



## Flood Control Project Protects a Town and Its Neighboring Croplands

### Full Mitigation Best Practice Story

#### *Hyde County, North Carolina*

Any resident from Swan Quarter, the county seat of Hyde County, North Carolina, can easily tell a story of a time the town was flooded. They can recall the massive amounts of mud, fish, snakes, and mold they found in their homes when they were allowed to re-enter. Located only a few feet above sea level, Swan Quarter experiences frequent flooding from the nearby Pamlico Sound during coastal storms and high tides. A project to control flooding was essential to prevent the town and its many surrounding croplands from joining the debris that rests at the bottom of the sound.



Swan Quarter was most severely impacted by Hurricane Isabel in 2003. Isabel was a Category 2 storm when it made landfall in eastern North Carolina, causing millions of dollars of wind and storm surge damage. The flooding greatly distressed the town's more than 800 residents as well as the fishermen and farmers that make their livelihood from the land and sea.

"When Isabel came through, it put a lot of people out of business," said Hyde County Administrative Soil and Water Technician Debbie P. Cahoon.

Most of the town's services and local businesses, including the post office, grocery store, and a restaurant, were impacted by the heavy flooding of 2003 and no longer exist.

Even before Isabel, residents were contending with the consequences of repeated flooding—cleaning mold and repairing their homes following the strong coastal storms that brought wind and rain. A repair shop located just across from the old courthouse has flood marks indicating each named storm that has brutally affected their once thriving town.

"Floods are severely stressing—both emotionally and physically," said Hyde County Manager Mazie Smith. "Everything that rests at the bottom of the river shows up inside the homes and buildings."

In 1965, a number of local, state, and federal sources began jointly sponsoring a flood control project in the Swan Quarter Watershed to reduce the flooding in the more than 7,000 acres of affected land. The Hyde County Commissioners, the Hyde Soil and Water Conservation District, the North Carolina Department of Environment and Natural Resources, and the U.S. Department of Agriculture-Natural Resources Conservation Service's project would protect the croplands that neighbor the town of Swan Quarter and prevent future flooding of the residential area.

Drafted 46 years ago, the project's original plan consisted of 17.7 miles of 6.7-foot high dikes, 2.9 miles of channel improvements, 3 pumping stations, and 16 tide gates. Immediately following plan development, the project began construction, but was halted several times due to budget constraints. In 2002, once more funding became available, revisions were made to the remaining plans and the final phase of construction was completed in June 2011. The entire project, phases one through 13, totaled \$13,236,469 in combined local and federal funds.

The timing was perfect because, 2 months later, Hurricane Irene pummeled the Atlantic Coast, bringing extreme winds and storm surge. By the time Hurricane Irene hit the North Carolina coast, it was a Category 1 storm and the project constructed dikes held back the rushing waters as the storm moved on. Although the town did suffer from some flooding as the torrential rains continued, the damages were greatly reduced as compared to those the town had faced in the past.

Water reached the top of the dikes and floodwalls, but they served their purpose of restraining the invading tidewaters. Residents who live near the dikes agree that the project was a success. Irene was the first storm to test the success of the dikes since their completion.

"We really saw the benefit of the dikes during this disaster," said Smith. "This project saved Swan Quarter and possibly millions of dollars in damage. It is a positive, strong investment within the community that has paid off."

### Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region IV**

State: **North Carolina**

County: **Hyde County**

City/Community: **Swanquarter**

### Key Activity/Project Information

Sector: **Public**

Hazard Type: **Hurricane/Tropical Storm**

Activity/Project Type: **Flood Control; Wetland Restoration; Vegetation Management**

Activity/Project Start Date: **09/1965**

Activity/Project End Date: **06/2011**

Funding Source: **Local Sources; State sources; Other Federal Agencies (OFA)**

Funding Recipient: **Local Government**

### Activity/Project Economic Analysis

Cost: **\$13,236,469.00 (Actual)**

Non FEMA Cost:

### Activity/Project Disaster Information

Mitigation Resulted From Federal  
Disaster? **Unknown**

Value Tested By Disaster? **Yes**

Tested By Federal Disaster #: **1490 , 09/18/2003; 4019 , 08/31/2011**

Repetitive Loss Property? **Yes**

### Reference URLs

No URLs were submitted

## Main Points

No Main Points were entered.



The flood walls hold back the saltwater during Hurricane Irene 2011.



An earthen dike that was created in an earlier phase of the project.



Water marks of all the flooding