportunities for staff both at the Sapelo Visitors Center and those who work on the island to share important program information, as well as to make progress on tasks, such as updating the management plan.

Laboratory Facilities

Through the partnership with the University of Georgia's Marine Institute, the reserve has access to lab space that is critical to the success of the reserve's participation in the System-wide Monitoring Program and the Sentinel Site program. However, based on observations by and feedback to the evaluation team during the site visit, it seems that the future status of the availability of the lab space may be uncertain. Additionally, a full wet lab space could help attract additional visiting researchers to the reserve to help provide insight about vulnerabilities, including questions about how sea level rise impacts fresh water availability and other concerns with ecological and community resilience. The reserve is encouraged to continue to work with island partners to ensure that it has access to adequate lab space or to pursue other options such as NERRS Procurement and Construction (PAC) funding to modify existing facilities to ensure that long-term lab space is available to meet the reserve's needs.

Findings for Program Administration

Accomplishment: The Sapelo Island Research Reserve has worked both with the Georgia Department of Natural Resources and internally to implement measures that have improved administrative processes and interactions. These efforts will increase cohesion and communication within the reserve staff and work toward increased visibility within the Georgia Department of Natural Resources.

Recommendation: The NOAA Office for Coastal Management encourages the Sapelo Island Research Reserve to consider opportunities for using its reinvigorated advisory group to better support and further reserve goals and objectives. The reserve manager has done an excellent job of reinvigorating the reserve's advisory group, which had lapsed for many years. However, the reserve could benefit by better leveraging this group and using it in more active roles to support reserve goals and objectives, and not just for feedback or review.

Recommendation: The reserve would benefit significantly from strengthening its profile with both the Georgia Department of Natural Resources, and externally with the broader community. The NOAA Office for Coastal Management strongly encourages Sapelo Island Research Reserve to:

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- Include in its draft management plan a communication plan to further the reserve's priority issues and increase community and partner awareness of the reserve's mission, accomplishments, and education and recreational opportunities. The communication plan should identify target audiences, key messages, desired outcomes, and strategic communication opportunities, with a focus on short-term priorities in the next three to five years.

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Necessary Action: The Sapelo Island Research Reserve’s current management plan expired in 2013 and therefore is more than five years out of compliance. The reserve must submit a full draft plan to NOAA by September 30, 2019.

Coastal Resilience

The reserve considers coastal resilience to include both community resilience and ecological resilience, that is, resilience of people and structures as well as natural systems, such as marshes, to threats that coastal Georgia is experiencing, such as sea level rise, increased air and water temperatures, and extreme rainfall and other weather events. The reserve’s role to date has been to increase understanding and to educate and communicate about how to make communities and ecosystems more able to bounce back from and adapt to these impacts. Notably, sea level rise is resulting in increased flooding and storm surge from hurricanes and extreme rain events, and is increasing coastal erosion and saltwater intrusion. In addition, the impacts of climate change are likely to increase the effects of other environmental stressors, such as pine beetle infestations, wildfire, and invasive species. The evaluation team heard from stakeholders that addressing climate change impacts such as sea level rise, extreme weather events, and increased frequency of severe storms was one of the biggest coastal management challenges in the region.

Examples of Key Efforts

The reserve has undertaken a number of activities related to community and ecological resilience. Included among those are the following:

- Research on impacts from climate change and sea level rise – Reserve staff have been undertaking activities to raise awareness of climate impacts such as sea level rise, drought, and saltwater intrusion to human and ecological communities on Sapelo and the region.
- Sea level rise and saltwater intrusion – The reserve’s research coordinator is in the process of developing research activities to monitor saltwater intrusion into Sapelo groundwater to begin efforts to identify potential impacts on human and ecological communities on the island.
- Invasive Species – The reserve continues to play a convening role with the Cooperative Invasive Species Management Areas project, looking at the impacts of climate on invasive species in Georgia’s coastal region.
- Water levels – The reserve has partnered with the Georgia Coastal Ecosystems Long Term Ecological Research site and the U.S. Geological Survey on the water level/tide gauge monitoring station on the Meridian ferry dock.
- The reserve’s former Coastal Training Program coordinator has represented the reserve and actively participated on the Georgia Coastal Hazards Community of Practice work group.
- The reserve’s research coordinator and former Coastal Training Program coordinator helped the forestry commission connect with people on green infrastructure.

- The Seeds to Shoreline program promotes native vegetation cultivated by schools that is used in saltmarsh restoration and living shoreline projects.
- The reserve has supported and participated in cross-sector initiatives to promote green infrastructure. Examples include the following:
 - Reserve staff members were an integral part of developing the Living Shorelines work group. The work on living shorelines has helped fill a gap in understanding how living shorelines work in a high tidal range.
 - Partnering to host green infrastructure workshops that have facilitated mapping of green infrastructure along the Georgia coast.

In addition to the work listed above, the reserve's research program is close to having a fully functional National Estuarine Research Reserve System (NERRS) sentinel site to measure sea level rise effects on marsh communities and marsh response to sea level rise on Sapelo. This will allow researchers to understand whether long-term marsh heights are keeping pace with long-term sea level rise rates and can remain viable habitat for fish and wildlife, natural pollution control features, and natural erosion control and storm surge infrastructure.

One key challenge the reserve faces is that there are many partners in the region already engaged in coastal resilience-related science, outreach, and planning. While the overall result is likely positive for the broader community and region, the reserve struggles with distinguishing its niche within the ecological and community resilience arena. The completion of the management plan provides the reserve with an opportunity to clarify the reserve's role in studying, supporting partner efforts regarding, and providing outreach to and engaging the community in ecological and community resilience. During the development of the management plan, to identify the reserve's resilience niche, the reserve should seek input from the advisory group members and relevant partners about existing or emerging on-island, local, and regional resilience issues, that are underserved and that the reserve's programs are well equipped to address. The reserve should also use that input to finish completing a revised site profile that includes the priority research needs of the reserve.

The reserve could improve its training and outreach about impacts and responses to enhance community and ecological resilience. The new draft management plan and hiring of a new Coastal Training Program coordinator provides an excellent opportunity to bring new focus to the Coastal Training Program. The reserve should:

- Fill the Coastal Training Program coordinator position as soon as possible to implement system-wide programs as described in the management plan and to facilitate discussions with partners, stakeholders, and the public about improving resilience.
- Use information from the recently completed market analysis and needs assessment for the Coastal Training Program to augment the partnership with the Georgia Coastal Management Program and to reassess the Coastal Training Program priorities, coastal decision maker audiences, and ways to more directly bring relevant reserve research and monitoring to those audiences to enhance community and ecological resilience.

- Consider strengthening the Coastal Training Program's role to include more engagement with local governments, and taking an active role in developing and implementing collaborative multi-partner projects that bring together research, practitioners, and training expertise to ensure that the latest research is incorporated into decision-making and activities. Types of projects could include restoration projects, such as living shorelines, and maritime forest and longleaf pine management.
- Consider expanding the Coastal Training Program's geographic reach. Currently, the emphasis of the program's work is within McIntosh and Glynn Counties. As noted by many of the reserve's key partners, it would be beneficial to Georgia coastal communities, the state, and the nation in deepening understanding and in addressing the reserve's key issue areas to broaden the reserve's geographic scope to bring reserve science to the 11 Georgia coastal counties.

The reserve should consider working in conjunction with the Georgia Department of Natural Resources and other on-island partners to solicit potential ideas from Hog Hammock residents about what topics concern them. For instance, during the site visit, one stakeholder suggested that it might be helpful to engage residents in understanding impacts from climate change and options for response. As a part of this effort, the residents could participate in citizen science activities as well as share their firsthand knowledge about climate change-related shifts in Sapelo Island's terrestrial and marine systems, which would augment the reserve's coastal resilience efforts.

Findings for Coastal Resilience

Recommendation: The NOAA Office for Coastal Management encourages the Sapelo Island Research Reserve, as part of the management plan development process, to use its advisory group and relevant partners to help define the reserve's niche in addressing emerging on-island, local, and regional issues related to community and ecological resilience.

Recommendation: The NOAA Office for Coastal Management encourages the Sapelo Island Research Reserve to consider strengthening the Coastal Training Program's role to include more engagement with local governments and taking an active role in developing and implementing collaborative multi-partner projects that bring together research, practitioners, and training expertise to ensure that the latest research is incorporated into decision-making and activities.

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Community Engagement

Examples of Key Efforts

The reserve is committed to advancing the goals of the National Estuarine Research Reserve System through partnerships and public interactions. The reserve has many years of experience working with various target audiences, and through these efforts they are helping the region understand estuary ecology and Sapelo Island, as well as increasing the recognition of the professionalism and work accomplished by this reserve. The outreach accomplishments and stellar reputation of the reserve among its conservation peers is directly attributed to the professionalism, dedication, and customer-service orientation of the staff.

Despite limited access to Sapelo Island, a small staff, and little staff time and expertise available to devote to community engagement, the reserve has undertaken a number of successful public engagement activities. The 40th anniversary celebration in 2016 was among the crowning achievements during this reporting period. For this observance, the reserve reworked its website, created a new logo, provided a monthly activity for the public in the year leading up to the event, created a newsletter, and sponsored a kick-off reception. A contractor with public relations expertise was employed for these efforts, but the bulk of the work, and the implementation, was an organization-wide endeavor that was very successful. It was noted by staff members in retrospect, that it would have been less stressful and more sustainable with the existing number of staff members to limit the monthly activity to the three months prior to the event.

While the anniversary celebration was a special event, there are numerous day-to-day ways the reserve interacts with the community. Throughout the stakeholder meetings during the evaluation site visit, participants from peer organizations mentioned repeatedly the professionalism and helpfulness of the staff, as did the Friends of Sapelo group. Additionally, the reserve continues to participate in Fall Fest and other festivals and community events, including the summer lecture series, the Brunswick art show, public speaking engagements at schools and civic clubs, special events at Sapelo Island, and partner events. The coastal training and education programs also serve to strengthen the reserve's engagement with various sectors of the community. The Sapelo Visitor Center is another visible and effective engagement component. Through the thoughtful exhibits, everyone who buys a ticket for the Sapelo Island ferry at the visitor center is exposed to the cultural history and science protected and enhanced by this research reserve program.

During the second half of the evaluation period, the reserve has comprehensively revamped the education program content, structure, and facilities. The education lab has been remodeled and outfitted with new equipment for both teaching and learning, resulting in a space that accommodates more students and greatly enhances their learning experience. For instance, the traditional whiteboard has been replaced by a digital one, digital microscopes have been added, more microscopes and dissecting scopes are available for use, new display cases have been installed and stocked with specimens of organisms and archeological artifacts from around the

reserve, and permanent specimen tanks have replaced temporary ones. The program's data collection and record-keeping system have been updated from a paper to an electronic system, allowing drastically improved data storage and analysis and reporting capabilities. This sampling of improvements, along with numerous others completed, reflects a renewed emphasis on science-based learning resulting in higher numbers of students able to participate in learning about coastal and estuarine resources and processes in new and updated ways.

Friends of Sapelo

This active membership contributes greatly to the work of the reserve and acts as a powerful brand ambassador throughout the community and the state. The number of active members and the enthusiasm they have for the work of the reserve are key components of the reserve's ability to engage the greater community. The reserve supports a volunteer coordinator position that works directly with the Friends of Sapelo. The Friends of Sapelo has provided volunteer support for events, including a lecture series, Crab and Shrimp Day on the island, National Estuary Week, and Coast Fest. It is also key in providing volunteers for new endeavors such as the reserve's participation in the citizen science program, with the Phytoplankton Monitoring Network filling a gap in coastal data.

In fiscal year 2018, the Friends of Sapelo recorded 2,466 volunteer hours. This represents a contribution of \$63,573 based on the 2018 rate of \$25.78 as the value of a volunteer hour for Georgia according to [Independent Sector](#). The rates set by Independent Sector are used by the U.S. Bureau of Labor and by the Corporation for National and Community Service.

Interaction with On-Island Partners

There are several on-island partners who are all doing important work to support their own missions and the island as a whole, including the community of Hog Hammock, the reserve, Georgia Department of Natural Resources, the University of Georgia Marine Institute, the Georgia Coastal Ecosystems Long Term Ecological Research Program field site, the Friends of Sapelo, and the R.J. Reynolds Mansion. However, they are often working independently of each other. There seems to be a lack of awareness among these partners about what each of them is working on and their respective interests, priorities, roles, needs, and responsibilities.

During the site visit, the on-island partners expressed a desire for a structured way to interact with each other. Hog Hammock community members are interested in working together with the reserve and the department to enhance communication among all on-island partners. The reserve should consider the role it can play in both formal and informal mechanisms, such as a periodic on-island standing partner meeting, that would allow representatives of all on-island partner organizations and communities to coordinate, communicate, and potentially collaborate. The research entities on the island are perhaps better connected at the leadership level, but could still benefit from enhanced information sharing and collaboration, especially around issue areas of common interest and needs among all of the on-island partners. The reserve's research permitting system has improved this somewhat, but additional effort could better solidify these relationships into more holistic partnerships.

Findings for Community Engagement

Accomplishment: The Sapelo Island Research Reserve has dramatically improved the learning experience for the students who participate in education programs. The program content, structure, and facilities have all been enhanced and reflect a renewed emphasis on science-based learning, resulting in higher numbers of students able to participate in learning about coastal and estuarine resources and processes in new and updated ways.

Accomplishment: The Friends of Sapelo nonprofit volunteer organization represents a tremendous asset to the reserve and is working well. They are consistent supporters and champions of the reserve and its mission. Their contribution of time in fiscal year 2018 is the equivalent of \$63,573 according to the [Independent Sector](#). The Friends of Sapelo reports that the reserve is routinely recognized within the reserve system for the most volunteer hours contributed.

Recommendation: The NOAA Office for Coastal Management encourages Sapelo Island Research Reserve to work with Georgia Department of Natural Resources to enhance communication and collaboration among Sapelo Island partners, including the Hog Hammock community. They should continue to build direct connections between the reserve and the Hog Hammock community to further explore how the reserve can benefit them and how they could contribute to the reserve's goals.

Evaluation Metrics

Beginning in 2012, national estuarine research reserves began tracking their success in addressing three evaluation metrics specific to their programs. The evaluation metrics include a five-year target and provide a quantitative reference for each program about how well it is meeting the goals and objectives it has identified as important to the program.

The goals and objectives are from the Sapelo Island National Estuarine Research Reserve 2008-2013 Management Plan (Revised).

Metric 1

Goal: To enhance and develop research and monitoring to promote, foster and expand the scientific knowledge and field investigations of estuarine processes as related to the Reserve and the South Atlantic Bight for the promotion of current research partnerships and the expansion of additional long-term partnerships.

Objective: The development of research and monitoring programs that promote program overlap through increases in partnership capacities, fiscal efficiency, educational and outreach foci and delivery into a cohesive understanding of coastal issues for dissemination to the concerned public, private and governmental entities tasked with developing collective programs which provide environmental resolution.

Strategies: Sapelo Island Research Reserve has been working to develop and establish a research tracking program that ensures researchers obtain the necessary permit approvals and that captures information about research projects conducted onsite. The reserve has two relevant strategies in its management plan:

1. Establish a research tracking process that includes primary researcher information for new scientific studies occurring within the Sapelo Island Research Reserve. Island scientific partner agencies including the Georgia Coastal Ecosystems Long-Term Ecological Research Initiative and the University of Georgia Marine Institute will collectively develop a research tracking process that builds site fidelity for the registration of research objectives with associated required fields of information for the management of projects, while also reducing user-to-user and user-to-environment conflicts. The tracking initiative began in 2011 with the establishment of a database by which researchers file research plans with the reserve. The database is available (2011) to all researchers conducting field studies in the reserve and will later become available to the public.
2. Promote the submittal of research approval forms to the Coastal Management Program of Georgia for permit approval prior to allowing project implementation, thus allowing the Georgia Coastal Program to track research that has high coastal policy and needs values.

Performance measure: Number of new scientific research projects recorded in the research database annually from 2012 to 2017.

Target: Eight (8) new scientific research projects recorded in the research database annually from 2012 to 2017.

First Year Results (11/1/12-10/31/13)	Second Year Results (11/1/13-10/31/14)	Third Year Results (11/1/14-10/31/15)	Fourth Year Results (11/1/15-10/31/16)	Fifth Year Results (11/1/16-10/31/17)
No report	26	11	11	7

Discussion: The reserve did not submit data in the first year. The reserve exceeded the target in years 2-4, and nearly reached it in year 5. The research coordinator position was vacant from April 1, 2015, to March 1, 2016. If taken as a cumulative target of 40 new scientific research projects recorded in the database that is averaged over the 5-year period, the target is exceeded by three research projects annually.

Metric 2

Goal: To provide a Coastal Training Program to reach target audiences for the provision of reliable sources of science-based information related to coastal issues that can be beneficial to area decision-makers.

Objective: Document and evaluate Coastal Training Programs to assist in the effectiveness and improvement of the Sapelo Island Research Reserve training initiative.

Strategy: The Coastal Training Program (CTP) will develop trainings that incorporate the most current science and that are relevant to local coastal decision-maker needs. We will conduct a needs assessment and market analysis at 5-year intervals and use the results to develop training programs that address coastal decision-maker needs and priorities. The trainings will provide essential skills and knowledge to assist coastal decision-makers in carrying out their jobs. Training participants will be given a post-training program survey to evaluate the effectiveness of training programs and assist with future improvements of the CTP. Among other questions, the surveys will ask trainees if their knowledge or skills have increased as a result of the training program attended.

Performance Measure: Percent of training participants reporting increase in knowledge or skill as measured through surveys of training participants over the five-year reporting period, 2012-2017.

Target: 92% of training participants report an increase in knowledge or skill as measured through surveys of training participants over the five-year reporting period, 2012-2017.

First Year Results (11/1/12-10/31/13)	Second Year Results (11/1/13-10/31/14)	Third Year Results (11/1/14-10/31/15)	Fourth Year Results (11/1/15-10/31/16)	Fifth Year Results (11/1/16-10/31/17)
96.6%	96.6%	98.9%	97%	95%

Discussion: The data for the first year was obtained from the Coastal Training Program database. The Coastal Training Program is recognized by stakeholders as serving as a connector across partners. Many of the Coastal Training Program workshops, trainings, and other events were done in collaboration with program partners. The reserve consistently exceeded its 5-year target of 92%.

Metric 3

Goal: To increase, through education, outreach and interpretative programs the awareness, understanding and appreciation of estuarine systems and natural processes, and estuarine stewardship, by facilitation of access to information about estuarine systems.

Objective: Multiplier Audiences. Concentrate the reserve’s educational/interpretive resources and training efforts on reaching audiences, including teachers and local media, who communicate their knowledge about estuarine and other coastal issues to many other people.

Strategy: Develop education program partnerships through which to implement teacher training programs on a regularly scheduled basis through the year. The Sapelo Island National Estuarine Research Reserve (SINERR) will maintain the existing baseline level of teacher training workshops, while developing and implementing new teacher training workshop opportunities over the five-year reporting period for the purpose of increasing our average over the existing baseline. The SINERR will continue to partner with the University of Georgia, Consortium for Ocean Science Exploration and Engagement (COSEE), and Georgia Department of Natural Resources Wildlife Resources Division, as well as develop new partnerships the Department of Natural Resources Coastal Resources Division and the College of Coastal Georgia. Workshops will primarily be conducted with the SINERR staff and be held onsite. The teacher training workshops will be consistent with the National Estuarine Research Reserve System (NERRS) 2010 Teachers on the Estuary (TOTE) Criteria Checklist and state science performance standards.

Performance Measure: Number of teacher training workshops, consistent with NERRS TOTE criteria and state science performance standards, held over the five-year reporting period, 2012-2017.

Target: Ten teacher training workshops, consistent with the NERRS TOTE criteria and state science performance standards, held over the five-year reporting period, 2012-2017.

First Year Results (11/1/12-10/31/13)	Second Year Results (11/1/13-10/31/14)	Third Year Results (11/1/14-10/31/15)	Fourth Year Results (11/1/15-10/31/16)	Fifth Year Results (11/1/16-10/31/17)
No report	2	3	3	3

Discussion: The reserve did not submit data in the first year. In August of 2014, the reserve revised its target of 30 training workshops to 10 training workshops. This change reflects defining “training” more specifically. The reserve exceeded the target of 10 by one workshop. The reserve is committed to conducting a minimum of two TOTE workshops per year, and to continuing to seek out new partners and strengthening ties with existing TOTE partners to contribute to the national program.

Conclusion

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

These evaluation findings contain eight recommendations that must be considered before the next regularly scheduled program evaluation. Program recommendations that must be repeated in subsequent evaluations may be elevated to necessary actions.

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

signed by Keelin S. Kuipers
Keelin S. Kuipers
Acting Director
Office for Coastal Management

dated July 16, 2019
Date

Appendix A: Response to Written Comments

Alice M. Keyes

In her comments, Ms. Keyes discussed the impact and benefit of the reserve's work to her organization, One Hundred Miles. She recognized that the reserve staff are integral to the success of the annual Island/Resource Managers Forum hosted by One Hundred Miles. They have participated in, and shared information, during the forum every year. The forum provides one of the few opportunities within the Georgia coastal area for managers of privately owned and state managed resources to gather and discuss challenges and best practices.

Ms. Keyes shared her concern that the reserve faces challenges including the complexity of the relationship between the reserve and the Georgia Department of Natural Resources and the need for the reserve's work to remain relevant to local and regional issues, particularly the immediate community.

To address the difficulty of making long-lasting progress towards goals that a high rate of political turnover presents, Ms. Keyes suggests that in addition to outreach and education that targets local government officials, the reserve couple that with engaging people the community views as leaders as well. She offered that One Hundred Miles and the reserve could work together to educate and provide information to elected officials and community leaders for use in decision-making, especially related to changing conditions such as sea level rise.

Ms. Keyes noted that the on-island relationship between the community of Hog Hammock, the reserve, the Georgia Department of Natural Resources, and the University of Georgia Marine Institute is a challenge, but she believes that research, wildlife management, and cultural preservation can coexist.

NOAA Office for Coastal Management's Response: The NOAA Office for Coastal Management thanks Ms. Keyes for her comments. The office is supportive of reserves providing information, training, and tools to better equip elected officials and other stakeholders and partners with skills for decisions to benefit their communities. Regarding Ms. Keyes observation of the challenge of the changing face of Sapelo Island, there is a recommendation in the "Community Engagement" section that encourages the reserve to participate in developing a structured way to engage all on-island partners in understanding the respective partner needs and identify opportunities to collaboratively address them.

Eric Teal

Mr. Teal shared three concerns in his comments. The first is his observation that visiting the reserve is promoted to homeschooling programs. He is interested in seeing students from "traditional learning institutions" encouraged and supported in visiting the reserve as well.

His other two concerns both reference the condition of the R.J. Reynolds Mansion, specifically the structural integrity of the front porch and the greenhouse. He wishes to see funding

identified for restoration and repair of those issues.

NOAA Office for Coastal Management's Response: The NOAA Office for Coastal Management thanks Mr. Teal for his comments. The office acknowledges Mr. Teal's concern regarding the condition of the R.J. Reynolds Mansion. The property is managed by the Georgia Department of Natural Resources, not the reserve, and therefore is outside the scope of this evaluation. The office is supportive of the reserve's efforts to engage students from local public schools in learning about the estuary while managing the limited capacity of the island.