



**Masonboro Island Reserve
Local Advisory Committee Meeting Minutes
Friday, November 14, 2025 at 11 am
UNCW Center for Marine Science – Habitat Conference Room**

Attendance

<u>LAC Partner Organization Members</u>	<u>Present</u>
NC Audubon, Lindsay Addison	Yes
New Hanover County Sheriff's Office, Corporal Joshua Sarvis, Josh Hikade	Yes
New Hanover County Planning Department, Dylan McDonnell	No
NC Coastal Land Trust, Jesica Blake; Melissa Dionesotes	Yes
Division of Marine Fisheries, Chris Stewart ; Zach Harrison	Yes
Natural Heritage Program, Scott Pohlman	Yes
UNCW Center for Marine Science, Dr. Lynn Leonard	No
Town of Wrightsville Beach Administration	No
<u>Community Members and Community Organizations Members</u>	
Neal Andrew	Yes
Nevin Carr	Yes
Thomas Carter	No
Keni Rienks, Surfrider Foundation	No
Dr. Zachary Long	No
Masonboro.org, Tom Hackler, Richard Johnson	Yes
William Raney	No
Jud Watkins	Yes
Karen Dunn	Yes
Jordan Nason	No
<u>Others Present</u>	
Elizabeth Pinnix, NCNERR Southern Sites Manager Morgan Penrose, NCNERR Stewardship Specialist Abby Williams, NCNERR Resilience Specialist Heather Wells, NCNERR Research Staff Annie Peters, NCNERR Intern Warren Darrell, member of the public Madelyn Wampler, NHC Sustainability Manager Rebecca Roth, NHC Planning and Land Use Director	

Welcome – Elizabeth Pinnix

The southern sites manager, Elizabeth Pinnix, welcomed the committee to the Fall 2025 meeting, reviewed the agenda, and led introductions.

Reserve-wide Administrative Update – Elizabeth Pinnix

The Reserve-wide Update was shared with committee members prior to the meeting. The update in its entirety is included as Appendix A.

The site manager allowed for questions or comments regarding the Reserve-wide update.

Mr. Hackler asked for elaboration on the criteria that goes into deciding what groups or community members are represented on the Local Advisory Committees.

Ms. Pinnix replied that she will provide the operating procedures and criteria to the committee via the minutes.

Mr. Johnson asked the Reserve to provide the committee with the MOU between the NC Natural Heritage Program and the NC Division of Coastal Management that gives management jurisdiction over Masonboro Island.

Ms. Pinnix responded that a MOU is not required since there are formalized dedication letters given from NCNHP that designate the property as a dedicated state nature preserve. These acknowledge management authority to the state (DCM/Reserve program) and include NCNHP as a management partner.

Mr. Pohlman agreed with Ms. Pinnix and added that this property is dedicated under the nature preserves act and such dedication acts similarly to a conservation easement which is spelled out in the program management plan and dedication letters.

The site manager will send out these documents for the committee to reference.

The site manager solicited feedback regarding a new proposed reserve-wide policy and is described below.

The Reserve is developing a policy that would prohibit the sale of retail items, including food, on Reserve sites. This means that retailers will not be able to obtain permission to sell goods at Reserve sites through the Reserve's Special Activity Authorization process. Retail sales of goods, such as food, on a Reserve site conflict with the principal purposes of the Reserve as defined in the NC Administrative Code. These sales are not compatible with traditional use of the Reserve, and the activity has the potential to disturb the environment and interfere with compatible educational and recreational activities that occur on the site. Traditional uses are defined as public trust uses including fishing, hunting, navigation, and recreation (15A NCAC 070 .0102 (3)). The need for this policy came about in July 2025 because ice cream was being sold from a boat at the Rachel Carson Reserve in Beaufort. The business' special activity authorization application was denied due to the above reasons. We've also denied this use in the past, when requested, before the special activity authorization process was implemented.

Mr. Watkins asked if this policy covers when visitors step foot on the sand/land?

Ms. Pinnix responded this would include all the land and waters within the reserve boundary, as stated in our rules.

Mr. Hackler stated that this proposed policy seems concerning for boat cruise operations that visit the island.

Ms. Pinnix clarified that this proposed policy is meant to cover transactional sales on the property, including food sales and other goods, not situations where customers are purchasing a service prior to visiting the property.

Ms. Addison suggested the policy addresses where the sale originates, for example if the sale occurs off island for an event or activity this would not interfere with the policy proposed.

Mr. Stewart stated he witnessed an individual selling hot dogs from his vessel during the summer.

Mr. Johnson added there seems to be two separate issues that are being discussed, selling public access to the reserve vs. commercial sales/goods on the property. He stated that Masonboro.org does not support commercial sale of goods on the island as this falls outside the use of the site, but they do support the public continuing to have access to the island.

Mr. Hackler suggested including language that distinguishes this difference that Mr. Johnson outlined.

Mr. Carr asked if there could be an exception for those individuals doing ecotours that may want to sell goods to their customers. For example, Gatorade or water to paying customers on a fishing charter.

Ms. Addison suggested this concept goes back to her earlier point that the sale for this fishing charter was made prior to accessing the property so additional sales to those customers would not fall within this proposed policy.

Ms. Pinnix agreed with Ms. Addison.

Mr. Johnson also added that the reserve may want to include language that specifically calls out boat to boat, and boat to land transactions.

Site Specific Update – Elizabeth Pinnix

General Site Conditions and Activities

The site manager reported the following:

- Conditions on the property appear consistent with previous years. Staff and volunteers have noticed an increase in visitation to areas of the island that typically have not had noticeable human visitation which means visitors are branching out and exploring more of the island.
- New plant ID signs have been installed along the nature trail on the north end of the island to provide additional education opportunities to visitors.
- Volunteer hours from Jan 2025 – September 2025 at Masonboro Island equaled just under 150 hours. These hours make up activities from shorebird posting, marine debris clean ups, species monitoring, and site monitoring via the Site Stewards program.
- Staff and partners, including NC Wildlife Resources Commission (WRC) & Audubon, conducted habitat and species monitoring activities on the island and surrounding inlet areas during the spring, summer and fall. Shorebirds, sea turtles, diamondback terrapins, and other monitoring summaries can be found in the document provided prior to the meeting (attached as Appendix B). The site manager paused for any questions regarding species monitoring activities.

Ms. Dunn asked, what does the training consist of to become a site volunteer?

Ms. Pinnix informed the committee that there were training sessions provided and a specific application that is used to submit information directly to the site manager. This can be revisited to bring in more volunteers in 2026.

Mr. Johnson asked if there are signs of coyotes on the island and do they predate sea turtle nests.

Ms. Pinnix responded that there are current signs of multiple coyotes on the island, but we did trap and euthanize two individuals in the spring. Typically, when one is removed, others will show up shortly after. She also added they do predate sea turtle nests and have been extremely detrimental to our nesting shorebirds.

Mr. Hackler informed the committee of the upcoming dredging activities to take place in Carolina Beach Inlet and noted the severe erosion in that area. He commented these environmental conditions are making it very difficult for Carolina Ocean Studies education programs to access the island.

Mr. Johnson asked why was the trail through the vegetation dredge spoil island not created for this access need?

Ms. Pinnix informed the committee that a trail in this area cannot be maintained due to quickly changing and unsafe conditions without infrastructure in place and that is not permitted at this time.

Mr. Johnson asked for a solution so these programs can continue to access the south end and if there is anything the reserve can do?

Ms. Pinnix noted the comments and requested this conversation be tabled for discussion outside of the Local Advisory Committee meeting.

- Twenty-nine reports of misuse were documented at Masonboro Island in 2025 with majority of the activities consisting of target shooting (clays & targets left behind) or documented in the act and littering (illegal long-term camping/habitation). For reference, sixty-three total reports of misuse were documented across the ten reserve sites, thirty-three of those were at the four southern sites. This reporting helps us understand where there are areas to improve or long-standing issues that may need addressing.
- No funds were provided from the reserve's budget to support the enforcement efforts on the July 4th holiday this year. The Sheriff's department was confident with their effort and resources available from other local and state partners that the land and waters in and around the Masonboro Island Reserve would be patrolled sufficiently. This proved to be the case and there were no reported issues related to Masonboro Island for the 2025 holiday. Similar efforts are planned for 2026.
 - Masonboro.org completed their annual Masonboro clean-up during the 4th of July and Mr. Hackler reported nearly zero waste from the day, and they had numerous volunteers staged on the island throughout the day. He noted the law enforcement presence, reserve signage, and volunteer presence has made a big impact on deterring large crowds and there seems to be a shift in more environmentally conscious and responsible visitors.
 - The fourth is on a Saturday this year but we plan to continue with the efforts from 2025.

Mr. Hackler added that the visitation on the holiday is extremely weather dependent, and they may have less of a volunteer presence in 2026 due to the holiday falling on a Saturday and weather conditions.

Mr. Andrew reported that he organized the Masonboro.org on the ground effort for 2025 and other than one group of around 40-50 younger adults, they experienced respectful locals that packed out their trash, and it was a relatively benign day this year.

New and ongoing projects – Elizabeth Pinnix

- Research infrastructure: The reserve's storm resilient research infrastructure that houses the water quality monitoring equipment near the Trails End Park in "research creek" and on the north end of the island at the entrance to "Loosins Creek" are in place but awaiting a few final alterations before equipment can be deployed. The research team hopes to have these deployed and operational by Spring 2026.
- [Army Corps of Engineers Wilmington Harbor 403 Project](#): Public comment period regarding the ACOE Wilmington Harbor Environmental Impact Statement closed just before this meeting was held. The Division of Coastal Management has provided comments regarding the project including impact concerns to multiple reserve sites (Zeke's Island & Masonboro Island). We continue to be in discussions with the ACOE and will provide updates as they become available.
- Active research projects: There are seven current research projects underway on Masonboro Island, led by external researchers or students. These projects range from topics focused on coastal hazard resilience to invasive species research and painted bunting tagging/mapping. Please reach out to the site manager if you see something concerning or have questions about activity taking place.

Mr. Darrell asked if the reserve is planning to address the treatment of Phragmites.

Ms. Pinnix responded that the reserve is not planning to treat Phragmites at this time and there is some research available that notes it may be more detrimental to remove the plant once it has become established. She noted the reserve does treat for other invasives on the property, including beach vitex.

Ms. Addison recommended hosting volunteer events to help with treatment of larger beach vitex plants so you can work to remove the seed bank.

Featured Project: Masonboro Island Habitat Resilience Plan Update – Abby Williams

At the fall 2024 meeting, the committee discussed the Masonboro Island Habitat Resilience Plan. These plans are being created at all four national NCNERR sites to help plan for changing conditions looking 30 years in the future and identify, if any, potential projects or efforts that could be taken to address threats to the habitats. Ms. Williams provided an update on the planning process. Her slides can be found as Appendix C.

Mr. Darrell asked where these plans and research needs can be found online.

Ms. Pinnix informed the committee that they will be publicly available and linked from our website to the [Masonboro Island Resilience Hub website](#) when completed.

Mr. Carr asked where this need originated.

Ms. Williams stated that resilience was an identified need within the National Estuarine Research Reserve system and funding was awarded to us through the bipartisan infrastructure law (BIL) that required work in this realm.

Roundtable

Ms. Roth informed the committee that the county is releasing a draft of the [New Hanover County Comprehensive Plan](#) in November 2025 and it will be open for public comment.

Mr. Hackler stated that Masonboro Island Explorer trips are wrapping up soon for the calendar year and the program will soon surpass 51,000 students that have participated. There were 31 trips in fall 2025. He also informed the committee that the NC Coastal Reserve Friend of the Reserve non-profit is offering [three paid internships](#), one of which is offered in the Wilmington office for the southern sites.

Ms. Wampler asked if historical species monitoring trend data is available and what is a one-liner for the summary of how well the property is doing, species wise.

Ms. Pinnix responded that we have the historical species monitoring data and can be provided when requested. Additionally, she noted that overall, the property is productive and hosts many migratory and resident species. The site provides great protection, foraging, and nesting habitat for many protected species and continues to be a ideal place for species to exist in the area.

Ms. Dunn asked if additional Diamondback Terrapin Management Areas have been identified, other than Masonboro and Zeke's Island.

Ms. Pinnix said no. Those designations go through the NC Division of Marine Fisheries and at this time there have not been any additional areas identified.

Mr. Stewart informed the committee of the upcoming Marine Fisheries Commission meeting.

Mr. Andrew informed the committee of the upcoming Coastal Resources Commission meeting.

Public comments

None

Action Items

- Inform the committee when the call for new Local Advisory Committee members is open – proposed for late spring/early summer.

- Provide committee [with Local Advisory Committee operating procedures document](#) – criteria/committee make up can be found on Pg. 11 under Membership.
- Provide links for resources that are now available in Spanish and English.
 - [View Spanish language site brochures.](#)
 - [View English language site brochures.](#)
 - [View Spanish language safety information.](#)
 - [View English language safety information.](#)
- Provide the committee with the letters of dedication from the NC Natural Heritage Program that dedicates Masonboro Island Reserve as a dedicated state nature preserve (circa 1987).
- [View internships sponsored by the Friends of the Reserve.](#) Applications close on January 23, 2026.

N.C. Coastal Reserve and National Estuarine Research Reserve Fall 2025 Local Advisory Committee Meetings Reserve-wide Update

Periodic Rules Review for Reserve Administrative Code Rules

The Coastal Reserve's rules, 15A NCAC 07O, are scheduled to be reviewed by the Rules Review Commission in April 2026 as part of the Legislative Periodic Review and Expiration of Existing Rules process (G.S. 150B-21.3A). This process requires that all rules are classified as necessary or unnecessary. Following input from the Local Advisory Committees and Coastal Resources Commission, all 8 15A NCAC 07O rule citations are classified as necessary in the proposed initial determination.

This **proposed initial determination is currently published for public comment September 30, 2025-December 1, 2025** on the [Department of Environmental Quality and reserve's websites](#). After the comment period ends, the Department will review all comments and make final determinations prior to submission to the N.C. Rules Review Commission for approval in April 2026.

The Division will provide an update to the Local Advisory Committees after the public comment period closes with a summary of and agency responses to the comments received during the public comment period and from the Local Advisory Committees and Coastal Resources Commission. See the memorandum emailed to committee members on September 24, 2025 summarizing committee and commission input.

Preview of items for 2026

- **Local Advisory Committee Operating Procedures Review:** Per the Operating Procedures, the document shall be reviewed every 5 years and is up for review in 2026. Reserve staff will review the document and propose changes if necessary. The Local Advisory Committees will provide feedback on the proposed changes at the spring 2026 meetings and the document will be finalized later that year. If a spring meeting is not held, feedback on the proposed changes will be solicited via email.
- **Local Advisory Committee Community Member and Organization Application Period:** The reserve will solicit applications from community members and organizations to fill vacancies on the committees in spring 2026. Newly appointed and re-appointed members will begin their terms in 2027. Appointments are made by the Secretary of the Department of Environmental Quality.
- **N.C. National Estuarine Research Reserve Management Plan Update:** The management plan is scheduled for its 5-year update as required by the National Oceanic and Atmospheric Administration (NOAA) and staff are working on updates to the plan now. Proposed changes will be brought to the national site Local Advisory Committees (Currituck Banks, Rachel Carson, Masonboro Island, and Zeke's Island Reserves) in 2026 for feedback.

Program Highlights

- The Division celebrated the **40th anniversary** of N.C.'s National Estuarine Research Reserve this year, designated by the state and NOAA to protect special places in N.C. including the Currituck Banks, Rachel Carson, Masonboro Island, and Zeke's Island Reserves. This designation inspired the state to later create the umbrella N.C. Coastal Reserve which is authorized by the N.C. Coastal Area Management Act.
- The reserve hosted its fourth stop on the "**Discover the N.C. Coastal Reserve**" tour on May 16, 2025 at the Masonboro Island Reserve. The tour began with brief remarks by Department Secretary Reid Wilson, Division Director Tancred Miller, UNCW Center for Marine Science Executive Director Ken Halanych and Bill Raney, Masonboro Island Reserve Local Advisory Committee member, followed by a boat trip to and nature walk at the site. The event highlighted how the Masonboro Island Reserve serves North Carolinians through its science and monitoring,

delivery of information to educate and inform decision making, and by providing natural buffers to waves and storms enhancing community resilience. Explore the [Discover the N.C. Coastal Reserve's Virtual Passport](#) and enjoy short videos from past tour events. Local Advisory Committee members will be invited to the site-based events so stay tuned for upcoming event information in 2026.

- Spring **student field trips** to the Rachel Carson Reserve and Masonboro Island Reserve via the Island Explorer Program were a big success and fall trips are underway.
- Reserve **summer camps** were well attended this year. Rising first through tenth graders learned about estuaries and experienced estuarine habitats and plants and animals through hands-on experiences at the Rachel Carson Reserve and in the laboratory to increase understanding and appreciation of coastal resources. Camps are conducted in partnership with the N.C. Maritime Museum in Beaufort.
- The reserve hosted a variety of **workshops** since the spring update. Participants at all workshops received continuing education credits.
 - Educators participated in a “*Teachers on the Estuary*” workshop in June, a program that is delivered at reserves nationwide and tailored to N.C. content. Participants engaged in hands-on experiences at the Rachel Carson Reserve such as measuring marsh vegetation, learned how drones are being used to inform management of coastal resources, and became familiar with our data and curricular offerings to use in the classroom.
 - The training program hosted “*Adaptation Planning for Coastal Communities*” in partnership with NOAA’s Office for Coastal Management to build skills for incorporating adaptation strategies into planning processes.
 - The training program held “*Living on a Barrier Island*” workshops for Cape Fear and Outer Banks realtors.
- The reserve was selected for **funding and participation in several NERRS Science Collaborative projects**, a program that funds applied science to meet reserve needs within the national reserve system. *Unfortunately, the funding for these projects was cut by NOAA in the latest round of budget reductions.* Staff will explore alternate ways to accomplish these important projects.
 - Justin Ridge, Research Coordinator was to lead a ~\$1M project in collaboration with Whitney Jenkins, Training Coordinator titled “Drone-Based Analysis of Intertidal Oyster Reef Condition to Enhance Fishery Management in the Southeastern U.S”, with the 5 southeast reserves participating.
 - Reserve staff planned to participate in 3 other funded projects focused on submerged aquatic vegetation, tools to enhance utilization of NERRS science, and transferring realtor training models to other states. The N.C. training program serves as a model for realtor training within the system and would help share this approach with other reserves.
- **Public access at the Bald Head Woods Reserve** is enhanced because of a partnership with the Village of Bald Head Island. The golf cart parking platforms were improved, transitioning to a more durable and lower maintenance design that provides additional spaces for golf cart parking. Thank you, Village of Bald Head Island!
- The reserve celebrated **National Estuaries Week** September 20-27, 2025 by hosting a variety of activities in tribute to N.C.’s estuaries; thank you to all who came out to help us celebrate estuaries! Below are some of the activities that were held.
 - Masonboro Island Reserve: Site steward volunteers participated in a debris cleanup on the site’s dredge spoil islands.
 - Zeke’s Island Reserve: Staff led a public paddle trip around the site and participants learned about the reserve and participated in a community science activity – a bioblitz of the area using iNaturalist. Kayak Carolina partnered with us to provide equipment, thank you!

- Rachel Carson Reserve: Volunteers and partner agencies participated in a Bird Shoal cleanup and community science day. Participants picked up debris and used iNaturalist to practice identifying plants and birds.

Student Internships

- The reserve had a fantastic group of interns this summer in Manteo, Beaufort, and Wilmington. The students worked on a range of stewardship and research projects at sites along the coast. These invaluable experiences give the students hands-on experience in research and natural resource management and help inform their future career paths. Thank you to Friends of the Reserve, the N.C. Internship Program, and UNCW for their support and partnership for the internships.
- Student opportunities for summer 2026 in our Manteo, Beaufort, and Wilmington offices will be announced soon on our website.

Federal Budget

The budget table below is a summary of the federal budget* for federal fiscal years 2024-2026 as it relates to the N.C. Coastal Reserve.

- Congress passed a continuing resolution for federal fiscal year 2025, continuing fiscal year 2024 funding levels for fiscal year 2025. Receipt of funds was delayed several months and are now in place to fund the reserve from July 2025-June 2026.
- As Congress did not pass a budget or continuing resolution prior to October 1, 2025 for federal fiscal year 2026, the federal government is shut down until a budget or continuing resolution is passed. The President’s budget zeros out the related budget lines and the Senate and House marks restore funding for the programs. Once Congress is back in session and a continuing resolution is passed, the next step would be to reconcile the budgets between the two chambers. Federal fiscal year 2026 funds would fund the reserve from July 2026-June 2027.
- Thank you to the National Estuarine Research Reserve Association and Friends of the Reserve for their work to educate Congress on the value of the national system and the NCNERR.

Federal Budget Lines	FY2024 Enacted	FY2025 Full Year Continuing Resolution (FY24 levels)	FY2026 President’s Budget	FY2026 Senate Mark	FY2026 House Mark
NERRS Operations	\$33.3M	\$33.3M	0	\$34M	\$33.5M
NERRS Procurement, Acquisition, & Construction (PAC)	\$8.5M	\$8.5M	0	\$8.5M	\$10M
CZM Grants	\$81.5M	\$81.5M	0	\$81.5M	\$81.5M

* The federal fiscal year is October 1-September 30. The National Estuarine Research Reserve System (NERRS) budget line provides funding to the 30 reserves within the system through cooperative agreements that are matched by the states and supports national coordination of programs and implementation of system-wide and competitive projects. The Coastal Zone Management (CZM) grants budget line provides funding to coastal states with approved coastal management programs through cooperative agreements that are matched by the states. The Division of Coastal Management (DCM) receives funding from both budget lines to operate the N.C. National Estuarine Research Reserve (NCNERR) and N.C. Coastal Management Program. The CZM cooperative agreement that DCM receives provides funding for state site reserve staffing and operations, and administrative support.

Habitat and Species Monitoring Activities at the Masonboro Island Reserve

Fall 2025

Species monitoring

- Sea turtles
 - Masonboro Island wrapped up the 2025 nesting season with 41 loggerhead sea turtle nests and 22 loggerhead sea turtle false crawls. There were 4 nests lost this season; 2 to the October Nor'easter, 1 to Hurricane Erin related tides, and 1 to a king tide event in May.
- Shorebirds
 - American Oystercatcher reproductive success was monitored by Audubon NC staff with reserve support. Preliminary stats resulted in 31 pairs of oystercatchers nesting on the island which resulted in 3 chicks fledged. Other species documented using the island to nest include Wilson's plover, least terns, common nighthawks, and willets.
- Terrapin Tally
 - The Terrapin Tally community science project completed its eleventh year of data collection in spring 2025. This Reserve/NC Wildlife Resources Commission collaborative project aims at collecting diamondback terrapin sighting data in the state to better understand population trends and identify management efforts. Collectively, there were 13 days with a total of 90 data collection sessions paddled over the span of 10 sites ranging from Sunset Beach to Cape Lookout. This resulted in roughly 168 diamondback terrapin sightings recorded with 56 terrapins sighted at Masonboro during the event.
 - *For more information, please visit this [website](#).*
- Fish sampling
 - Efforts to complete fish and invertebrate inventory sampling have continued this year. Staff and trained interns sample using seine and sweep nets at various sites within the reserve. Numerous commercially and recreationally important juvenile species were documented including spot, summer flounder, brown shrimp, white shrimp, and blue crab.

Habitat monitoring

- Vegetation monitoring
 - The Reserve's research staff lead marsh vegetation monitoring this October, in collaboration with the Wetlands and Water Levels component of the [National Estuarine Research Reserve's System Wide Monitoring Program](#). Long-term

transects have been established at Masonboro since 2010 and are sampled at timed intervals to better understand marsh response to climate change-driven impacts such as sea level rise and inundation. Parameters recorded included vegetation species, vegetation height, and count occurrence within representative quadrats. This sampling regime allows for a long scale time comparison at Masonboro, to better inform management of the site.

- This monitoring will support the Reserve's Margaret A. Davidson Fellow recipient, Mina Surprenant, in her work integrating drone technology with computational models to evaluate salt marsh response to sea-level rise. Mina will analyze historical vegetation data in tandem with additional in-situ studies completed this past year at the site.
- Landing survey
 - With the help of the 2025 summer interns, staff conducted landing surveys on the backside of Masonboro in June and July. This survey aims to monitor and document recreational access points along the backside of the island to understand changes over time and potential impacts to marsh vegetation. No significant changes in landing areas were noted.
- Beach vitex survey and treatment
 - The site manager continued invasive beach vitex presence surveys on the barrier beach. Beach vitex plants were treated with the appropriate methods that may lead to eradication. These areas will continue to be monitored to assess the success of treatment and document any new occurrences.

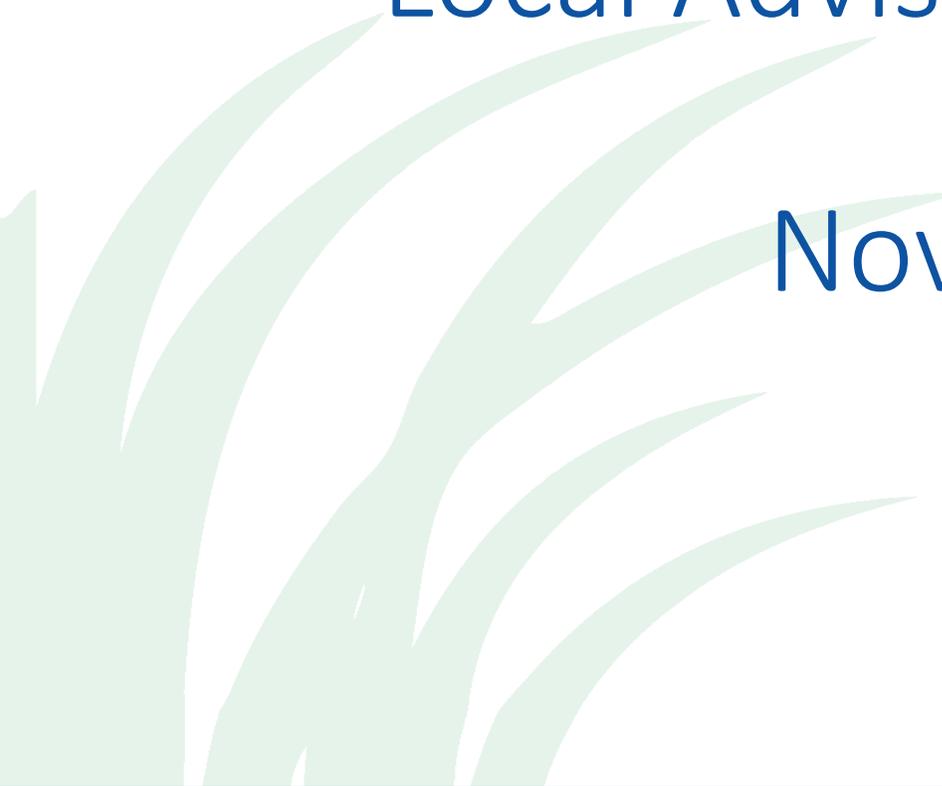
Species Occurrence

- 233 observations documenting 152 species were entered to [iNaturalist](#) by staff and citizens in 2025 at Masonboro. We encourage you to submit your observations as well! Notable species found at Masonboro this year through iNaturalist documentation:
 - Roseate spoonbill
 - Bald eagle
 - Monarch butterfly
 - Eastern glass lizard
 - Florida horse conch
 - Red knot
 - Mottled sea hare
 - Crevalle jack



Masonboro Island Reserve Local Advisory Committee Meeting

November 14, 2025



Site Updates



New and ongoing projects





Masonboro Island Reserve Resilience Plan

Abby Williams



Habitat Resilience Planning



- What?
 - Plan will bridge the gap between available information and research and future potential management decisions
- Who?
 - Collaborative process between Reserve staff and workshop attendees with specialized expertise
- Why?
 - Maintain function as habitat, protective barrier, living laboratory and classroom, and recreational use
 - Coastal hazards resilience is part of the strategic plan in the NC NERR Management Plan
 - We are using the process developed for the Rachel Carson Reserve



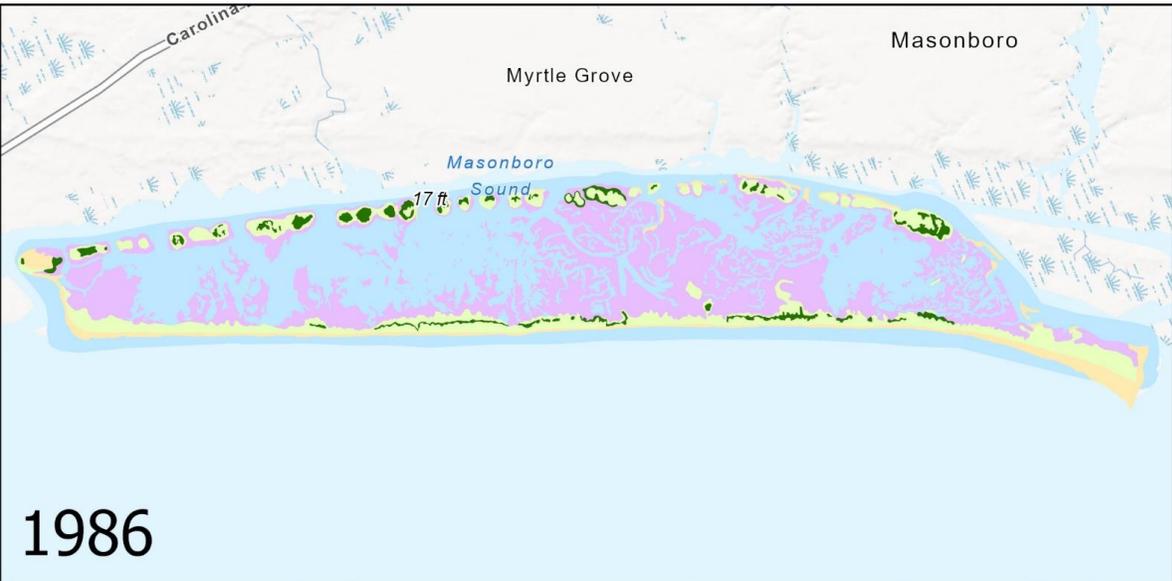
Knowledge Base
development

Habitat &
shoreline change
analysis

Determination of
priority areas and
risk identification

Resilience
Workshop

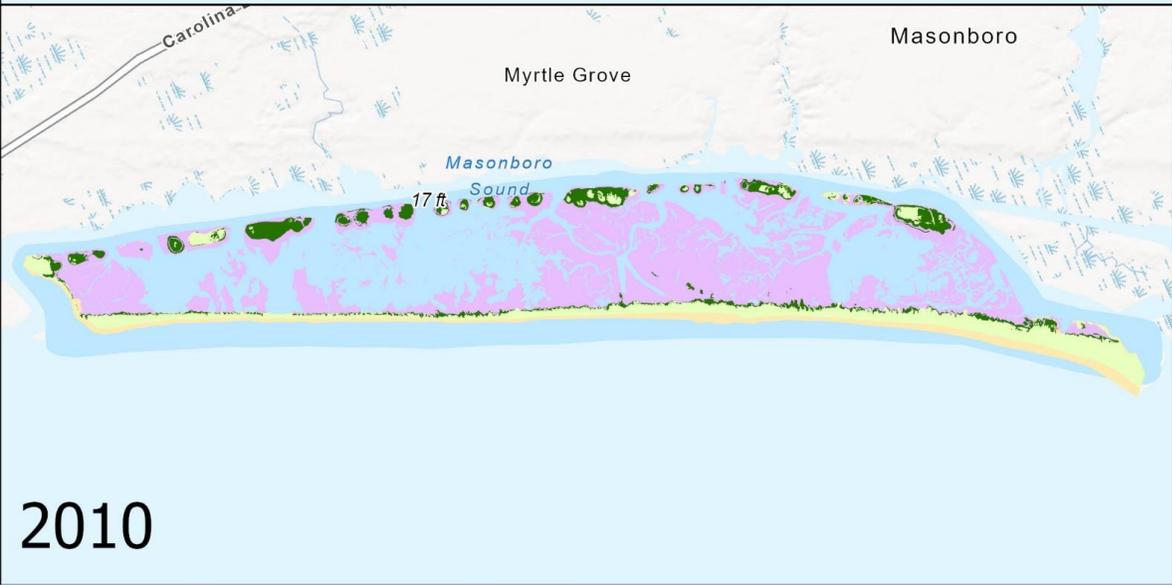
Decision-making
using RAD
framework



Masonboro Island Reserve Habitat Change: 1986-2010



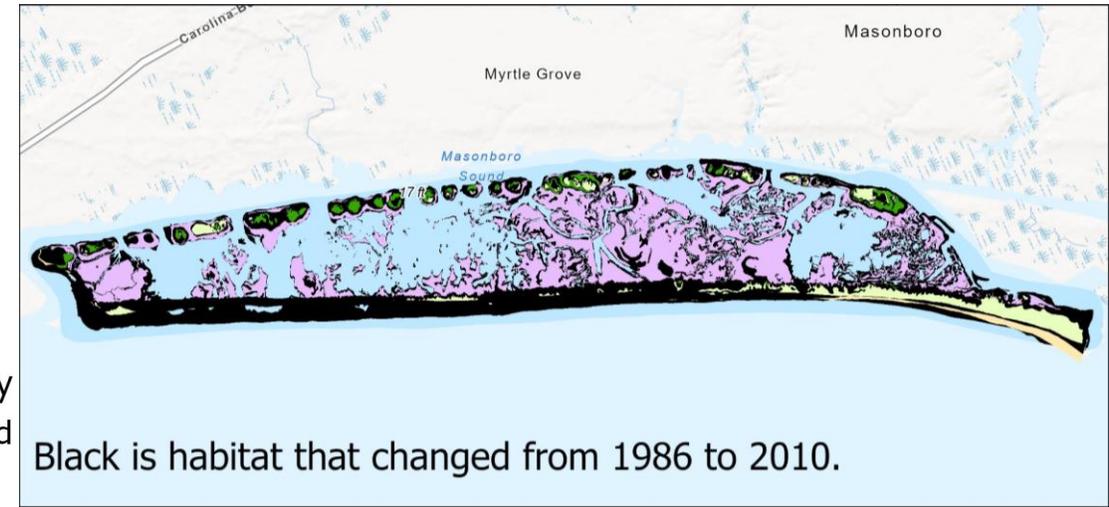
1986



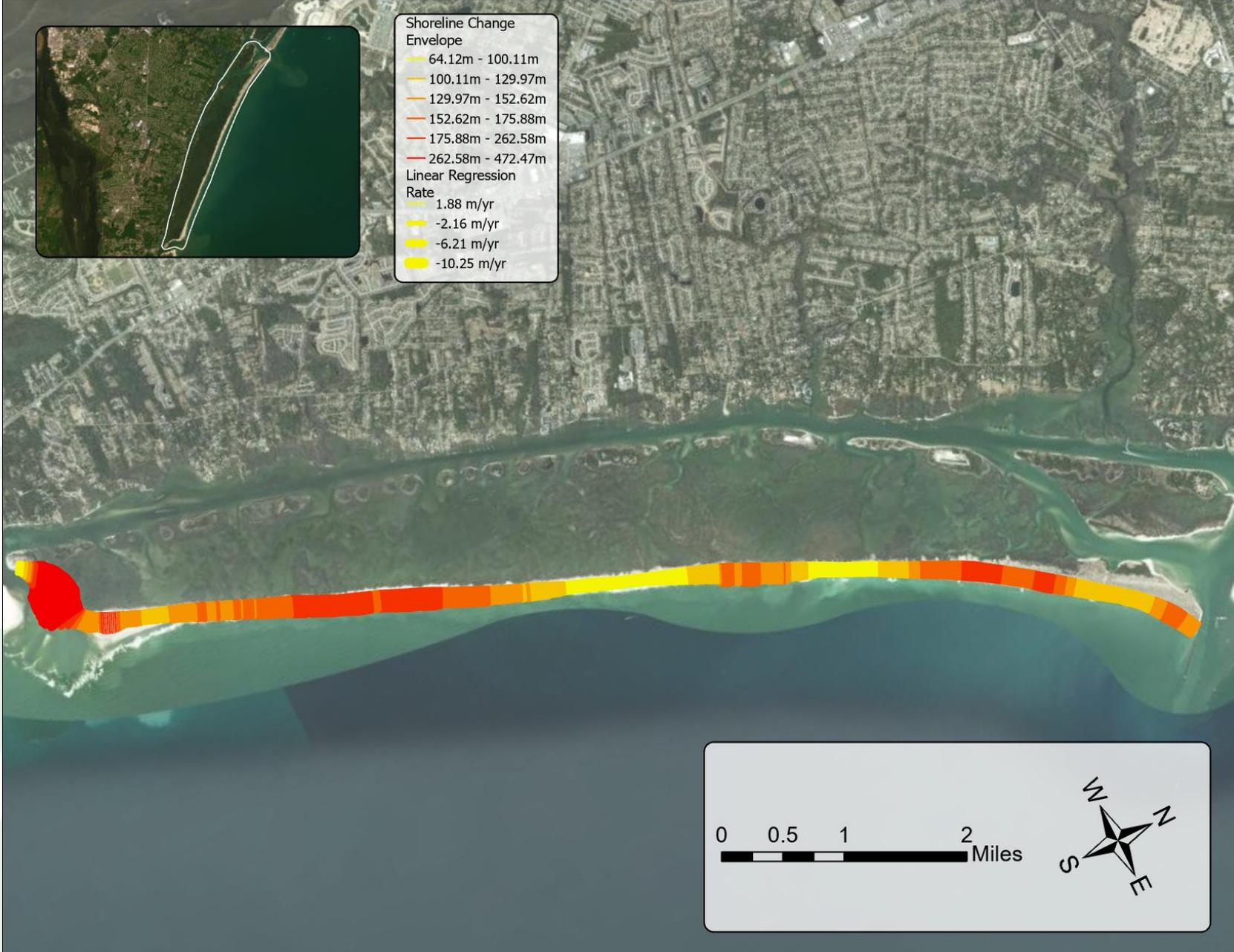
2010

Habitat Summary

- Dune-Grassland
- Salt Marsh
- Sand Beach
- Shrub-Forest
- Water



Black is habitat that changed from 1986 to 2010.



Ocean Facing Beach

Vision: The habitats of Masonboro Island Reserve are resilient to the impacts of climate change and continue to provide a healthy estuarine environment for research, education, stewardship, compatible traditional uses, and protecting areas of New Hanover County, NC.

1 VULNERABILITY SUMMARY FOR THREAT

We are focusing on **habitats** in this session. Potential impacts to Reserve infrastructure and visitor access will be considered as habitat strategies are prioritized and pursued.



Threat

Shoreline moves landward more rapidly with increased wave energy.

Stressors



Habitats Affected



Why Do We Care? (Consequences)

- Natural landward migration via barrier island rollover is interrupted by the ICWW.
- Loss or creation of nesting area for protected species (shorebirds, sea turtles).
- Compromised dune stability; migrating dunes and overwash buries marsh.
- Decreased habitat recovery time and growth potential for dunes and shoreline.
- Loss of biodiversity on beach and dunes.

Vulnerability of Ocean Facing Beach to Threat

Likelihood of Occurrence (≤30 years)	High	Moderate	High	High
	Moderate	Low	Moderate	High
	Low	Low	Low	Moderate
		Low	Moderate	High
Consequence of Impact				

Confidence





Research Needs Generated



Ocean-Facing Beach: Research and monitor how sea level rise, storms, and jetty modifications affect shoreline erosion and sediment movement to guide effective sediment placement and coastal resilience strategies.

Marsh: Study and track how overwash, sediment sources (including dredge spoil islands), and changing hydrology influence marsh burial, inundation, and water quality to inform protection and restoration.

Southern Inlet Area: Investigate and monitor how inlet instability, dredging, and sea level rise drive shoreline erosion and sediment loss to support long-term inlet and barrier island management.

Dredge Spoil Islands: Assess and monitor how spoil islands evolve, influence sediment transport and hydrodynamics, and affect marsh resilience and habitat under rising sea levels and potential invasive species impacts.