



US Army Corps  
of Engineers  
Wilmington District

## Currituck Sound, NC (Environmental Restoration - Investigations)

- **Sponsor: North Carolina Department of Environment and Natural Resources**
- **Feasibility cost sharing agreement executed in February 2004**
- **Study addressing water quality issues in the sound which have adversely impacted species diversity and submerged aquatic vegetation**
- **Study pending receipt of additional non-Federal funds anticipated in fourth quarter of FY 2014.**



CONGRESSIONAL DISTRICT: NC 3, VA 2

DATE: 6 March 2014

1. **AUTHORIZATION:** Resolution adopted by the Committee on Transportation and infrastructure of the United States House of Representatives dated 11 March 1998.
2. **STUDY AREA:** Currituck Sound is a 153 square mile estuary separated from the Atlantic Ocean by a thin barrier island which is part of the Outer Banks. Located in Currituck and Dare Counties in northeastern North Carolina, the sound has an average depth of 5 feet and a maximum depth of approximately 13 feet. The most significant freshwater inputs to Currituck Sound include the North Landing River and Northwest River, both originating in the Great Dismal Swamp of North Carolina and Virginia. Back Bay, a 35 square mile estuary located in Virginia, also discharges water into the sound through shallow water channels along the eastern shore.
3. **IMPROVEMENTS DESIRED:** Potential alternative actions could include marsh creation, island creation/restoration of submerged aquatic vegetation (SAV) beds, and beneficial use of dredged materials to support restoration of nesting islands. Local interests are concerned about significant loss of SAV and decline in water quality which have impacted freshwater fisheries and waterfowl populations. Based on the mid-winter waterfowl surveys conducted from 1961 through 2006, the waterfowl population peaked in 1976 with 305,000 birds. Since then, the waterfowl population has declined well below 50,000 birds, with an estimated average of 25,000 birds per year.

PROJECT INFORMATION - Currituck Sound, NC (Environmental Restoration - Investigations) - Continued

Of the 21 fish species identified in 1961, only fifteen were identified in 2003. The declines in fish and waterfowl populations are attributed to a significant loss of SAV, a major food source for waterfowl and marine mammals and a critical habitat for a host of vertebrate and invertebrate organisms. SAVs once grew in abundance, covering most of the shallow waters of Currituck Sound and Back Bay. Today, these areas retain approximately 35% and 5%, respectively, of the SAV distributions of 25 years ago.

4. **COST ESTIMATE:** \$ 125,000 (Reconnaissance/Federal)  
2,210,000 (Feasibility/Federal)  
1,960,000 (Feasibility/Non-Federal)  
\$4,295,000 Total
5. **FEDERAL FUNDING ALLOCATION THRU FY 2013:** \$ 1,565,000.
6. **FY 2014 FUNDING ALLOCATION:** \$0. Carry-in funds are being used for production of the alternative formulation briefing (AFB) read-ahead report for review upon receipt of non-Federal funds in the fourth quarter.
7. **FY 2015 BUDGET AMOUNT:** \$0. Funds in the amount of \$358,000 could be used to continue the feasibility phase.
8. **KEY DATES:** February 2004 (Reconnaissance phase completed)  
TBD (Complete feasibility phase, subject to the availability of funds)
9. **OTHER INFORMATION:** There are three workgroups, led by the Corps of Engineers, responsible for various elements of the study. These groups are: (1) the water quality and hydrodynamic monitoring and modeling work group, which is responsible for the installation of, and data collection from 18 water quality and flow gauges, and numerical modeling of water quality trends in the sound; (2) the living resources work group, which is responsible for documenting submerged aquatic vegetation, fish, waterfowl population, and habitat trends; and (3) the public outreach and planning work group, which is responsible for communication with local communities, and with the coordination of the many elements of the feasibility study document. These groups are staffed by scientists and engineers from several state and Federal agencies and organizations. These include Elizabeth City State University, the U.S. Geological Survey, the Engineering Research and Development Center Coastal and Hydraulics Laboratory, the U.S. Fish and Wildlife Service, the N.C. Estuarine Research Reserve, the N.C. Division of Water Resources, the Virginia Department of Environmental Quality and the Albemarle-Pamlico National Estuary Program.