

## **Oyster Action Team – Goals, Objectives, Actions and Progress**

**Restore** the ecosystem processes, structures, and functions that sustain the Albemarle-Pamlico estuarine system. The restoration component recognizes that some ecosystem function has been lost, and that it must be strategically repaired to meet the demands of human and natural environments. The implementation and maintenance of integrative ecosystem restoration projects will be guided by comprehensive regional ecosystem assessments.

### **Objective C5: Restore oyster habitats to improve water quality and other ecosystem functions**

Oysters are an important resource for the Albemarle-Pamlico estuarine system that provide a livelihood to coastal residents and serve an important function by filtering pollutants out of the water. Harvests from the sounds of North Carolina have declined dramatically over the last 100 years, and efforts are under way to restore the extent of oyster habitat in the region. APNEP's Oyster Action Team works through the NC Coastal Federation's Northern Oyster Workgroup.

#### **Action C5.1** Construct new oyster habitats.

##### **Substantial Progress**

*Where conditions are optimal for oyster habitat, APNEP will fund the replanting of cultch material and seed oysters. APNEP will support the development of oyster sanctuaries and shellfish management areas to provide continued propagation of oysters.*

**Output:** Oyster habitat restoration projects

**Results:** Increased oyster habitats, improved water quality, and ecological integrity

**Assessment:** While APNEP has not funded to any great extent the planting of cultch, APNEP has fully supported the development of sanctuaries and shellfish management areas. The Partnership funded an initial study of the value of the DMF Oyster Program through RTI. The title of the report is: *"Economic Analysis of the Costs and Benefits of Restoration and Enhancement of Shellfish Habitat and Oyster Propagation in North Carolina."* APNEP continues to support research into the location, material and structure of the sanctuaries themselves in both subtidal and intertidal locations. APNEP works closely with the Division of Marine Fisheries as well as the NC Coastal Federation and the University system researchers to implement this action. Studies are underway to look at oyster extent and viability, but also to look at what other species utilize the oyster reefs for portions of their life cycle.

Oysters have benefitted greatly over the past two or three appropriation cycles. The NC General Assembly has seen the importance of reinvigorating efforts towards oyster restoration and has appropriated a significant amount of money towards the restoration efforts. Much of that money has gone towards the building of new sanctuaries and the replanting of some older sites. The latest budget cycle was no exception with money appropriated to continue the expansion of oyster sanctuaries within the Pamlico Sound and adjacent waters.

**Action C5.2** Reduce the adverse impacts of harvests to existing oyster habitat.

**Moderate Progress**

*APNEP will support management efforts to prevent adverse oyster harvest practices. Existing reefs should be carefully managed to prevent further decline of oyster populations, and research should refine technologies and methods to support improved management of oysters in the future.*

**Output:** Recommendations for oyster harvest methods

**Results:** Continued oyster harvests and viable habitats

**Assessment:** APNEP has supported DMF and Sea Grant as they work on gear studies regarding gear weights and measurements to determine the best way to harvest shellfish without doing harm to the oyster beds and sanctuaries. APNEP also supports the closing of areas when appropriate, to allow for oysters to grow and spawn. The Partnership works with the Universities and their researchers to determine when is the best time and for how long these areas should remain closed. Many of the sanctuaries are closed permanently for oyster harvest. Studies are being conducted on what other species utilize the oyster cultch plantings during significant periods of their lifecycle.

The most recent Oyster FMP addressed local closures of areas based on catch rates and oyster size. This should help keep some pressure off of oyster rocks and areas where cultch has been planted when the oyster stocks in that area have been significantly reduced by harvest pressure.

**Action C5.3** Facilitate research to improve oyster restoration technologies and methods.

**Substantial Progress**

*APNEP will support the completion and update of shellfish habitat mapping efforts along the North Carolina coast. Research supported by APNEP will study conditions that support reef productivity, change analysis in oyster habitat shifts, and site selection and benefits of oyster sanctuaries.*

**Output:** Recommendations for oyster restoration

**Results:** Increased oyster habitats, improved water quality, and ecological integrity

**Assessment:** The mapping of shellfish beds along the coast has just recently been completed by DMF. This information has been, and will continue to be used to help establish cultch planting sites and sanctuaries. Studies are ongoing to look at disease tolerance, larvae dispersal and optimum sanctuary configurations.

The recent unveiling of a model to assist in the siting of oyster reefs is quite a step forward in the State's efforts to rebuild oyster productivity. This model will provide a more objective approach in determining where future oyster reefs need to be placed. The model is an interactive map which incorporates 17 factors used to optimize oyster reef siting.

