

Oyster Castles in South Carolina

The Nature Conservancy, South Carolina Chapter & SCDNR's Marine Resources Research Institute.



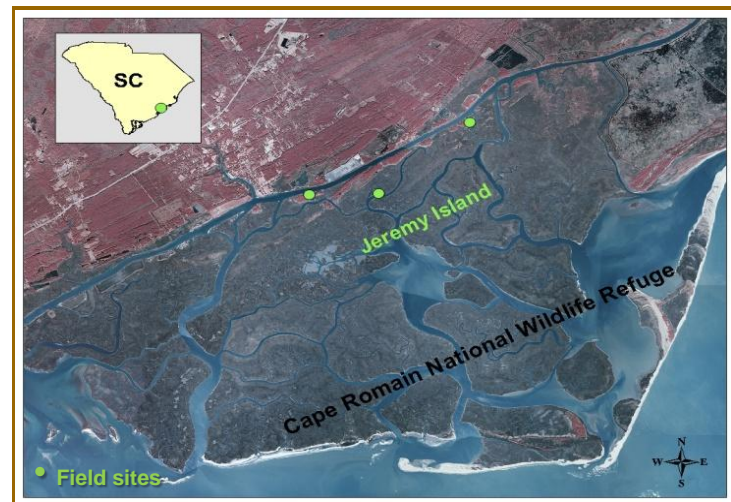
Oyster Reef Restoration

“Oyster castles” have previously been used by The Nature Conservancy (TNC) in Virginia and Massachusetts as oyster reef habitat restoration and enhancement substrate, as well as a cost-effective restoration site assessment tool.

Oyster reefs are critically important habitats due to their abilities to improve water quality through filtration (50 gallons per adult oyster per day), create habitat for a diverse range of finfish and invertebrates, and protect shorelines.

Despite the high natural levels of oyster recruitment in South Carolina, coastal populations are susceptible to degradation as a result of overharvesting, changes in freshwater flow, pollution, increasing coastal development, and boat wakes.

The limiting factor for oyster growth in South Carolina is the lack of substrate. Castle blocks provide a quick method to establish a three dimensional shape that oysters can colonize. Each oyster castle consists of a four-walled block made of limestone, concrete, silica, and crushed oyster shells. At each site, 8 arrays of 13 castles, stacked together like Lego® blocks, are placed close to the shoreline, offering surfaces for oyster larvae to settle upon.



Monitoring:

A key component to the project

The South Carolina Chapter of TNC is now working with the South Carolina Department of Natural Resources (SCDNR) to evaluate the effectiveness of these structures as oyster reef habitat at three field sites around Jeremy Island, near McClellanville, South Carolina.

This project will evaluate whether these oyster castle structures are effective, not only in generating oyster reef habitat, but in reducing shoreline erosion and promoting salt marsh development particularly in areas experiencing damage due to boat wakes.

In July 2009, volunteers helped TNC and SCDNR research staff to deploy 312 oyster castles around Jeremy Island, within the Cape Romain National Wildlife Refuge.

SCDNR research staff were charged with scientifically monitoring oyster reef development using digital photography and monitoring changes in sediment composition, shoreline erosion and salt marsh development.

TNC is working with its partners to enhance and restore native oyster populations. Partners in this project include the South Carolina Chapter of TNC, the South Carolina Department of Natural Resources, NOAA, US Fish & Wildlife, local fishermen and the town of McClellanville.

The National Partnership between the NOAA Community-based Restoration Program and The Nature Conservancy implements innovative conservation activities that benefit marine, estuarine and riparian habitats across the United States. The NOAA Restoration Center has worked with community organizations to support locally-driven projects that provide strong on-the-ground habitat restoration components that offer educational and social benefits for people and their communities, as well as long-term ecological benefits.



The mission of The Nature Conservancy is to preserve the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

For more information:

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