

Group aims to halt horseshoe crab 'kill zone' at Pickering Beach

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Jeanne Covert (right) and Ariane Mueller among volunteers that built a fence along a section of Pickering Beach to help protect horseshoe crabs.

(Special to the Delaware State News/Gary) Emeigh

LITTLE CREEK — It's a well-known phenomenon that thousands of horseshoe crabs swarm the sandy coasts of the Delaware Bay in the spring looking for love. Pickering Beach, southeast of Little Creek, is one of the most prolific spawning beaches in the world according to Glenn Gauvry, president of the Ecological Research & Development Group — a 501(c)3 non-profit organization founded in 1995 to focus conservation efforts on the world's four

horseshoe crab species.

The Delaware Bay's population of horseshoe crabs faces a number of threats beside their natural predators. They are harvested as bait by "conch and eel fisheries" and many thousands are annually drained of their blood. Their unique, blue blood is used to synthesize a substance called Limulus Amebocyte Lysate (LAL) which is valuable to the medical and pharmaceutical industries.

In recent years, regulations have been tightened on these practices. The changes have resulted in more population stability, but there is more people can do to ease the plight of the 450 million-year-old species says Mr. Gauvry.

On Thursday, a collaborative experimental project between ERDG, the Pickering Beach community and DNREC to build a storm fence across an identified "horseshoe crab kill zone" is one such effort.

Over the course of several years (and several sand-shifting nor'easters) a sandy protrusion several dozen yards wide has formed on Pickering Beach that seems to give the horseshoe crabs navigational problems. When the tide rolls in, spawning horseshoe crabs arrive at the beach in large numbers and climb out of the water, but because the beach peaks at a certain point and leads down to a pond and stream on the other side, the spawners can sometimes get confused.



Shells of horseshoe crabs that died after being

The results, locals have noticed, is often disastrous.

"A few years ago, there was a ditch that was open here and this wasn't a problem because they would just follow the tide back out to the bay," said Mr. Gauvry. "But since it has filled in, a lot of the spawners get

stranded inland at Pickering Beach
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stranded when the tide goes back out. They try to hunker down in the wet sand so they can breathe, but it dries out by the next day and they die. They also try to find refuge in the pond on the opposite side, but the salinity isn't right and they die there too. It ends up being a killing zone because it's so easy for them to go the wrong way."

Although the exact number would be difficult to calculate, Mr. Gauvry believes the obstacle is killing at least 5,000 horseshoe crabs per season, possibly more. Female spawners can lay between 60,000 and 120,000 eggs in batches of a few thousand at a time and the hatchlings take up to 12 years to become reproductively mature themselves making the impact of the small "kill zone" exponential. Also, the eggs of the spawners are a well-known cornerstone of migrating shore birds' diets.

After assessing the issue, Mr. Gauvry believes the fence a few dozen yards long is a modest safeguard with great potential.

"I've seen storm fencing used for all kinds of things in the past, but this might be the first time it's used like this for horseshoe crabs," he said. "We realized a permanent solution would be difficult because you'd have to do a big impact study and examine the hydrology — just a big mess of interconnected factors that could take years. With this, it just seemed logical because it's temporary, low-impact, inexpensive, easy to do and, we hope, very successful."



The fence stakes are buried about a foot so the horseshoe crabs won't get under it, and they won't find their way through it either, said Mr. Gauvry. It butts up to natural barriers on each end so the spawners are unlikely to go around it either.

At a cost of about \$1,000 in

The temporary fence, buried about a foot deep along its length, will help prevent horseshoe crab strandings. Submitted photo/Glenn Gauvry

equipment and supplies, Mr. Gauvry said it was paid for with a donation from a small group of concerned citizens.

“It’s being built by volunteers and we also have volunteers from the Pickering Beach community that have agreed to help us monitor it throughout the season,” he said. “We’ll be taking a lot of photos and some stop motion footage to make sure it’s working as intended.”

DNREC officials failed to provide a comment on their hopes for the project.

Future?

The fence is a temporary solution to the problem and would likely not withstand winter storms, said Mr. Gauvry.

“We’ll have to take it down at the end of the year, but by then we will have had a good chance to monitor its success,” he said. “It’ll be up to DNREC to decide where it goes from there. We’re hoping to demonstrate that it’s an effective strategy. If we can show that, then I think we can sit down at the table with that as collateral to decide what to do next year. Maybe we could examine something more permanent or, at the very least, use this same method again.”

Helping to put up the fence proved to be a teaching moment for international student Xishen Zhang. The 18-year-old hails from northern mainland China and is attending Tatnall School in Greenville.

“I’m doing my independent scholar study project on horseshoe crab conservation so this seemed like a great way to get involved,” said Mr. Zhang. “It’s meaningful for me to help be a part of the conservation and learn about this method because China has a horseshoe crab population too along the southern part of the country.”

Mr. Zhang will be returning to China over the summer and is planning a trip to beaches in southern China to compare and contrast the conservation methods being used in his home country to those being employed in Delaware.

At an estimated total population of 20 to 25 million adult horseshoe crabs, Mr. Gauvry notes that the Delaware Bay's numbers are "stable."

"There was a point in time where we were harvesting almost a million per year out of the bay," he said. "The rebound in population has almost everything to do with regulations that helped reduce that number."

New England's populations continue to struggle and are in decline, but beaches along the coasts of southern states are starting to see a small increase in their populations (which were modest to begin with), said Mr. Gauvry.

"The Delaware Bay has the optimum spawning conditions and is historically incredibly productive for the species," he added. "It has over 150 miles of sandy beaches, low energy in terms of waves that can flip them over, the salinity levels are good and the food resources for juveniles are good too. Also, a lot of the bay is shallow so juveniles can slowly venture out as they get older and go into deeper waters. It's the perfect nursery."

With small, community engaging, alterations to keep the shoreline hospitable, Mr. Gauvry hopes to keep it that way.

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