

Bringing Shorelines to Life in South Carolina

Project Location

ACE Basin National Estuarine Research Reserve, South Carolina

Project Lead

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Targeted End Users and Products

- *Webinar: Expanding Living Shorelines within the ACE Basin NERR*

Project Partners

- ACE Basin Reserve
- Beaufort County
- Beaufort County School District
- Beaufort Soil and Water Conservation District
- Beaufort Sportfishing and Diving Club
- Coastal Conservation Association of South Carolina
- Ducks Unlimited
- Edisto Beach State Park
- Edisto Island Open Land Trust
- Lady's Island Oyster Company
- Low Country Institute
- Low Country Master Naturalists
- NOAA Restoration Center
- OV Associates/St. Jude Farms
- Port Royal Sound Foundation
- Sea Island Fly Fishers
- South Carolina Department of Health and Environmental Control
- South Carolina Department of Natural Resources
- South Carolina Sea Grant Consortium
- The Nature Conservancy
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- USDA Natural Resource Conservation Service

About the Science Collaborative

The National Estuarine Research Reserve System's Science Collaborative supports collaborative research that addresses coastal management problems important to the reserves. Learn more at www.nerrs.noaa.gov.

Overview

In South Carolina, the eastern oyster is an ecosystem “all-star.” It filters huge volumes of water, creates habitat for commercial and recreational fisheries, and is a local delicacy. Thriving oyster reefs serve as natural breakwaters protecting South Carolina’s fringing marshes from wave action and erosion. The loss of oyster reefs—whether caused by development, pollution, overharvest, disease, or sea level rise—accelerates coastal erosion and causes ecosystem health to decline. These impacts are especially apparent along the state’s heavily trafficked Intracoastal Waterway and its barrier islands, which historically have protected the mainland from the Atlantic’s waves and storms. In response, the ACE Basin National Estuarine Research Reserve is engaging community volunteers to restore vital oyster reefs and build coastal communities’ resilience to storms and sea level rise.

Project Benefits

- The project engaged more than 1,000 volunteers in the construction of oyster reefs that will protect nearly two miles of shoreline in the ACE Basin estuary. The collaborative approach used by the team has empowered a group of community stakeholders to be future stewards of ecologically important natural resources.
- Working with the South Carolina Department of Health and Environmental Control, the team facilitated the incorporation of project findings into new regulations to support the permitting of living shorelines.
- Lessons learned continue to inform restoration efforts in the ACE Basin and other parts of the state. For example, the reserve’s stewardship coordinator developed an experimental, inexpensive “oyster house” design that is being tested for large-scale installations.
- A nationally broadcast webinar through the Restoration Webinar Series, hosted by the U.S. Fish and Wildlife Service and the National Oceanographic and Atmospheric Administration.

Project Approach

- **Collaboration with Stakeholders:** The project used a collaborative learning approach to engage stakeholders. Representatives of fishing and diving clubs, commercial fishing operations, nonprofits, regulatory agencies, and schools were engaged in an advisory committee that helped prioritize restoration site decisions.

Project Approach (continued)

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- **Assessment and Restoration:** Researchers and stakeholders conducted site assessments, and the advisory committee provided input to allocate the project resources among the various sites. The team used a variety of restoration methods, including spreading loose shell and bagged shell and building reefs using crab traps, as well “oyster castles,” a new, inexpensive restoration tool developed by the team.
- **Building Partnerships:** The opportunity to offer input and interact with researchers gave stakeholders an understanding of the ecological importance of oysters and the benefits of restoration work. This built partnerships, improved communication, and ensured that the restoration projects aligned with community priorities.

