



## Your Link to Research and Resources for a Healthier Coast

**\$9.5 million**

in economic benefits realized

**63 communities**

received our resilience training

**300 jobs**

created or retained

**70 researchers**

including community partners

**325,000+ visitors**

to online educational and informational materials for teachers, students, researchers, business people, consumers and others in 2020



# Innovating to Meet Challenges Before, During and After COVID-19

North Carolina Sea Grant has a strong history of helping communities build resilience — and thus to face and adapt to a wide array of coastal hazards, including devastating hurricanes. In 2020, a global pandemic brought new challenges to our state, requiring us to draw on our deep understanding of communities, educators, and industries. With agile management and talented outreach specialists, North Carolina Sea Grant quickly adjusted programming to meet new needs.

- As educators scrambled to move to virtual learning, we developed an **online educational portal** of resources for teachers and students, including lesson plans and other enhanced content. *Coastwatch Classroom* lessons debuted, building upon stories in our award-winning magazine. We adapted the *Watershed Wisdom* series, created with UNC-TV, and our popular series of mariculture lesson plans for at-home learning. In addition, we developed a series of *Hook, Line & Science* educational videos for Jennette's Pier and provided them online.



- During the height of the pandemic, we developed an **online portal to highlight federal relief programs and other resources for industries, as well as individual businesses and employees.** As restaurants, markets, and grocery stores struggled, the sea-to-table pipeline for North Carolina's seafood industry became imperiled. North Carolina Sea Grant supported the industry and consumers as delivery models changed. We helped Pamlico Packing demonstrate new opportunities for crab cakes and other dishes packaged for grocery sales rather than restaurants. We also provided our *Mariner's Menu* recipes to a record audience of more than 60,000 people online, as well as additional audiences in newspapers and magazines across the state. As people made fewer grocery and market visits, we promoted strategies for preparing and extending the life of fresh seafood.



- As COVID-19 restrictions meant changing how we conducted some aspects of extension and outreach, we **collaborated with trusted partners.** For example, experts on the science and economics of coastal septic systems provided a webinar with the NC Water Resources Research Institute. Residents focusing on life at home found inspiration in the Coastal Landscapes Initiative, which reached a significant audience with an online science café, hosted by the NC Museum of Natural Sciences, and community-focused webinars.

As the COVID-19 crisis continues, North Carolina Sea Grant will continue to lead and innovate to meet the needs of people in coastal communities and across the state.



## Workforce Training Strengthens the Economy

In 2020, North Carolina Sea Grant launched a new Shellfish Farming Academy, held a Fish Camp to support commercial fishers, and offered an Introductory Fisheries Science course. We also partnered to create the NC Oyster Trail to publicize seafood and aquaculture, and our research boosts the efficiency of striped bass farming.

## Healthy Ecosystems Support Sustainable Communities

From the Coastal Landscapes Initiative to new research on living shorelines, our work has helped foster symbiosis among coastal residents, visitors, and ecosystems. As coastal communities protect ecosystems, they preserve unique assets, enhance quality of life, and enjoy added protection from storms and erosion.



## Bouncing Forward: New Approaches for Enhancing Resilience and Adaption

Alongside our tradition of helping individual communities build resilience, we partnered with the NC Department of Transportation to inform new infrastructure plans that account for increased flooding in eastern North Carolina. We also continue to lead through new state and regional projects.

## Ecological Threats Require New Strategies

North Carolina's waterways face increased microplastics, marine debris, algal blooms, PFAS, and a range of other threats to water quality. Our research, such as identifying the increasing impacts of climate change, provides new strategies to address ecological challenges. Our longtime support for water quality studies on coastal waterways and our close partnership with the NC Water Resources Research Institute has helped extend our reach from the mountains to the coast.

## A Diverse Array of Voices Enhances Outcomes for Underserved Communities

North Carolina Sea Grant continues to strive to embed principles of diversity, equity, and inclusion in all of our projects. In Lumberton and Wilmington, for example, researchers are strengthening connections among marginalized populations and community leadership. We also increasingly give voice online and in print to people from traditionally underrepresented populations.



## Even a Little Seed Money Has a Major Impact

With funding from our minigrant program, a team of entrepreneurs laid a foundation to farm horseshoe crabs, a species with blood used worldwide for an important biomedical test — one that became critical in development of a COVID-19 vaccine. We also became a founding member of a statewide internship program that matches students with small businesses, including family-owned seafood companies, that are making the shift to direct marketing.

## Innovative Community Collaborations Support Ecotourism and Economies

Our successful Community Collaborative Research Grants address a range of challenges, including developing sustainable tourism opportunities that showcase valuable coastal ecosystems and communities. A Dark Skies initiative capitalizes on the rugged Outer Albemarle Peninsula's striking astronomical viewing and wondrous wildlife. Another project has taken an in-depth look at the status of fish houses along our coast to get a lay of the land of the commercial seafood industry.





# Cultivating New Leaders for a Post-Pandemic North Carolina

In 2020, North Carolina Sea Grant offered our inaugural STEM Policy Fellowships, kicking off an annual program that places elite graduate students with mentors in state agencies.

These new policy fellows are among the dozen or so we support annually via fellowships focused on targeted topics in collaboration with key partners, such as NC Space Grant and the NC Water Resources Research Institute, and state agencies. We also support undergraduate and graduate students through our research and outreach projects — totaling 80 students or more each year.

In addition, we screen and support North Carolina students for national fellowships — and a significantly high number of our state's finest young scholars continue to benefit from national appointments. For example, in 2020 and 2021, we have had four national Knauss fellows each year from North Carolina serving federal executive and legislative offices.



## What Is North Carolina Sea Grant?

Since 1970, North Carolina Sea Grant has been part of the National Sea Grant Network. We receive federal funding through the US Department of Commerce's National Oceanic and Atmospheric Administration. Access our strategic plan, as well as a video, at [ncseagrant.org](http://ncseagrant.org).

*OUR VISION: North Carolina Sea Grant is a key leader in addressing the state's urgent and long-term needs in ocean, coastal and watershed resource management. Our program shares sound science, develops educational excellence, and builds extensive and effective partnerships.*

### North Carolina Sea Grant Offices

1 Raleigh Office

2 Manteo Office

3 Morehead City Office

4 Wilmington Office



### Contact

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*Numbers represented in this snapshot are from 2019 and/or 2020.*