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Shorebird feeding beach restored

Corps adds replenishment to Mispillion dredging job

By *MOLLY MURRAY*
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Delaware Bay's most productive horseshoe crab spawning beach -- and also the area with last spring's highest concentrations of migratory shorebirds -- was washing away, inundated by each high tide.

But late last month, the Army Corps of Engineers combined a maintenance dredging project in the Mispillion Inlet and Harbor with a beach renourishment project to hold off the erosion of the narrow sand spit, at least for a while.

The maintenance dredging cost \$650,000. Fixing the federally owned jetty and restoring the beach cost another \$186,000.

"For me, the critical thing was just to be able to save that spot," said Kevin Kalasz, a wildlife biologist with the Delaware Natural Heritage and Endangered Species Program. "Mispillion Harbor routinely has the highest horseshoe crab egg densities in the Delaware Bay, attracting the greatest concentrations of red knots and other shorebirds to its shores. This makes the area one of the most important sites for shorebird conservation not only in Delaware, but also in the entire Atlantic Coast flyway."

Ironically, the sandy spit of land is manmade, but in recent years it has become the hot spot for the spawning crabs and migrating birds.

The area is sheltered and even in strong winds provides the crabs a spot to lay their pearly green eggs.

A bounty of eggs draws the migratory birds.

Kalasz said he noticed an erosion problem there after the Mother's Day weekend storm in May 2008.

Then, this year, as scientists were monitoring the crab spawning and bird migration, they discovered that there was little dry sand at high tide at one end of the sand spit. A breach in the rock jetty allowed water from Delaware Bay to flood the beach.

While shorebirds feed most heavily at low tide, they also need roosting areas to rest and digest their food between the low-tide feeding frenzies.

The biologists noticed the problem during the May shorebird migration, but things got worse a few weeks later when the area was pounded with wind and waves in late-season storms.

"It was really surprising to all of us," said Charles Myers, Mispillion Harbor project manager for the Army Corps of Engineers.

Myers said he had been in the area in May and had seen all the shorebirds flying around. A month later, he was contacted by state environmental officials because of the rapidly escalating erosion problem.

The corps was already going through a state permit application to do maintenance dredging in the inlet.

So state and federal officials sat down and brainstormed.

The corps was planning to remove two shoal areas -- one from Mispillion Inlet and the other from Cedar Creek, he said.

The problem, though, was that the material on the two shoals wasn't suitable for beach renourishment.

It was fine sand, mud and silt -- not the coarse-grained sand and pebbles that made the sand spit such an attractive location for spawning horseshoe crabs, said Bartholomew Wilson, a geologist with Delaware Coastal Programs.

In recent years, the state coastal programs office has made detailed maps of the Delaware Bay bottom.

The idea was to be able to use them to protect critical habitat on the bay floor and to pinpoint resources like sand, he said.

Wilson, who worked on the mapping project, set out to see if there was a nearby sand source that could be tapped for the beach repair project. They used the maps, followed by core sampling.

They found one spot, but it turned out to be near an old bombing range. Another spot had a muddy bottom.

Then, on the south side of the Mispillion Inlet, Wilson found a spot with coarse sand and gravel.

"It wouldn't be good for a recreational beach, but for horseshoe crabs, it was perfect," he said.

The state and federal agencies worked together. Myers found some additional money to add to the maintenance dredging project -- money that paid for the sand to be pumped onto the beach for restoration.

"This essentially is two projects for the price of one," said Lt. Col. Thomas Tickner, Philadelphia District commander for the corps.

While the work cost a little more, it was less expensive in the long run because state and federal officials didn't have to pay to remobilize the dredge, a significant cost savings, Wilson said.

The corps contracted with Southwind Construction Corp. of Evansville, Ind., to do the maintenance dredging and jetty and beach repair work.

The silt and mud from the dredging were placed on the northern end of the island.

Wilson said it will migrate to the north and provide sediment to naturally rebuild eroding marshes along the bay shoreline.

Wilson and Kalasz said the beach repair is a temporary solution.

State and federal officials are looking into a long-term fix.

In the meantime, Kalasz said, there also is interest in creating other horseshoe crab spawning habitats along the Delaware Bay shore.
