

NC COASTAL FEDERATION RESTORATION PROJECT

## WETLAND VENTURES FOR SHOREBIRDS



The 15,000-acre Mattamuskeet Ventures farm is located in a low-lying section of eastern Hyde County, North Carolina. The privately owned farm, managed for wildlife, hunting and agricultural operations, lies within a 42,500-acre drainage district. The water in the drainage district is managed as a single system. The North Carolina Coastal Federation is partnering with the drainage district, US Fish and Wildlife, scientists and engineers at NC State University, Hyde County Cooperative Extension, Natural Resources Conservation Service and others to develop new water management techniques for the entire drainage association. A 600-acre pilot project was completed on the Mattamuskeet Ventures Farm in 2010.

### The Challenge

The drainage district operates a series of pumps and canals that facilitate land management and agricultural operations. Excess water and agricultural runoff is pumped into the Pamlico Sound, Alligator River, and the Intracoastal Waterway, carrying with it sediment, agricultural pollutants and bacteria. Several of the receiving waters are closed to shellfish harvest due to bacterial contamination. In addition, the pumps release pulses of fresh and low pH water that can negatively affect marine organisms.

Landowners and farm managers recognize the need to manage this runoff differently, so it doesn't harm coastal waters and habitats. They also realize that the intricate network of canals and ditches, on which they depend to drain their land, can serve as a liability. During storms, the canals allow saltwater to penetrate the farm fields, rendering them unproductive and setting off a chain of chemical reactions that causes the land to subside, or sink. This is occurring now, and the problem will worsen with sea level rise.



*Water levels are controlled to create foraging grounds for migrating shorebirds. Photo Courtesy USFWS.*





This pump redirects drainage water into the project area.



Excess drainage filters through the soil slowly, recharging the water table.



The farmer continues to manage the land, using excess water for crop irrigation or for growing plants to attract wildlife.

## The Opportunity: Partners and Shared Interests

To address these problems, Hyde County farmers have partnered with the federation to explore alternative water management techniques and landscape-scale hydrologic restoration. Grants from the US Fish and Wildlife Service's Partners for Fish and Wildlife Program and the Albemarle-Pamlico National Estuary Program allowed the partners to install a pilot project on the Mattamuskeet Ventures farm.

## Multiple Benefits

The partners completed a pilot project in 2010 that:

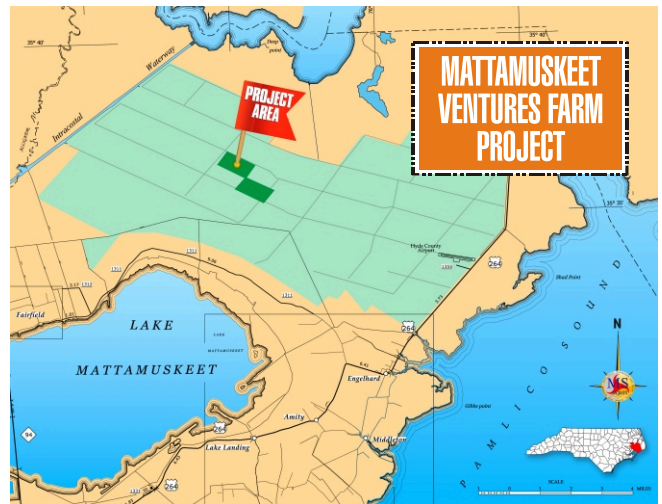
- Redirects agricultural drainage water into a 600-acre impoundment on the Mattamuskeet Ventures farm using a pump and water control structures;
- Controls water levels within the impoundment to create foraging grounds for migrating shorebirds;
- Improves local water quality by removing runoff from the canals; and
- Allows the farmer to use the excess water for crop irrigation or to attract waterfowl, providing a potential source of income from hunting leases.

## Future Work Planned

The project is one of the first collaborations between local farmers and conservationists in the region, but it won't be the last. The federation was recently awarded grants through the NC Clean Water Management Trust Fund to begin construction on Phase I of a larger hydrologic restoration project and EPA's 319 program to write a watershed restoration plan for the entire drainage association. Implementation of this plan, carried out over years or perhaps even decades, will restore historic water flow, eliminate impaired waters and build resiliency into the landscape in the face of climate change.



Project Partners discuss the farm's current and future water management strategies.



The project site is within the 42,500-acre Mattamuskeet Drainage Association.



The Mattamuskeet Venture Farm habitat restoration project was funded through a partnership between the National Resources Conservation Service, U.S. Fish and Wildlife Service's Partners for Fish & Wildlife, Albemarle-Pamlico National Estuary Program, Mattamuskeet Management & Consulting, and the N.C. Coastal Federation.



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**"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](http://www.nccoast.org).