IDR

International Dredging Review

JULY/AUGUST 2004
VOLUME 23, NUMBER 4

IN THIS ISSUE:

Saying goodbye to the Corps *Dredge Thompson*. Dredge Master Arley "Butch" Martin on the bridge of the T*hompson* during a St. Paul District ceremony in May honoring retirees and announcing the names of the vessels in the new fleet. Original brass fixtures abound on the dredge, which was built in 1937 and has been maintaining the Upper Mississippi River ever since. Photo courtesy St. Paul District, COE.

Beneficial Uses of Dredged Material

Multi-Agency Team Creates Bird Island In Long Island Waterway

by JoAnne Castagna, Ed.D.

Photos provided by Randall Hintz

Inner Space Services used the 14 x 12-inch dredge *Mardi Gras* to pump 60,000 cubic yards of material from the Long Island Intracoastal Waterway a maximum distance of 7500 feet to East Inlet Island. Courtesy Inner Space.

This spring, the New York District, Corps of Engineers completed a bird habitat project on East Inlet Island in Long Island (New York) Intracoastal Waterway that has attracted hundreds of endangered terns, which are nesting on the island.

The project began in 2002, when the New York District assembled a multi-agency team to create the habitat.

The Long Island Intracoastal Waterway is a 33.6-mile long channel inside the barrier islands on the Atlantic Coast of Long Island. The six-foot-deep, 100-foot-wide channel begins at Patchogue and continues east into Shinnecock Bay, at the south end of the Shinnecock Canal, which feeds into Great Peconic Bay off Long Island Sound. It connects on the west to the Great South Bay Channel, an 18-mile-long channel that extends to the Fire Island Inlet opposite Brooklyn. A number of inlets provide access to the waterway from the Atlantic Ocean, and it is primarily used for recreational boating and fishing.

The waterway is maintenance dredged every few years, and the dredged sand has been placed on upland sites on the mainland and ocean barrier islands. In recent years, development growth along the shoreline has eliminated this disposal option.

The Corps assembled a multi-agency team to think of disposal alternatives.

Jodi McDonald, project manager for the Corps New York District, plants beach grass on the island in April.

The team consists of the New York District, Corps of Engineers, the U.S. Fish and Wildlife Service, the U.S. Coast Guard, Region 1 of the New York State Department of Environmental Conservation, the New York State Department of State, the National Park Service (Fire Island National Seashore), and the Town of Brookhaven.

"After examining what other districts along the waterway were doing with their dredged sand, the team decided to dredge 'bite-size pieces' of the channel, so there is less to dispose of, and to deposit these smaller portions of sand on an island to create a wildlife habitat for threatened and endangered bird species, including least terns, common terns, piping plovers and roseate terns," said John Tavolaro, acting chief, Operations Division, New York District, USACE.

East Inlet Island, a 30-acre island one-half mile off the Town of Moriches mainland, was chosen to be the habitat location.

The project began in September 2002, and from October 2002 to January 2003, dredging contractor Inner Space Services, a 100 percent woman-owned company, dredged approximately five miles of the channel, pumping dredged sand onto a 13-acre portion of the island, said Jodi McDonald, project manager for the New York District.

Inner Space used the 14 x 12-inch dredge *Mardi Gras* to pump 60,000 cubic yards of material a maximum distance of 7500 feet, according to Laurie Lee Mason, company president and dredging project man-

John Riffey, III, B+B field engineer, marks off an area that was left in a tilled state for further drying. *Photo courtesy B+B Dredging.*

Randy Hintz digs a test pit to determine the depth of the silty material on the island.

ager. The dredged sand was then re-graded to achieve the proper slope and texture preferred by nesting birds.

The habitat was designed to encourage the birds to nest on the island. The team made the island inviting by de-vegetating it and building nest boxes to replicate the habitat needs of these shorebirds. In addition, they placed string fencing and interpretive signage reminding the public that the area is restricted from human use, and developed a predator control program, in the event land predators such as foxes and raccoons migrate to the site.

The birds colonize, nest and breed on Long Island in the spring, after spending the winter in the south. In spring 2003, birds were spotted nesting on the island. However, they were mostly seagulls, not the terns that the habitat was created to attract. The reason for this was that the island's ground was not suitable for them to nest. The ground was "clay-like" and not the sand that the birds need for nesting, and not conducive to the growth of vegetation preferred by these birds.

"The appearance resembled the surface of the moon," said Randall Hintz, chief, Technical Support Section, New York District, USACE. "Sediment samples taken prior to dredging indicated that the material to be placed would be predominantly sand. Unfortunately, as with any dredging project, individual pockets of finer grain material can pop up during the dredging operation. Of the 60,000 cubic yards of material dredged from the project, about 7,000 cubic yards of fine silty material was encountered," said Hintz. The fine material was in a three-acre area, in depths from six inches to eight feet.

"If finer materials are encountered early in the project, contractors can generally cover them with sandy material, since there is no threat to nature from silty material. Unfortunately for East Inlet Island, the finer materials were encountered late in the project and had to be left exposed on the surface," he said.

"Because the 2003 season was very wet, the team was unable to work on the project that year, as the ground needed to dry out before any work could be done. In early March 2004, the team saw a new nesting season on the horizon and the need for immediate action. A project delivery team was organized in the New York District to develop suitable alternatives to remediate the situation. The plan was to cover over the majority of the silty material with a layer of sand, and to create trenches where the silt was deeper, to allow the material to dry.

Corps staff board the boat back to the mainland after planting grass and goldenrod plants on the island.

On March 3rd the multi-agency team approved of the Corps' remediation plan, which needed to be completed by April 1, prior to the return of the birds. On March 25, B + B Dredging, a HUB Zone small business contractor, was awarded the contract, and had one week to cover the clay material with sand.

B+B hired Chesterfield Associates, who mobilized a bulldozer and excavator to the island with their amphibious landing craft. They moved clean sand onto the mud that had been allowed to dry, and tilled the deeper areas to expose the deeper, wet material to the air.

The B+B crews began work on March 25, and were finished by Sunday, March 28, three days ahead of schedule.

In April, personnel from the Corps, the U.S. Fish and Wildlife Service, and the New York State Department of Environmental Conservation planted 1,500 plugs of beach grass and 300 goldenrod plants on top of the now-sandy surface of the island.

"As an agency, this has been a great experience for us. We recognize the delicate relationship that needs to be built with the resource agencies early on, to not only define the specific areas that need to be dredged but also a better understanding of the nature of the material to be removed," Hintz said. "With the nature of dredging, these situations are unavoidable. The most significant lesson learned for us as an organization is to work with the resource agencies up front to develop remedies should a similar incident occur on another project. The goal is to create a win-win situation for everyone involved," he continued.

"This project is a success in that not only are the endangered bird species nesting on East Inlet Island, but the obstacle we faced showed the partnering agencies that if we put our minds together we can really accomplish amazing things in a short period of time," said Hintz.

Shore birds, such as this Piping plover, require a bare, sandy area for nesting. *Photo by USACE.*

About the author: Dr. JoAnne Castagna, Ed.D. is a technical writer and editor with the New York District, U.S. Army Corps of Engineers. Her article on fish tagging in the Historic Area Remediation Site appeared in the May/June issue of IDR.