

Restoring North Carolina's Coast

NC COASTAL FEDERATION EDUCATION & HABITAT STEWARDSHIP INITIATIVE

AIRLIE GARDENS PROJECT

Linking Water Quality, Education and Oysters

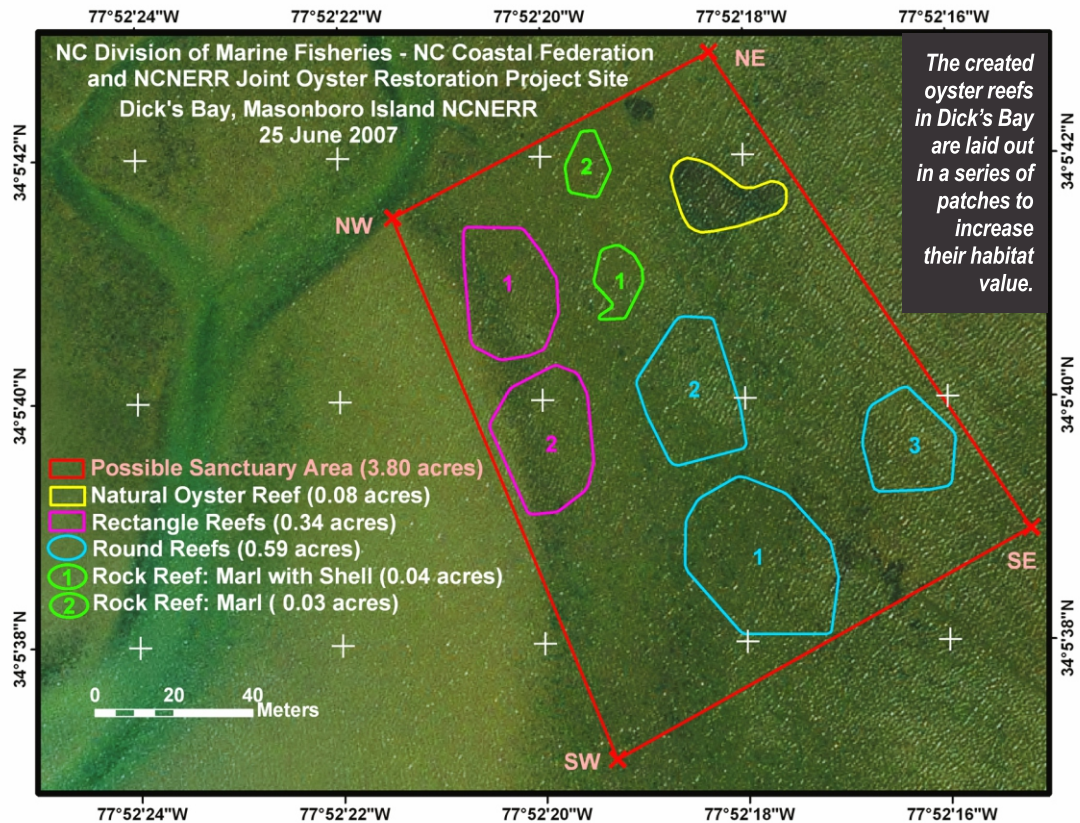
The North Carolina Coastal Federation (NCCF) and New Hanover County's Airlie Gardens have joined forces with NOAA's Community-based Restoration Program and Restore America's Estuaries to link coastal habitat restoration with environmental education efforts in NC's southeastern coastal region. Since 2006, NCCF and Airlie Gardens have engaged hundreds of students, community volunteers and project partners to restore saltmarsh and oyster reef habitats in Bradley Creek and Myrtle Grove Sound.



March 2007 Speaker Series

We Protect What We Love

NCCF and Airlie's education programs provide opportunities for area students and community volunteers to take an active role in the stewardship of our coastal waters and habitats. From visiting classrooms with stormwater models to hiking through the salt marsh, the programs increase awareness of the beauty of our coast and the issues surrounding it. A speaker series entitled *The Incredible (Not Just Edible) Oyster!* offered the community a chance to learn about the ecology, cultural history and fishery of oysters. Airlie Gardens' annual oyster roasts include educational programs on the value of protecting and preserving water quality and oyster reef habitat. In addition, the shells collected are used to restore oyster reefs adjacent to the Gardens and in Myrtle Grove Sound.





From Oyster Roasts to Oyster Reefs

The shoreline of Airlie Gardens borders Bradley Creek, and is lined with saltmarsh and shellfish habitat. Airlie has taken an active role in planting natural vegetated buffers along the shoreline. To protect water quality, Airlie staff have installed stormwater best management practices (BMPs) such as rain gardens and re-routed stormwater through created wetlands before it enters the estuary. Students and community volunteers joined NCCF and Airlie staff to restore over 400 feet of shoreline by creating oyster and saltmarsh habitat. Using recycled oyster shells, volunteers placed over 1,800 shell bags to create 4,000 square feet of oyster reef habitat along the shoreline. Students then planted 1,000 saltwater cordgrass (*Spartina alterniflora*) seedlings behind the new oyster reefs to enhance the existing saltmarsh buffer. The new oyster reef and enhanced saltmarsh buffer provides water quality improvements, additional fish habitat and shoreline erosion control for Airlie Gardens.

If You Build Reefs, They Will Grow

As part of the education and habitat stewardship initiative, NCCF partnered with researchers, shellfish growers, and state conservation agencies to restore over three acres of oyster reef habitat in Dick's Bay behind Masonboro Island. To create the reefs, over 8,000 bushels of oyster shell and 800 bushels of limestone marl were spread in the project site. The shell and marl serve as the hard surface necessary for oyster larvae to settle upon and grow. To jump-start the natural process of oyster growth on the new reefs, 800 oyster shell bags were "set" (when larvae attach to the shells) with native oyster larvae at J&B Aquafood. The oyster larvae were spawned at a hatchery from mature local oysters. These shell bags, containing thousands of juvenile oysters (spat), were spread by volunteers onto the restored oyster reef. NCCF will work with volunteers and researchers to monitor the site.

PHOTO LEGEND

1. Airlie Gardens' shoreline pre-reef construction.
2. Volunteers create oyster reefs in Bradley Creek along the shoreline of Airlie Gardens.
3. Airlie Gardens' shoreline post-reef construction.
4. Volunteers plant saltmarsh seedlings along Airlie Gardens' shoreline.
5. Volunteers making shell bags for shoreline reefs and reef seeding.
6. NC Division of Marine Fisheries' barges spread oyster shell to form new reefs.
7. Volunteers spread oyster shells, which have been "set" with juvenile oysters (spat), onto the new reefs seeding them with thousands of spat.
8. A newly-created oyster reef in Dick's Bay.

PROJECT PARTNERS



"Citizens Working Together for A Healthy Coast"

The North Carolina Coastal Federation (NCCF) is the state's only non-profit organization focused exclusively on protecting and restoring the coast of North Carolina through education, advocacy and habitat restoration and preservation. For more information call 252-393-8185 or check out NCCF's website at www.nccoast.org.