

20  
23

# ANNUAL REPORT



Marine Extension and  
Georgia Sea Grant  
UNIVERSITY OF GEORGIA

Sea Grant



TABLE OF CONTENTS

Message from the Director ..... 4

Who We Are & Where We're Located ..... 5

**ENVIRONMENTAL LITERACY & WORKFORCE DEVELOPMENT ..... 8**

Building the Next Generation of Scientists and Leaders ..... 10

Providing Workforce Development to Teachers Across Georgia ..... 11

Engaging Communities Through Art ..... 12

**SUSTAINABLE FISHERIES & AQUACULTURE ..... 14**

Collaborating with Commercial Fishermen and Coastal Residents to Reduce Marine Debris ..... 16

Monitoring *Vibrio* in Oysters to Inform Summer Harvest Regulations ..... 17

Cultivating a Workforce Through State's First Fishing Careers Pathway Course ..... 18

**HEALTHY COASTAL ECOSYSTEMS ..... 20**

Investing in Rain Gardens to Mitigate Flooding ..... 22

Monitoring Harmful Algal Blooms ..... 23

Studying an Iconic Plant in the Lowcountry ..... 24

**RESILIENT COMMUNITIES & ECONOMIES ..... 26**

Developing a Certification Program for Ecotour Guides on the Coast ..... 28

Planning Flood Resilient Transportation Infrastructure ..... 29

Assessing the Value of Coastal Industries and Activities ..... 30

**PARTNERSHIPS ..... 32**

Improving Resilience in Military Communities ..... 34

Symposium Highlights the Value of Investing in Blue Carbon ..... 36

Preserving South Atlantic Salt Marshes ..... 37

**UGA AQUARIUM EXPANSION CAMPAIGN ..... 38**



# MESSAGE FROM THE DIRECTOR



Greetings,

It is my pleasure to share Marine Extension and Georgia Sea Grant's 2023 Annual Report, which highlights how our faculty and staff are addressing critical coastal challenges through our research, education and extension programs. Georgia's coastal counties are some of the fastest growing in the state and nation. While this is great news for the region economically, new development and infrastructure will bring unprecedented challenges to the sustainability of the valuable coastal resources that attract so many to our coast. Providing training and education to local government officials and residents will be key to helping stakeholders understand the importance of maintaining healthy coastal ecosystems and resilient communities. Just as important will be continuing to provide resources to coastal industries and communities that help sustain their livelihoods. I take it as a challenge to lead these efforts and hope that this report captures some examples of how our team is well-equipped to respond.

In 2023, our team framed much of our work around several priority areas, including:

- **Planning and implementing natural infrastructure projects** through supporting the South Atlantic Salt Marsh Initiative and collaborating with the Department of Defense to tackle coastal resilience in military communities. On a local level, we addressed flooding challenges in coastal communities through our Coastal Georgia Rain Garden program.
- **Expanding workforce development opportunities**, including offering new workshops for current and future educators, providing a fishing career pathway course for high school students, and continuing our popular Coastal Awareness and Responsible Ecotourism certification program for ecotour guides along the coast.
- **Monitoring the health of coastal ecosystems** through collaboration with residents and researchers to study harmful algal blooms and their impacts on oyster production, and funding research focused on investigating sweetgrass populations to sustain and enhance this economically and environmentally important habitat.
- **Understanding the economic value of coastal activities and resources** by putting a dollar value on recreational fishing activities and artificial reef habitat in coastal Georgia. We also created an opportunity for collaborators in the private sector and law and policy specialists across the country to discuss blue carbon markets and investment in blue carbon projects.

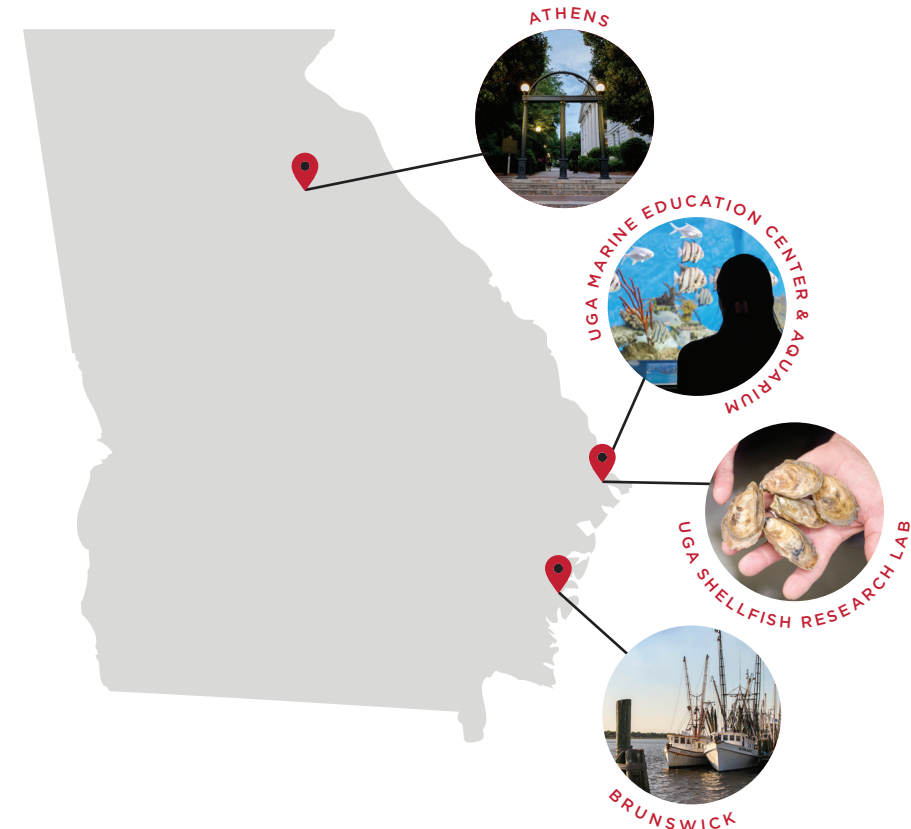
These initiatives would not be possible without our strong partnerships with the academic researchers, educators, government entities, industry representatives, dedicated volunteers, and private donors that contribute to our efforts. We are grateful for your continued support and look forward to future collaboration in service to Georgia's coastal communities.

## GIVE TODAY TO MARINE EXTENSION AND GEORGIA SEA GRANT

Help support research, education and extension efforts to address coastal challenges and opportunities facing the Georgia coast. Learn more at [gacoast.uga.edu/give](https://gacoast.uga.edu/give).

Director of Marine Extension  
and Georgia Sea Grant

# WHO WE ARE & WHERE WE'RE LOCATED



**M**arine Extension and Georgia Sea Grant is committed to improving the environmental, social and economic health of the Georgia coast through research, education and extension. Our program is managed through a federal-state partnership between the University of Georgia (UGA) and the National Oceanic Atmospheric Administration's (NOAA) National Sea Grant College Program, a national network of 34 Sea Grant programs.

Our faculty and staff based at our headquarters office in Athens as well as on the coast conduct work within **four focus areas**: environmental literacy and workforce development, healthy coastal ecosystems, sustainable fisheries and aquaculture, and resilient communities and economies.

Our extension staff connect university knowledge with local needs to improve the economic vitality and resilience of coastal communities. Education staff enhance environmental literacy and promote coastal stewardship by providing the public, teachers and school groups with programs focused on the importance of Georgia's coastal ecosystems. They also cultivate the next generation of educators and marine scientists through workforce development opportunities for college students. Our research program engages institutions around the state in conducting applied research that advances understanding of Georgia's coastal and estuarine environment and provides science-based solutions to issues impacting Georgia's coast.





## MARINE EXTENSION AND GEORGIA SEA GRANT



**ENGAGED**  
**21,173**  
**INDIVIDUALS**  
**IN INFORMAL**  
**EDUCATION PROGRAMS**



**EDUCATED**  
**5,488**  
**PRE-K - 12 STUDENTS**  
**IN GEORGIA**



The program also supported **45** undergraduates and **43** graduate or professional degree students by providing workforce development opportunities.

NUMBER OF COLLEGE STUDENTS  
SUPPORTED ANNUALLY

**2022**  
(88)



**2021**  
(67)



**2020**  
(63)



**2019**  
(49)



**2018**  
(37)



**61**

fishermen, seafood processors and aquaculture industry personnel modified their practices using knowledge gained in fisheries sustainability and seafood safety.

Performance metrics are based on 2022 reporting



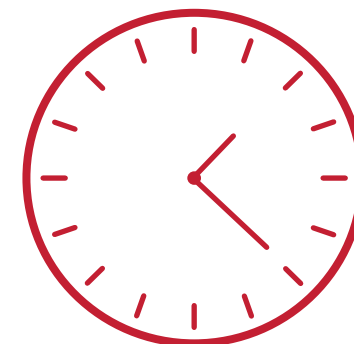
Ecosystem-based approaches in the management of land, water, and living resources have been implemented by

**1,224 RESOURCE MANAGERS**



as a result of Sea Grant activities.

**33 COASTAL COMMUNITIES IMPLEMENTED SUSTAINABLE ECONOMIC AND ENVIRONMENTAL DEVELOPMENT PRACTICES AND POLICIES.**



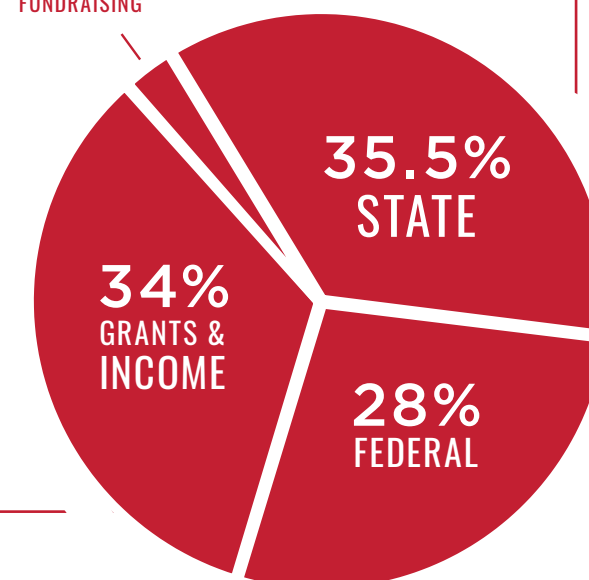
**53 VOLUNTEERS**  
CONTRIBUTED 2,551 HOURS OF SERVICE

TO SUPPORT MARINE EXTENSION AND GEORGIA SEA GRANT PROGRAMS.

**DISTRIBUTION OF FUNDING FY 2023**

**TOTAL AMOUNT FUNDED: \$6.1 MILLION**

**2.5% FUNDRAISING**







# ENVIRONMENTAL LITERACY & WORKFORCE DEVELOPMENT



# BUILDING THE NEXT GENERATION OF SCIENTISTS AND LEADERS



The **Knauss Marine Policy Fellowship** places graduate students in positions with federal government host offices in Washington D.C., where they establish and implement national policies related to marine, coastal and Great Lakes resources.



**Georgia Sea Grant's Legal Fellowship** engages law students in law and policy research. Students gain practical experience in collaborating with local policymakers, scientists and business communities and in performing expert analyses to inform decision-making.



The **Marine Education Fellowship** is for recent college graduates interested in gaining teaching experience in marine science and coastal ecology. Established in 1987, the fellowship has developed into a nationally recognized professional opportunity for early career education professionals.



**Georgia Sea Grant's Research Traineeship** provides funding to undergraduate and graduate students pursuing degrees in STEM-related fields. Students work with faculty and professional mentors on Georgia Sea Grant-funded projects, gaining new skills in research and acquiring training and professional development experiences that prepare them for marine careers.



Modeled after the Knauss Marine Policy Fellowship, the **Georgia Sea Grant State Fellowship** provides recent graduates an opportunity to acquire on the job experience in planning and implementation of coastal and marine policies and programs in Georgia.

# PROVIDING WORKFORCE DEVELOPMENT TO TEACHERS ACROSS GEORGIA



With funding from Marine Extension and Georgia Sea Grant, Georgia Southern University professor Amanda L. Townley collaborated with educators at the UGA Aquarium to host 15 teachers for the My Georgia Coast Teacher Workshop, a three-day, fully immersive professional learning experience for educators, with a key focus on the state's coastal region. The purpose of the training was to improve local teacher understanding, interest, content knowledge, and teaching practices as they relate to local issues, needs, and efforts surrounding resilience and sustainability of the Georgia coast. Teachers who are confident in their understanding and have hands-on experiences are more likely to engage students in inquiry-based experiences and more deeply connect the content of science class to local contexts. Throughout the workshop, participants engaged in hands-on immersive learning on land and on the water, exploring developed and undeveloped barrier islands to learn more about the human impacts on these delicate, critical areas.



*“Supporting teachers in learning more about the diversity and impact of the coastal areas right here in Georgia is a strong investment toward ensuring that future generations are able to make informed choices to protect and preserve these resources.”*

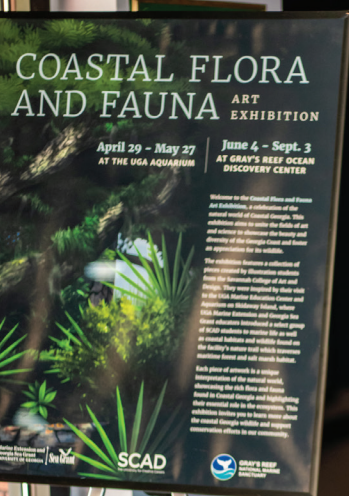
AMANDA TOWNLEY, project lead



ENVIRONMENTAL LITERACY  
& WORKFORCE DEVELOPMENT

# ENGAGING COMMUNITIES THROUGH ART

Throughout 2023, marine educators based at Marine Extension and Georgia Sea Grant's UGA Aquarium collaborated with several artists to host exhibitions at the facility, bringing value-added experiences to visitors and creating connections between science and art.



Alice Heminsley, an international fellow with UGA Marine Extension and Georgia Sea Grant, organized an art competition and exhibition in spring of 2023 in collaboration with students at the Savannah College of Art and Design. Eleven award-winning pieces were showcased at the UGA Aquarium and the Gray's Reef National Marine Sanctuary's Ocean Discovery Center between April and September of 2023. Opening day of the exhibition was attended by 104 people, many of whom were first-time visitors to the aquarium. This partnership was the first of its kind, strengthening the connection between UGA Marine Extension and Georgia Sea Grant and SCAD, and setting a foundation for future collaborations.



UGA Aquarium staff teamed up with Georgia Southern University to host a special exhibition, "SUBMERGED: An Underwater Exhibition of Bioceramic Artwork," in the summer of 2023. The exhibition debuted on World Oceans Day and was attended by more than 400 individuals. The exhibit featured a collection of sculptures created by Assistant Professor Casey Schachner and her students at Georgia Southern as part of a project funded through Marine Extension and Georgia Sea Grant's Artists, Writers and Scholars program. The pieces were made of algae harvested from the Skidaway River mixed with Georgia Lizella clay. The sculptures were submerged in the aquarium's 16 saltwater tanks, serving as underwater features to be explored by ambassador education animals, such as stingrays, striped burrfish, red drum and diamondback terrapins.

Athens-based metal artist Barbara Mann showcased her exhibition, "Forging Connections: Metal Art Inspired by the Marine Carbon Cycle," at the UGA Aquarium between August and October of 2023. Mann's collection was inspired by marine processes, like the carbon cycle, and the role of marine life within those processes. Her exhibition was funded through Marine Extension and Georgia Sea Grant's Artists, Writers and Scholars program, and she created several pieces representing the plankton community, the marine carbon cycle and oyster growth and development. The collection includes four wall pieces, two necklaces and two vases made of copper, brass, silver, iron and other materials. Her work draws inspiration from plankton research conducted by UGA Skidaway Institute of Oceanography as well as oyster research happening at Marine Extension and Georgia Sea Grant's Shellfish Research Lab. Mann's exhibition was on display during the aquarium's largest on-site event of the year, Skidaway Marine Science Day, which was attended by 1,138 individuals.







# SUSTAINABLE FISHERIES & AQUACULTURE





## SUSTAINABLE FISHERIES & AQUACULTURE

# COLLABORATING WITH COMMERCIAL FISHERMEN & COASTAL RESIDENTS TO REDUCE MARINE DEBRIS

**M**arine Extension and Georgia Sea Grant's extension specialists and educators brought together commercial fishermen, coastal residents, and local K-12 students to reduce marine debris littering Georgia's beaches and estuaries as part of a project called Trawl to Trash. Funded by the National Sea Grant College Program, Trawl to Trash involves recruiting commercial shrimpers who get paid to sew bags made of recycled shrimp net material that can be used to collect marine debris. Originally piloted in Georgia, the program has now expanded to South Carolina. **As of January 2022, 15 shrimpers from Georgia and South Carolina have received a total of \$30,700 for sewing 1,535 bags.** Since the program launched, marine educators based at the UGA Aquarium have been working to distribute the bags to recreational boaters, fishermen, outdoor enthusiasts, ecotourists, K-12 students and the general public who use the bags to stow their trash so it doesn't enter the environment.

*In total, 775 Trawl to Trash bags were disseminated throughout the project period and 800 individuals were engaged through outreach and educational programming.*

The Trawl to Trash project is preventing litter from entering the marine environment while also inspiring behavior change in Georgia's coastal communities, ultimately reducing the negative impacts of marine debris on the coast.



## SUSTAINABLE FISHERIES & AQUACULTURE

# MONITORING VIBRIO IN OYSTERS TO INFORM SUMMER HARVEST REGULATIONS

**V***ibrio vulnificus* and *Vibrio parahaemolyticus* are natural bacteria found in brackish and saltwater environments. When found in high concentration in shellfish, such as oysters, they can cause illness when eaten raw. The state of Georgia currently closes oyster harvesting when water temperatures are above 81°F because intertidal oysters are exposed at low tide to warm summer temperatures, causing unsafe levels

of *Vibrio*. With funding from the National Sea Grant Office, researchers at Marine Extension and Georgia Sea Grant's Shellfish Research Lab studied the presence of *Vibrio* in oysters growing in floating cages. The idea is that temporarily submerging farmed oysters in cages may lower the concentrations of *Vibrio* during hotter months of the year. Information from this project will be used to inform summer harvest regulations in Georgia.



## SUSTAINABLE FISHERIES & AQUACULTURE

# CULTIVATING A WORKFORCE THROUGH STATE'S FIRST FISHING CAREERS PATHWAY COURSE

McIntosh County Academy and Coastal Pines Technical College teamed up with Marine Extension and Georgia Sea Grant specialists in 2021 to develop an introduction to commercial fishing career pathway program for high school students. This first-of-its kind program is a dual-enrollment course led by a local commercial fisherman. The course addresses safety at sea, basic navigation and seamanship, common commercial fishing practices, and provides an introduction to fisheries science and management. Extension staff at Marine Extension and Georgia Sea Grant serve as guest instructors and the R/V Georgia Bulldog is used as a training platform during the program. Historically, McIntosh

County served as the epicenter of Georgia's commercial fishing industry. Shrimping, crabbing and harvesting shellfish and finfish have been major contributors to the area's local economy. Unfortunately, a shrinking workforce, increasing operating costs, cheaper imported shrimp, regulatory changes, and fewer working waterfronts are major issues impacting the success of the industry. At the same time, local school officials have raised concerns about students dropping out of school to work in the industry without any viable knowledge or skill sets. The program is serving as an innovative and community-based approach that will help sustain Georgia's commercial fishing industry by providing workforce development and improving student retention.





A monarch butterfly with orange and black wings is perched on a small white flower with a yellow center. The background is a dense, out-of-focus field of similar flowers and green foliage, creating a vibrant, natural setting. The text "HEALTHY COASTAL ECOSYSTEMS" is overlaid on the right side of the image in a white, outlined, sans-serif font.

# HEALTHY COASTAL ECOSYSTEMS



## HEALTHY COASTAL ECOSYSTEMS

# INVESTING IN RAIN GARDENS TO MITIGATE FLOODING

**W**ith the goal of improving stormwater management and protecting Georgia's water resources, Marine Extension and Georgia Sea Grant launched the Coastal Georgia Rain Garden Program in 2019. As part of the program, several resources have been developed for residents or small businesses interested in installing rain gardens in coastal communities. A special incentive program also allowed residents to apply for a stipend to help offset the cost of installing a rain garden. Six property owners applied for this funding and received technical support from Marine Extension and Georgia Sea Grant extension specialists who assisted with rain garden design and identifying native plants. Many participants are members of the Urbana-Perry Park neighborhood in Brunswick, Georgia, which is known to regularly flood during heavy rain events, leaving residents unable to safely navigate the streets around their homes.

The newly installed rain gardens, which range in size from 25 square feet to several thousand square feet, are treating runoff from over 7,600 square feet of impervious cover and filtering over 203,000 gallons of stormwater runoff annually.

*"My neighbors who walked by over the last few months and saw the holes in the yard are now walking by complimenting the beauty of it. If I can encourage not only my neighbors but the city as well to install more rain gardens in our right of way spaces, it could be beneficial to the stormwater system, the city's budget, and it'll make the entire city look great."*

**WILLIAM KITTS,**

Urbana-Perry Park homeowner  
participating in the Rain Garden Program



## HEALTHY COASTAL ECOSYSTEMS

# MONITORING HARMFUL ALGAL BLOOMS

**A**nytime you take a dip in the ocean, you can expect to be swimming among hundreds of thousands, perhaps millions, of microscopic organisms called phytoplankton. They come in different shapes and sizes, and all play a critical role in the marine ecosystem, serving as the base of the marine food web and providing at least half the Earth's oxygen. In a balanced ecosystem, phytoplankton provide food for a wide range of marine life; however, when too many nutrients are available, some may grow out of control and form harmful algal blooms (HABs) that affect fish, shellfish, mammals, birds and even people. To help monitor the potential for harmful blooms, Marine Extension and Georgia Sea Grant's Katie Higgins and Natalie Cohen, assistant professor at UGA Skidaway Institute of Oceanography, collaborated to better track and understand HAB events along the coast as part of a research project funded by SECOORA, the Southeast Coastal Ocean Observing Regional Association. The ultimate goal is to establish a regional notification network to communicate with local residents and aquaculture organizations in coastal Georgia about HABs.





# STUDYING AN ICONIC PLANT IN THE LOWCOUNTRY

Elizabeth King, associate professor at UGA, is leading a collaborative study with 20 academics, land stewards and coastal community members to monitor, restore and conserve native sweetgrass populations along the Georgia coast through a project funded by Marine Extension and Georgia Sea Grant. Sweetgrass, known scientifically as *Muhlenbergia sericea*, thrives in inhospitable environments left behind by flattened dunes. From North Carolina to Florida, sweetgrass habitats support communities — ecological and human alike. The plant plays a vital role in erosion control and moisture retention, creating an ideal habitat for other plants, insects and small mammals. For the Gullah Geechee people, sweetgrass basket-weaving represents not only a cultural heritage deeply rooted in their African ancestry but also a source of income. However, these delicate ecosystems are shrinking due to coastal development, rising sea levels and erosion. King, who holds a joint appointment at UGA's Odum School of Ecology



and Warnell School of Forestry and Natural Resources, is working to map existing sweetgrass habitats on the coast, study different management and restoration strategies at sites such as Jekyll and Little St. Simons islands, and collaborate with the Gullah Geechee community to create outreach materials focused on culturally significant plants in coastal Georgia. Findings will be synthesized from habitat suitability modeling, field surveys, and experimental ecological studies to gain a holistic understanding of sweetgrass conservation status.





# RESILIENT COMMUNITIES & ECONOMIES





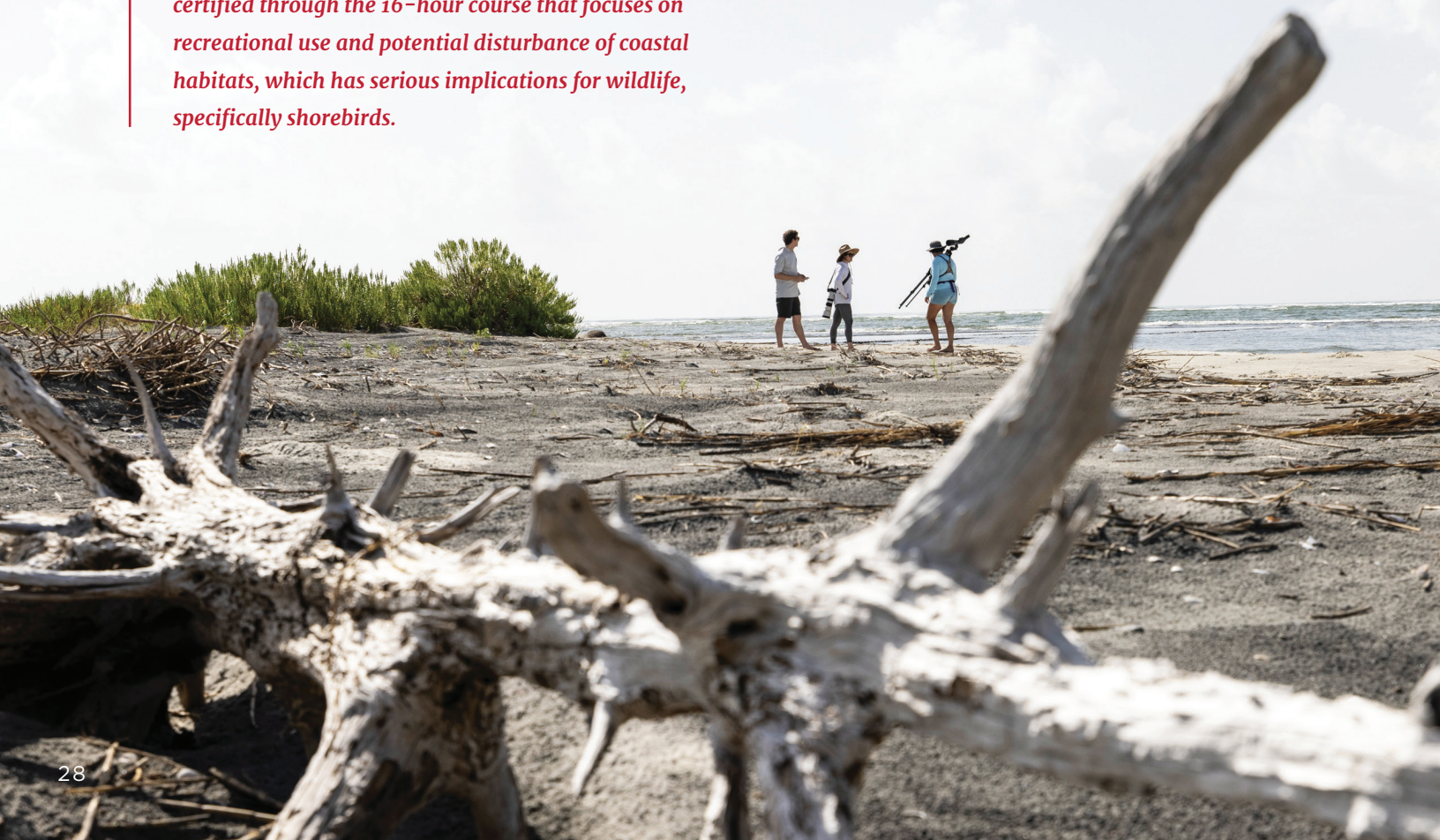
## RESILIENT COMMUNITIES & ECONOMIES

# DEVELOPING A CERTIFICATION PROGRAM FOR ECOTOUR GUIDES ON THE COAST

A certification program developed by Marine Extension and Georgia Sea Grant, in collaboration with Manomet, is ensuring that ecotour guides educate visitors about nature and how to protect it. The Coastal Awareness and Responsible Ecotourism, or CARE, program provides ecotour companies with tools to implement best practices when it comes to water-based tourism activities.

*Since the program launched in 2020, 33 water-based Georgia coastal tour guides have been certified through the 16-hour course that focuses on recreational use and potential disturbance of coastal habitats, which has serious implications for wildlife, specifically shorebirds.*

Many of the remote habitats used by shorebirds are also areas used by recreational boaters and serve as a destination for guided tours. Increasing awareness among boaters and beachgoers on how and why to give shorebirds space is a key step in conserving these animals. Participants in the CARE certification program include guides who offer tours by kayak, paddleboard or boat. The timeline of the course allows participants to graduate just in time for the spring birding migration and summer tourist season, meaning they can share information learned from the program with tourists.



## RESILIENT COMMUNITIES & ECONOMIES

# PLANNING FLOOD RESILIENT TRANSPORTATION INFRASTRUCTURE

The NOAA Office for Coastal Management and Sea Grant programs in Florida, Georgia, South Carolina, and North Carolina collaborated on a multi-state project to work with cities and counties within the South Atlantic region and implement community-based, collaborative projects that tackle resilience challenges and provide solutions. In Georgia, UGA Carl Vinson Institute of Government's Scott Pippin and Shana Jones, who also serves as the Marine Extension and Georgia Sea Grant legal program director, worked with the city of Savannah and Chatham County to identify green infrastructure sites as a way of mitigating flooding in low lying areas. Sea level rise vulnerability modeling and economic impact assessments were augmented by a comparative legal analysis of

local government options to implement green infrastructure solutions for a suite of sites identified through a geospatial vulnerability analysis. This information was applied to mitigate potential threats from recurrent flooding in eight areas of interest within Chatham County. The aim was to secure access to and maintain connectivity of key transportation corridors and military bases. Several smaller projects are planning the construction of bioswales for stormwater retention. One is being funded by the Chatham County Savannah Metropolitan Planning Commission, which serves as the regional transportation planning body. Another is planned by the Department of Defense, building on data and analyses conducted by this project to motivate larger-scale resilience.

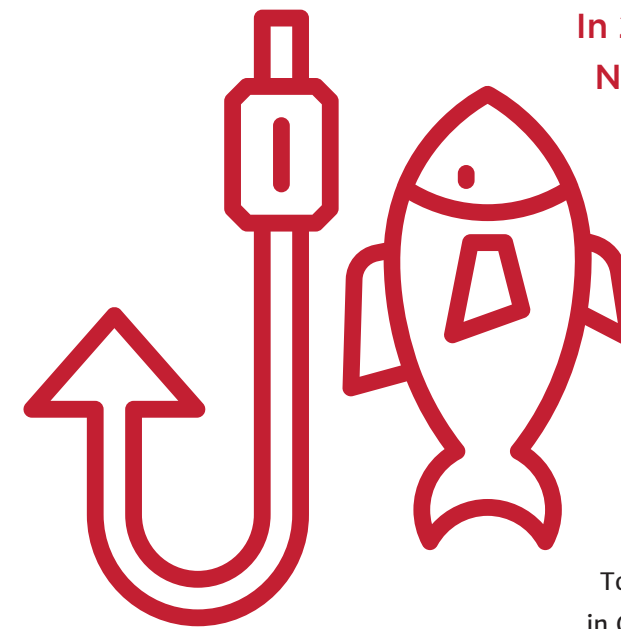




## RESILIENT COMMUNITIES & ECONOMIES

# ASSESSING THE VALUE OF COASTAL INDUSTRIES AND ACTIVITIES

Georgia's coastal economy is made up of various business sectors that either directly depend on coastal and ocean resources or sectors that provide goods and services for coastal activities. Since 2021, Marine Extension and Georgia Sea Grant's coastal economics specialist, Eugene Frimpong, has launched several projects designed to assess the economic value of coastal industries, resources and activities and share this information with the public and decision-makers in a digestible and usable way.



In 2021, funding from the Georgia Department of Natural Resources Coastal Resources Division supported studies looking at the economic contributions of for-hire fishing as well as saltwater recreational fishing to Georgia's coastal economy.

For the for-hire fishing study, a survey was disseminated to charter captains and businesses to collect sales and expenditure data. Results of the survey show that roughly **184** licensed for-hire fishing captains in Georgia provided fishing guide services to nearly **53,000** anglers in 2021.

To determine the economic contributions of saltwater recreational fishing in Georgia, a survey was disseminated to anglers to collect saltwater fishing-related expenditure data as well as demographic and geographic data. The study found that in 2022, saltwater recreational fishing activities contributed **\$310.6 million** to Georgia's economy. These activities include purchasing fishing tackle, such as fishing rods, lines, and lures, while also incurring additional expenses related to transportation and food.

Georgia's artificial reef program has been in existence for half a century, yet there is no detailed economic assessment of the program. Artificial reefs support Essential Fish Habitat (EFH), marine ecosystems, fisheries, recreational opportunities and the development of local economies.

With funding from the Georgia Department of Natural Resources Coastal Resources Division, Marine Extension and Georgia Sea Grant began studying the economic importance of Georgia's artificial reef program in 2023.

Results from the study will be published in 2024. Findings will provide insight into the attributes of the artificial reef program that are most attractive to marine resource users and guide resource managers when deploying artificial reefs.







PARTNERSHIPS



## PARTNERSHIPS

# IMPROVING RESILIENCE IN MILITARY COMMUNITIES

**L**ike homes, businesses, and other types of built infrastructure in low-lying areas, military bases in the coastal region are threatened by sea level rise and climate change. To help protect these installations and surrounding communities, Marine Extension and Georgia Sea Grant partnered with the Department of Defense (DOD) in 2021 to develop the coastal resilience DOD liaison program.

The program, which serves the entire Southeast region, is designed to assist military communities in becoming more resilient to coastal hazards by improving collaboration and coordination among organizations within the DOD as well as with other state and federal partners, resilience specialists and community leaders.

Leading the program is DOD Coastal Resilience Liaison Michelle Covi, who for the last year has developed a suite of reports, tools and resources that highlight best practices for working with installations and provide examples of successful resilience projects in military communities. Covi is also directly supporting Sea Grant colleagues and university partners with applying for DOD funding for climate resilience projects. In 2022, her efforts helped bring \$6.48 million to Mississippi Alabama Sea Grant Consortium that will fund the installation of a living shoreline at Keesler Air Force Base in Biloxi, Mississippi. The project, funded by the National Coastal Resilience Fund, will reduce wave erosion, prevent marsh degradation and improve

the base's resilience to extreme weather events. Being centrally located in the Southeast provides Covi easy access to installations and people in the region who are doing climate resilience work. She will continue to build a strong network of state and federal agency staff, conservation organizations, military personnel, Sea Grant resilience specialists and university experts who have a shared goal of investing in projects that support the military's mission while building community resilience.





PARTNERSHIPS

# SYMPOSIUM HIGHLIGHTS THE VALUE OF INVESTING IN BLUE CARBON

UGA Marine Extension and Georgia Sea Grant partnered with the S.C. Sea Grant Consortium, the UGA Carl Vinson Institute of Government, and the UGA School of Law to host the Blue Carbon Law Symposium in May 2023 in Athens, Georgia. It was the first symposium in the U.S. where a cross-disciplinary audience was convened to address blue carbon topics, setting the stage for future partnerships and actions to promote blue carbon investment and conservation. Blue carbon is the term for carbon captured by ocean and coastal ecosystems. Coastal habitats, including mangroves, salt marshes and seagrasses, capture and store atmospheric carbon but when degraded or destroyed, these ecosystems can emit carbon. Preserving these habitats allows them to continue sequestering carbon while also providing a wealth of other benefits to coastal ecosystems and communities, including improving water quality, supporting healthy coastal fisheries, and protecting properties from floods and storms. The symposium provided a space for legal and policy

discussion of climate law and carbon markets. Researchers presented on the state of blue carbon science and community leaders highlighted the need for intentional and equitable engagement with stakeholders in the development of blue carbon projects. Notable guest speakers included Jocelyn D'Ambrosio, senior counsel at the White House Council on Environmental Quality, and Sarah Kapnick, chief scientist at NOAA, who identified national initiatives in blue carbon research and investment. A joint reception with the Georgia Climate Conference featured a special address by Queen Quet, chieftess of the Gullah/Geechee Nation, and an exhibit by Barbara Mann, an awardee of Georgia Sea Grant's Artists, Writers and Scholars program whose artwork focuses on the marine carbon cycle. Partners involved in the symposium hope to continue and expand the Southeast's involvement in blue carbon projects and are exploring next steps and opportunities to reconvene for future events.



PARTNERSHIPS

# PRESERVING SOUTH ATLANTIC SALT MARSHES

The South Atlantic Salt Marsh Initiative (SASMI) is a coalition of more than 300 military and government officials, community leaders, conservationists, scientists, fishermen and others who are working together to develop and implement a joint plan to save the future of a million-acre expanse of salt marsh stretching from North Carolina to east-central Florida. Marine Extension and Georgia Sea Grant faculty serve on the coalition and helped draft the plan, published in 2023, which calls for protecting the sinewy channels of coastal grasslands for their value in reducing flooding and erosion while providing wildlife habitat important for recreational and commercial fishing, hunting, birding, eco-tourism and other activities that support coastal businesses and economies.

The plan lays out key strategies, objectives and actions ranging from elevating roads to conserving land near marshes so the tidal wetlands can move as sea levels rise. Since its launch, Marine Extension and Georgia Sea Grant has teamed up with the Georgia Conservancy to support a state fellow to work with partners and regional stakeholders to advance the SASMI plan in Georgia. The idea is to generate interest and support coordination efforts to implement marsh restoration and conservation projects in Georgia's six coastal counties. Faculty will continue to support the implementation of the plan by seeking funding for natural infrastructure projects designed to restore marsh throughout the region.





# UGA AQUARIUM EXPANSION: GIVE TODAY

Marine Extension and Georgia Sea Grant's UGA Aquarium on Skidaway Island opened in 1970 as a public facility for people of all ages to explore and learn about Georgia's unique coastline. Today, aquarium educators provide programs to teachers and K-12 school groups inspiring an appreciation of the state's coastal ecosystems. College interns and graduate fellows work at the UGA Aquarium on resource management, public policy, and education projects. Year-round public programs are offered at the facility to engage visitors and residents in learning about the region.

An ambitious campaign to add 2,100 square feet of new exhibit space to the UGA Aquarium is underway, nearly doubling the facility's footprint. The new space will introduce visitors to the maritime forest ecosystem and deepen their understanding of this complex coastal environment by extending indoor, interactive displays and animal exhibits to the natural world outside.

The UGA Aquarium expansion project presents the first chance in the facility's 50-year history for supporters to significantly transform this incredible learning space through private charitable contributions.

## LEGEND

- A. Coastal Georgia Map and Wall Graphic
- B. Hands-on Discovery Station
- C. Freshwater Wetlands Exhibit
- D. 3D Live Oak Tree
- E. Understory Exploration Site
- F. Forest Floor Crawl
- G. Main Entry
- H. Expanded Welcome Area
- I. Outdoor Turtle Exhibit
- J. Native Plant Garden at Entrance
- K. Outdoor Event Space



To donate, visit  
[gacoast.uga.edu/give](https://gacoast.uga.edu/give)  
or scan the QR code.







# SCIENCE SERVING GEORGIA'S COAST.

**MARK RISSE**

*Director*  
[mrisse@uga.edu](mailto:mrisse@uga.edu)  
706.542.5956

**EMILY KENWORTHY**

*Public Relations Coordinator*  
[ekenworthy@uga.edu](mailto:ekenworthy@uga.edu)  
336.466.1520