The Times-Picayune

ISLAND GETS HUMAN TOUCH

Plantings help mend damage from hurricane

07/02/01

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Terns nest on the narrow crescent of white sand that makes up the gulf shore of Chandeleur Island while black skimmers glide above the surf trawling for fish with their large red bills. Beyond the sun-soaked beach, blue crabs scurry for cover among the green stems of salt marsh grasses. As the water deepens, baby shrimp and redfish bide time in underwater grass beds until they are big enough for life at sea.

It's Chandeleur Island as it was before Hurricane Georges struck in 1998, and as it is becoming again with the help of scientists from state and federal agencies and the University of New Orleans.

As it headed toward the Mississippi coast, Georges swept past Chandeleur, some 30 miles off the coast of St. Bernard and Plaquemines parishes, washing the island with Gulf water, shifting its sand and cutting it into about 100 pieces.

Barrier islands such as Chandeleur change constantly with waves and tides, and nature usually is allowed to take its course, but Georges transformed the island so drastically, scientists say they were compelled to lend a hand. Chandeleur's rich habitat for birds and fish, its cultural significance to generations of Louisiana sport fishers and its role as a first line of defense against hurricanes and coastal erosion contribute to its importance, said UNO geologist Shea Penland.

"It is the premier barrier island in Louisiana," Penland said.

With help from UNO, the National Marine Fisheries Service and the state Department of Natural Resources are sponsoring a project using nature and science to preserve the island.

Contractors are planting 81,000 smooth cordgrass plants at eight carefully chosen sites along the western side of the island. It is the biggest coastal planting project ever carried out in Louisiana, and it is one of the most difficult, said Rachel Sweeney, a fisheries service biologist and the federal project manager. If successful, the project will continue with an equal amount of plantings in the next two or three years, officials said.

Scientists say marsh grass, with its dense network of roots, will anchor in place sand that was shifted to the back of the island by Georges, at least for a while. The plantings will accelerate the spread of grass over the barren sand flats, covering as much ground in two years as nature would cover in 10 years, said Keith Lovell, a biologist with the Louisiana Department of Natural Resources.

Without the project, in that same 10 years the Gulf would continue to wash the sand back into deeper water, and the island would lose 25 percent of its sand, Sweeney said.

"We're pushing the edge of what we know about plantings," she said.

All that's left

The Chandeleur Islands are the remnants of what once was a wide delta formed by the Mississippi River.

The delta was formed 2,000 to 4,000 years ago, then the river changed course and created Lafourche Parish. Eventually, it moved again and settled into its current path, where it created the Plaquemines delta, fisheries service biologist Erik Zobrist said.

Water and wind eroded and remodeled the delta, leaving behind the 40-mile-long island chain. Chandeleur, the biggest island in the group, offers a meeting ground for the cool blue water of the Gulf of Mexico and the brown, nutrient-rich water of the coast, Zobrist said.

On one side of the island are typical coastal fish, such as speckled trout and red drum, and on the other are tuna and swordfish.

While flying over the island last week, Zobrist said he saw sharks patrolling the Chandeleur Sound on the western side of the island. Someone else spotted a tarpon a few days ago.

The rich fish habitat lends itself to prime bird habitat, too.

The Chandeleurs are the winter home to tens of thousands of migratory ducks. The islands are the nesting grounds for 75 percent of the world's population of sandwich terns, and they host endangered brown pelicans and piping plovers.

Georges displaced many of the birds by robbing them of their nesting sites. Hundreds of brown pelicans turned up two years later on man-made islands near the mouth of the Mississippi River.

Nature is beginning to make repairs, Lovell said. The cuts are beginning to heal as coarse-grained sand fills them in.

Now, scientists want to save the fine-grained gray sand that Georges splayed across shallow water bottoms behind the island. The splays are critical to providing a foundation for the island as it moves west, Lovell said.

"As the island continues to roll backward, it has something to roll back on: a sediment platform," Sweeney said.

A successful test

The effort was born out of a test project last year of 1,200 plants at sites with varying amounts of wave action and tides.

The test showed the grass did best when planted on or near the mean tide line, the average distance between high tide and low tide. About 45 percent of the test plants survived overall, but about 85 percent of those planted at the mean tide line survived, Sweeney said.

Workers began planting smooth cordgrass, or Spartina alterniflora, along 6.6 miles of shoreline in May. The work will be completed in about two weeks, Sweeney said.

Bertucci Contracting Corp. formed a joint venture with Mitch's Landscaping of Larose to do the work.

The $389,000 project is being financed under the Breaux Act. The fisheries service is paying 85 percent of the cost, and the state is paying the rest.

Nursery owner Mitch Pitre said he began growing the plants in ponds in January with root stock from the conservation service's Plant Materials Center in Golden Meadow.

When enough plants were produced, Pitre said, he added salt to the ponds to accustom them to the Gulf environment.

Plants were transported by barge, boat and skiff to each planting site, then hauled along the beach in

Red Flyer wagons.

Crews worked in teams, with one person digging a hole with an auger and another installing the plant. "A lot of salt water, wind and waves," Sweeney said. "It's harsh for people and for plants."

Nearby at a new planting site, Zobrist spotted fresh green blades of grass. "Within 10 days, we're already seeing some new growth," he said.

"This project, in my mind, gives the island a chance to fast-forward its recovery from Georges and to be more stable in the face of future tropical storms or hurricanes," Sweeney said.

This year's planting will create 70 acres of marsh and protect up to 30 acres of the main habitat. It also will create about 73 acres by trapping sediment, according to the project's design, Sweeney said.

The results will be monitored closely as the project continues, and scientists will learn from the experience, Zobrist said. "We do a better job each time," he said.

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