# APNEP Grants & Projects

Albemarle-Pamlico National Estuary Program North Carolina

# Grant Projects Completed 2012 –13

## Inventory of Significant Natural Areas:

Brownwater River Floodplains.

2 River Basins – Tar and Roanoke River Basins.

## Enhancing Oyster Reefs in Tidal Creeks:

6 tidal creeks.

40 concrete-coated crab pots deployed.

1,550 linear feet of habitat restored.

## Jockey's Ridge State Park:

1,500 bushels of shell placed.

725 ft. of shoreline.

Marsh grass planted.

## Peatland Enhancement:

4 water control structures at Great Dismal Swamp.

2 ditch plugs at Alligator River.

6 groundwater level gauges at Dismal Swamp.

## Teacher Institute:

23 teachers from 6 river basins in APNEP region.

5-day summer institute.

## Place-based Education:

Several Hyde and Carteret County schools.

Blue crab habitat, monitoring, water quality measures.

Lake Mattamuskeet & Newport River estuaries.

# Remote Sensing of Submerged Aquatic Vegetation

- Interagency agreement between NC Department of Transportation & APNEP.
- NCDOT is acquiring and processing aerial imagery for 4 specified regions in the North Carolina sounds.
- A recent expansion in the scope of the agreement, allows for the delineation, by NCDOT staff, of submerged aquatic vegetation.
- This contribution supports the transition, in FY 2013 to SAV monitoring by producing another multi-agency-funded aerial survey of the Albemarle-Pamlico coastline.

# Tree Planting at Dismal Swamp State Park

- APNEP partnered with Dismal Swamp State Park, Friends of the State Parks, the Lions Club of Elizabeth City, and other volunteer organizations.
- The group planted approximately 10,000 Atlantic white cedar (*Chamaecyparis thyoides*) over a 43-acre parcel called “Bull North”.
- The area received heavy damage from Hurricane Isabel, and was then burned in a forest fire.
- APNEP provided funds that covered the cost of the seedlings as well as staff time to help with the planting.


Photo: USDA


Photo: APNEP

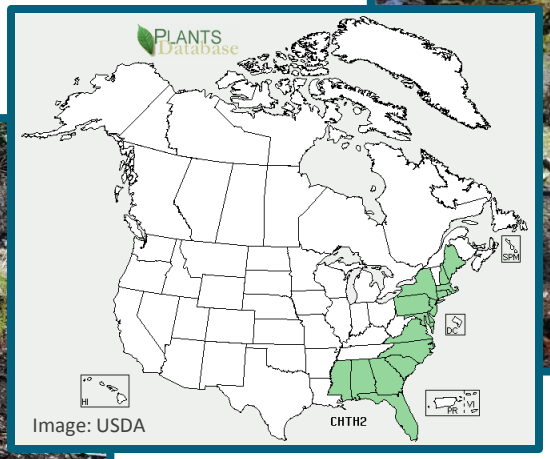
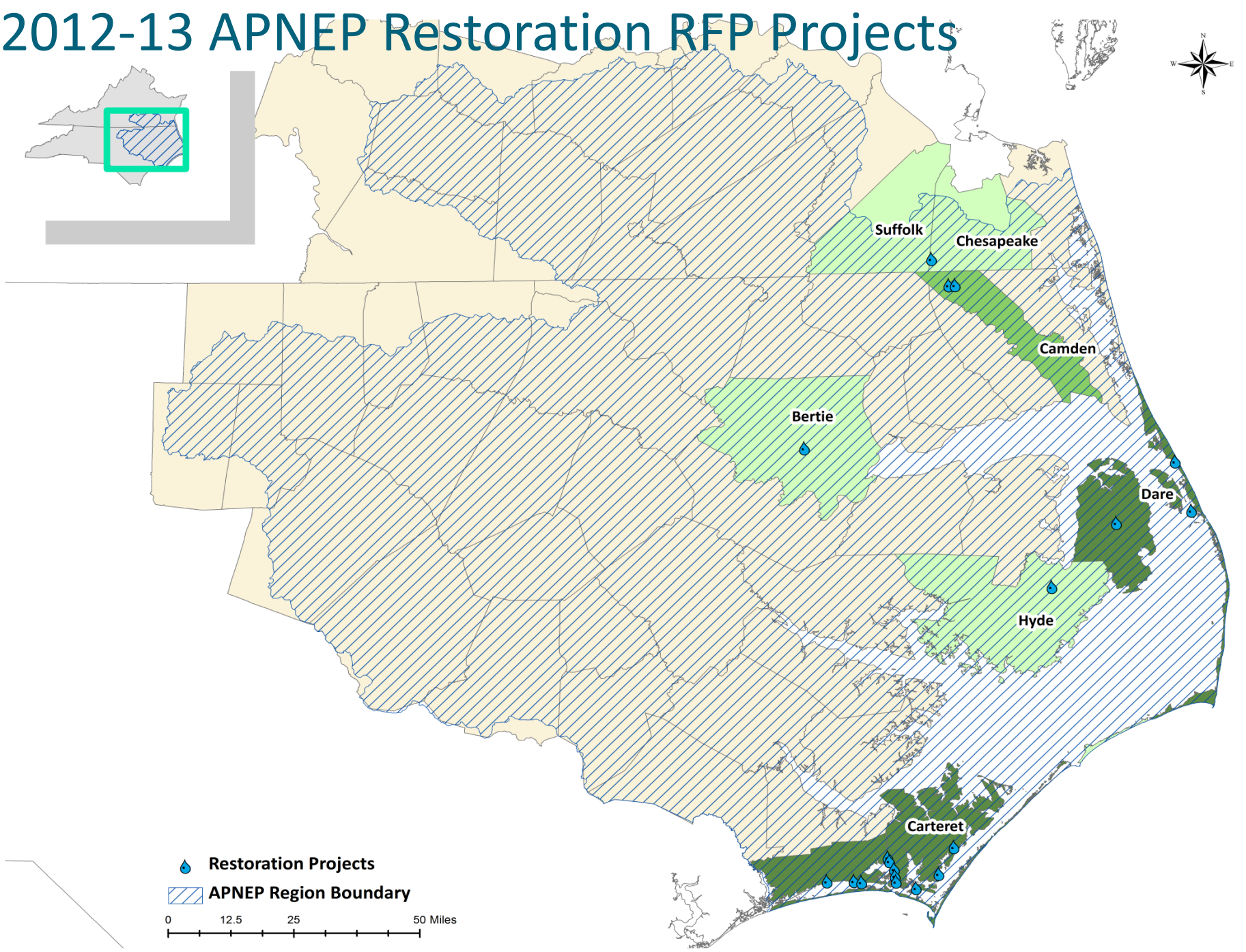


Image: USDA


Photos: APNEP

# 2012-13 APNEP Restoration RFP Projects



# Bivalves & Seagrass: Improving Water Quality & Restoring Habitat

- APNEP is funding UNC Chapel Hill – Institute of Marine Sciences on a 2013 restoration project.
- Expands upon a previously successful, small-scale restoration project.
- Builds upon the knowledge that there is a beneficial relationship between hard clams and eelgrass.
- Work will restore approximately 1 hectare (2.5 acres) of clam populations.
- Sites will be placed in Back and Pamlico Sounds.

# Bivalves & Seagrass: Improving Water Quality & Restoring Habitat

- Plan to deploy 200,000 hard clams in two disturbed seagrass meadows in Back Sound (Oscar Shoal) and Pamlico Sound (near Lighthouse Bay).
- Fertilization from clams will promote the growth of eelgrass rhizomes and shoots.
- Clams will be acquired in 2 ways: (1) local aquaculturalists and (2) paying local fisherman to supply clams.
- Outplanting of clams will rely heavily on community involvement.
- The results of this work will provide an improved understanding of the function and value of seagrass, provide insights into using seed clam planting as a restoration approach, and will directly restore two disturbed seagrass meadows in the process.

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# Enhancing Oyster Populations in Tidal Creeks

- APNEP is funding UNC Chapel Hill – Institute of Marine Sciences for this 2013 restoration project.
- The project proposes a novel restoration method to improve oyster populations in tidal creeks.
- Target sites will include tidal creeks along the eastern shore of the Newport River in Carteret County.

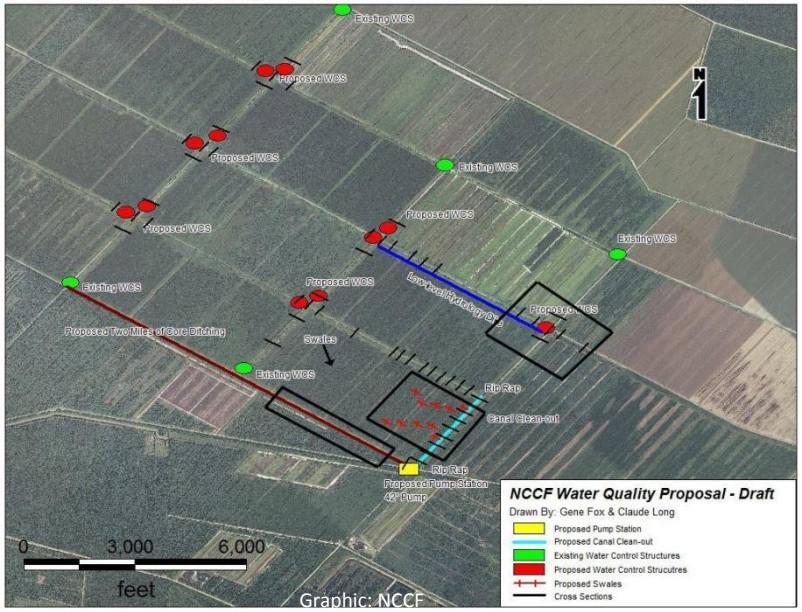

# Enhancing Oyster Populations in Tidal Creeks

- Bell Creek, Ware Creek, Russell's Creek, Wading Creek & Gable Creek – tributaries along the eastern shore of the Newport River estuary, Carteret County, North Carolina.
- One objective of this project is to determine if the deliberate, partial burial of oysters offers a means for enhancing subtidal oyster density.
- Second objective is to apply this methodology to a particular type of impaired water body that occurs commonly within the southern APNEP region – tidal creeks.
- "Burial" as a restoration/enhancement strategy will be confirmed and oyster populations within 5 creeks will be enhanced.

# Water Quality Restoration of Alligator River, Long Shoal River, & Pamlico Sound

- APNEP is funding the NC Coastal Federation on this 2013 restoration project.
- The project proposes to restore water quality of Alligator River, Long Shoal River, and Pamlico Sound.
- The project will allow ~100 million gallons of drainage generated by a 24-hour rain event over 3,700 acres of cropland to be contained within 1,350 acres of restored wetlands.


Photo: APNEP



Graphic: NCCF

# Water Quality Restoration of Alligator River, Long Shoal River, & Pamlico Sound

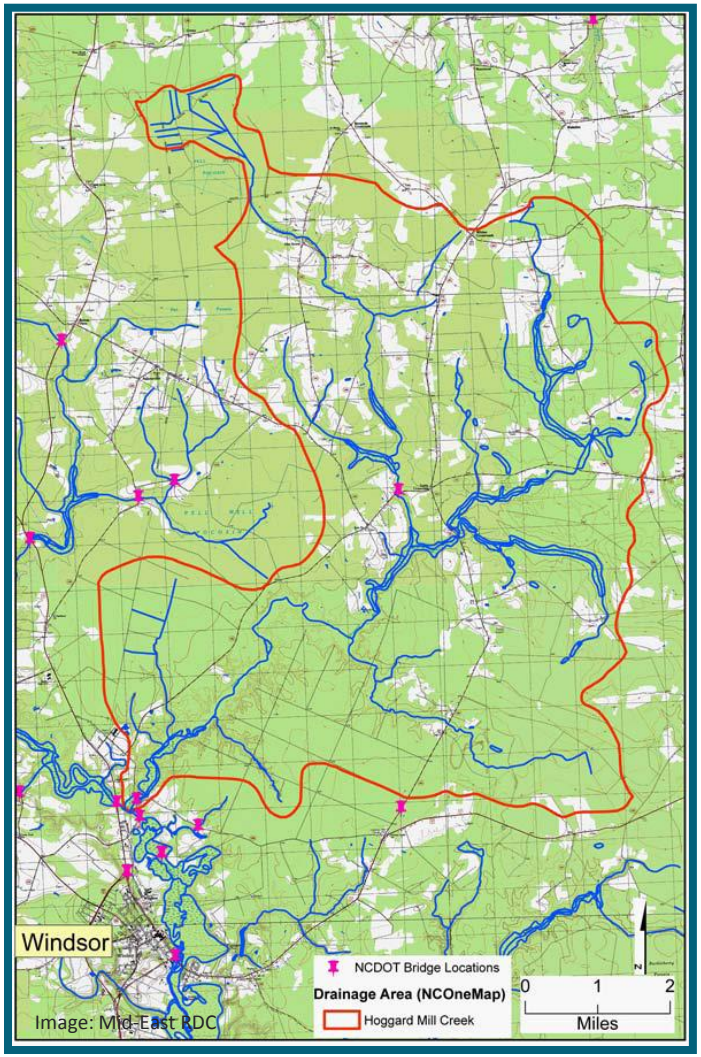
- The project occurs on Mattamuskeet Drainage Association land in Hyde County, NC.
- This project is 1 high priority component of a comprehensive watershed restoration plan.
- APNEP funds will be used to:
  - Install 1 water control structure,
  - Install 10 swales,
  - Core 8,750 feet of ditches.

Photos: APNEP

# Water Quality Restoration of Alligator River, Long Shoal River, & Pamlico Sound

# Hoggard Millpond Restoration

- An APNEP-funded 2013 restoration project with the Mid-East Resource Conservation and Development Council, Inc.
- The project location is Hoggard Mill Creek in Bertie County, NC.
- The project proposes to restore a historic dam and millpond at the lower end of Hoggard Mill Creek.
- Efforts will also restore spawning and nursery habitat for river herring.



# Hoggard Millpond Restoration

- The project will:
  - Focus on the restoration of water quality and watershed integrity.
  - Install/manage fish passages through the reconstructed dam's stream blockage.
  - Protect habitat through the placement of a permanent conservation easement and an anadromous fish passage management plan developed by the NC Wildlife Resources Commission.

Photos: Mid-East RDC

# Shad in the Classroom

- Project with the NC Museum of Natural Sciences and Friends of the Museum.
- Spring 2013 – 25 classrooms raise shad from egg to releasable fry (an expansion of 5 classrooms from previous years).
- More than half of the schools have participated in previous years.
- An application process was implemented to bring new schools to the program.
- The goals of the project are to:
  - Increase awareness of restocking efforts happening in NC rivers,
  - Develop a strong connection between students, teachers and their river basin,
  - Provide students with authentic science experiences.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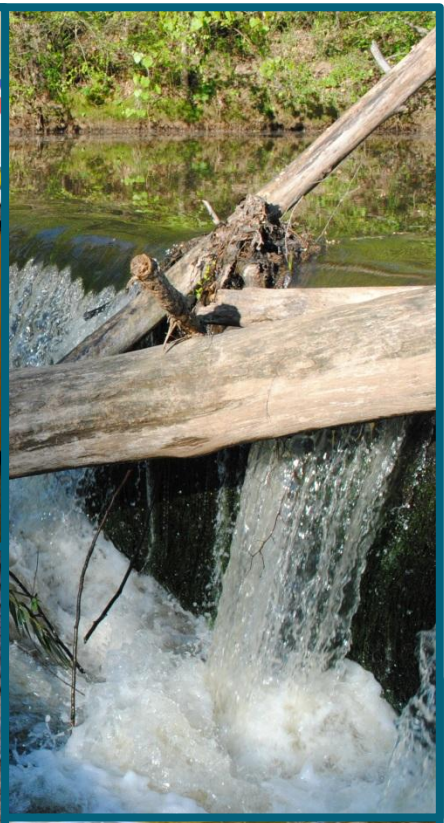
# Shad in the Classroom

Photos: APNEP

# Shad in the Classroom

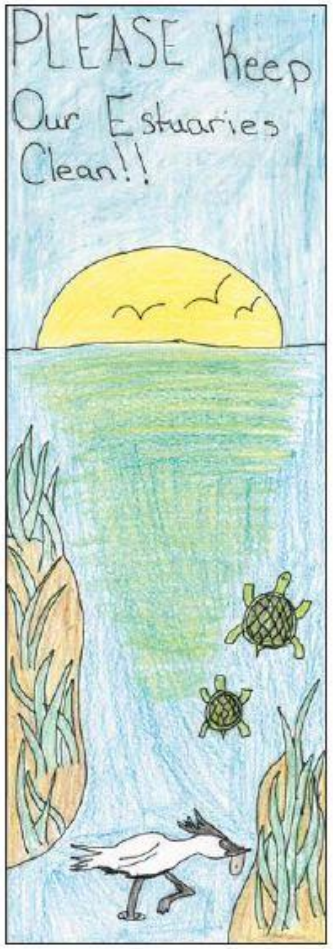
Dear Mr. Hawhee, Mr. Crowell, and Mr. Gentry,

Thank you for funding our classes American Shad project. We enjoyed the experience and learned alot. It's people like you who make these projects possible.

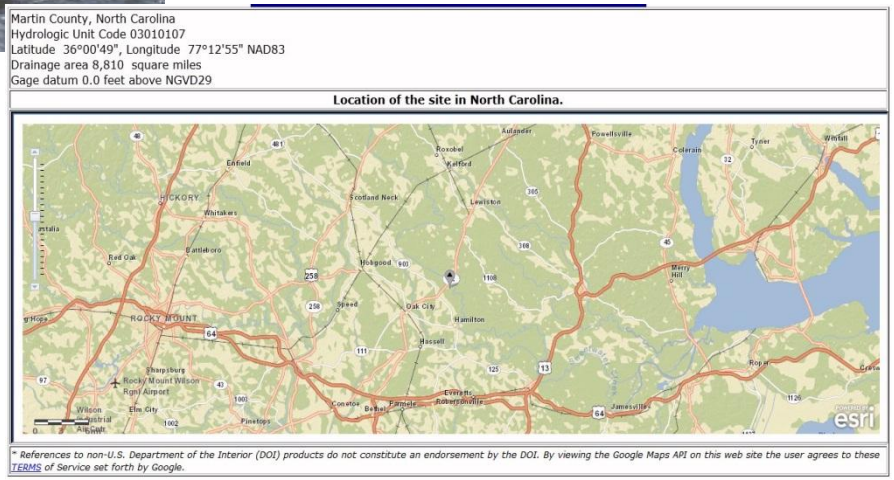
Sincerely,
Wyatt
8th Grade Science
Daniels Middle School

# Other Projects Continued from Previous Years…

Basic Observation Buoy




Bookmark Contest




USGS River Monitoring

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