North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

September 9, 2015

MEMORANDUM

TO: JOINT LEGISLATIVE COMMISSION ON GOVERNMENTAL OPERATIONS
The Honorable Tim Moore, Co-Chair
The Honorable Phil Berger, Co-Chair

FROM: Matt Dockham
Director of Legislative Affairs

SUBJECT: N.C. Shellfish Rehabilitation Report
Division of Marine Fisheries

DATE: September 9, 2015

Pursuant to Session Law 1997-443, the Division of Marine Fisheries shall report to the Joint Legislative Commission on Seafood and Aquaculture on the expenditure of Shellfish Rehabilitation Program funds annually, beginning Jan. 1, 1998. The report will now be presented to the Joint Legislative Commission on Governmental Operations since the Joint Legislative Committee on Seafood and Aquaculture was eliminated in Session Law 2011-291.

If you have any questions or need additional information, please contact me by phone at 919-707-8618 or via email at matthew.dockham@ncdenr.gov.

cc: John Evans, Chief Deputy Secretary, NCDENR
Louis Daniel, Division of Marine Fisheries Director, NCDENR

Division of Marine Fisheries
Shellfish Rehabilitation Program
2015 Annual Legislative Report

Annually, the Division of Marine Fisheries is required to report to the Joint Legislative Commission on Government Operations on the purchases and expenditures of the state's Shellfish Rehabilitation Program. Following is a report covering 2014 activities.

• Cultch Material (purchase and transportation)	$ 245,483.26
• Salaries and personnel	$ 715,555.26
• Operations, support equipment, and sampling programs	$ 403,873.88
TOTAL PROGRAM EXPENDITURES	**$ 1,364,912.40**

Cultch Planting Activities

The process of cultch planting involves "planting" oyster shell, marl or another suitable substrate in coastal waters identified as prime shellfish growing areas on which oyster spat can settle. This serves to promote oyster growth and enhances habitat and water quality, while providing harvestable reefs. Prime shellfish growing areas are selected through consultation with members of the public, universities, conservation groups, recreational and commercial fishermen. To facilitate public input opportunities, the division holds eight cultch planting meetings a year along the coast.

In 2014, a total of 232,418 bushels of cultch material were planted statewide, restoring 39.08 acres of harvestable shellfish reef.

Oyster Sanctuary Program

Oyster sanctuaries are areas closed to bottom disturbing gear and to the taking of oysters and clams. Oyster sanctuaries are protected to allow the growth of large oysters and provide an unfished biomass to serve as brood stock for inter-connected reefs. Sanctuaries are strategically sited in areas to provide an inter-connected network to provide a larval supplement to natural reefs, cultch planting sites, oyster leases, other sanctuaries and restoration projects. Sanctuaries play an important role in North Carolina's oyster and water quality restoration efforts and serve a secondary function as fishing structure for recreational anglers.

North Carolina oyster sanctuaries were traditionally constructed of multiple, high profile mounds using mostly Class B Riprap (fossil stone). Recently-constructed sanctuaries have given more consideration to material diversity in order to provide better settlement habitat for oyster spat, while providing more opportunities for recruiting fish. Recently designed sanctuaries utilize recycled concrete products, such as prefabricated concrete modules, as well as processed recycled concrete materials.

Currently, 14 oyster sanctuaries are permitted in within Pamlico Sound. The Oyster Sanctuary Program is in its ninth year and is supported through state appropriations, grants and cooperative agreements.

The Oyster Sanctuary Program was awarded a Coastal Recreational Fishing License Grant in 2012 to build three inshore fishing/oyster reefs. Raccoon Island Oyster Sanctuary was completed in March 2014. Deployments in Pea Island Oyster Sanctuary began in November 2014 and will be completed in the fall of 2015. Planning was initiated for the Cape Fear Oyster Sanctuary in 2014, with permitting and construction planned for late 2015 through 2016.

The West Bay and Deep Bay oyster sanctuaries were enhanced during 2014 with Reef Balls™. These enhancements were undertaken to serve as oyster recruitment substrate and to increase hook-and-line fishing opportunities.

The 2014 Oyster Sanctuary Program created 10.92 acres of habitat through the following projects:

Raccoon Island Inshore Fishing/Oyster Reef
Acreage 10.00
Deployed material: processed recycled concrete, reinforced concrete pipe, ultra reef balls™
Funding source.....CRFL

Deep Bay Oyster Sanctuary
Acreage 0.69
Deployed material: .....Bay Reef Balls™
Funding Source .....Appropriations

West Bay Oyster Sanctuary
Acreage 0.23
Deployment material: ……Mini-Bay Reef Balls™
Funding source.....Appropriations

Oyster Shell Recycling

The N.C. Oyster Shell Recycling Program was established in the fall of 2003 in an effort to supplement cultch planting materials. The purpose of the Oyster Shell Recycling Program was to recover post-consumer oyster shells, which would otherwise be disposed of or used in driveways, landscaping, and construction. These recycled shells are used to create or enhance oyster habitat in cultch planting, hatcheries and sanctuaries. The recycling program also accepted other calcium-based shells for rebuilding oyster habitat, such as clam, scallop, mussel, and whelk shells.

On July 1, 2013, the Oyster Shell Recycling Program was discontinued. Recycling has been continued on a limited scale by other programs within the division's Habitat and Enhancement and Fisheries Management sections. Historically, high-yielding recycling sites have been maintained, while low yield collection sites have been closed. Convenient drop-off locations, with containers and bins at recycling centers, are provided for individuals who may have 20

bushels or less. Collections of oyster shells from large oyster roasts (i.e., church, community, civic organizations, and festivals) require use of trailers or dump trucks. Staff coordinates pickup and delivery of shells to stockpile sites, enlisting help from solid waste disposal facilities and private waste companies.

Shells collected through the recycling program during the 2014 calendar year totaled approximately 13,000 bushels.

Oyster Disease Sampling

Every fall, the division conducts oyster disease sampling to track and record Dermo infection rates within North Carolina's oyster population. Dermo is an oyster disease caused by a parasitic protozoan, *Perkinsus marinus*, which in moderate to heavy infestations can cause poor quality, growth and mortality in oyster populations. In 2014, division staff sampled 58 oyster reefs throughout Dare, Hyde, Pamlico, Carteret, Onslow, Pender, Brunswick and New Hanover counties. From these 58 oyster rocks, there were 1,739 individual oysters analyzed for Dermo infections.

Oyster Spatfall Sampling

In January of each year, cultch planting sites from the previous three years of restoration efforts are sampled for spat (juvenile oyster) recruitment. Data is used to gauge the previous year's spawning success on a given site. In 2014, staff sampled 76 cultch planting sites which were planted in 2011, 2012 and 2013.

Mechanical Harvest Area Oyster Sampling

Routine sampling is conducted to determine openings and closures in mechanical harvest areas. Samples are conducted throughout oyster season weekly, bi-weekly or monthly, depending upon the management area.