

APPLIED ECOLOGY & RESTORATION RESEARCH BRANCH

CENTER FOR COASTAL FISHERIES AND HABITAT RESEARCH

Beaufort, North Carolina & Kachemak Bay, Alaska

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AERR examines issues of marine spatial planning, coastal pollution, and climate impacts by evaluating the resiliency and recovery of marine communities.

AERR contributes to scholarly research and develops products that serve the marine science needs of coastal communities.

AERR researchers are leaders in their fields both nationally and internationally.

AERR science integrates new technologies into active management decisions.

AERR research informs managers and policy makers to create effective & sustainable management of marine resources.

AERR scientists are leaders in NOAA's response to lionfish invasions of Atlantic and Caribbean waters.

AERR expert testimony assists NOAA by prevailing in federal court claims.

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(L to R) AERR personnel documenting North Carolina lionfish populations; surveying marine debris impacts; and assessing seagrass communities of Puerto Rico.

Research products – what we do

Marine Spatial Planning:

- Providing guidance for the conservation and restoration of seagrasses in the United States
- Develop and implement restoration protocols for seagrass and coral reef habitat impacts from vessels and debris
- Assessment of marine biodiversity for effective reserve placement
- Developing technology for sustainable marine aquaculture in coastal zones
- Evaluating reserve effects & recovery of exploited tropical marine communities
- Using acoustics to identify fish habitat use and effects of wind energy structures locations
- *Downloadable* GIS-based tools for forecasting storm wave impacts to coastal environments¹
- Under development: GIS-based tool for identifying shoreline habitats at risk of vessel wave impacts

Climate Impacts:

- Examination of offshore NC habitats and fish communities as sentinel zones for predicting species range expansion with global climate change
- Building sustainable shorelines: forecasting effects of sea level effects on shoreline sediment budgets, marsh stability and human choices in shoreline stabilization

Coastal Pollution:

- Under development optical water quality model, addressing coastal pollution impacts to seagrasses
- Marine Invasive species assessments in the Gulf, U.S. East Coast, and Caribbean
- Creating early warning systems for invasive species
- Leading NOAA in evaluating oil spill impacts to submerged aquatic vegetation

Partners – who we help

NOAA: Coral Reef Conservation Program, General Counsel, Marine Aquaculture Program, Marine Debris Program, National Estuarine Research Reserves, Office of National Marine Sanctuaries, Office of Response and Restoration, Restoration Center;

Other government agencies: US Department of Defense, United States Geological Survey; State agencies (NC, MA, FL)

Non-profits and NGO's: Coastal Trustees; Reef Environmental and Education Foundation; Smithsonian Institute

Current research locations – serving coastal communities

Alabama, Alaska, Belize, Bermuda, California, Florida, Gulf of Mexico, Maryland, Massachusetts, North Carolina, Portugal, Puerto Rico, Virginia

¹ <http://www.csc.noaa.gov/digitalcoast/tools/wemo/index.html>