

Researchers want to raise horseshoe crabs from eggs, and hopefully replenish the species

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MIDDLE TOWNSHIP - Researchers are converging on the Delaware Bay this month for one of the nation's great wildlife spectacles - the annual spawning of horseshoe crabs.

The prehistoric-looking creatures, which survived the dinosaurs and evolved before the first bird took wing, spent the past year deep under the Atlantic Ocean along the continental shelf.

But each spring, some biological imperative tells the crabs to converge on the beaches of the Delaware Bay to spawn, such as on Kimbles Beach in the Dias Creek section of Middle Township, where about 30 people and tens of thousands of shorebirds were waiting for them last week.

The researchers and volunteers did not have to wait long. As the swelling lunar tide encroached on the marsh, crabs began to emerge like little sea monsters.

"Wait, there's one," Patricia Woodruff said Wednesday, picking up one of the crabs from the water. Woodruff is a marine scientist at Rutgers University, which helped the U.S. Fish and Wildlife Service attach plastic ID tags the size of quarters to the crabs.

Woodruff works at the university's aquaculture facility in Lower Township, where the staff cultivates oysters. But they are looking to expand their scope to raise horseshoe crabs from eggs for release back into the wild to give the creatures a head-start against hungry predators.

"Everything eats them. Basically, we want to farm them - take their eggs and raise them until they are big enough to survive on their own," Woodruff said.

Such human intervention could solve a conflict between local fishermen and conservationists. New Jersey's ban on crab harvesting remains in place in a bid to build up the number of spawning crabs and their bounty of eggs, which are critical for feeding rare shorebirds such as red knots that gather on the bay to fatten up during their epic migrations from the Arctic to South America.

Daniel Hernandez, an assistant professor at The Richard Stockton College of New Jersey, counts crab eggs on the beach each year for his ongoing research. The Stone Harbor resident said egg counts have dropped precipitously from their historic levels.

Hernandez said his research suggests shorebirds may have less food to help them build up fat and muscle for their annual odyssey to the Arctic.

A 2009 study in the journal *BioScience*, which Hernandez took part in, said that in 1990 more than 100,000 crab eggs per square meter were found on Delaware Bay beaches.

"Now they have 5,000," he said.

Volunteers at the Cape May National Wildlife Refuge tagged 525 crabs Wednesday. The refuge is inviting the public to join them again May 31 and June 2 at the end of Kimbles Beach Road to resume their research.

The nonprofit Friends of the Cape May National Wildlife Refuge also joined the research. Swatting gnats that swarmed the still air, member John King, of Cape May, said he has participated in the research for five years.

The Cape May refuge stretches across 11,500 patchy acres nearly the length of the county between Lower and Upper townships. Yet it is about four times smaller than the Edwin B. Forsythe National Wildlife Refuge in Galloway Township.

King said the Cape refuge has much to offer.

"Cape May has so much diversity. You have the ocean beaches at Two-Mile Landing with piping plovers and good fishing," he said. "And the Great Cedar Swamp with other little spots scattered across the county."

The agency has been tagging crabs since 2001, federal biologist Heidi Hanlon said.

"To see such a huge number of animals come up on the beach is a phenomenon that's amazing," she said.