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Horseshoe crab spawning attracts a crowd

By Hilary Corrigan Staff Writer

Under a full moon, students from Stafford, Va., walk along Prime Hook Beach Saturday night during a horseshoe crab survey.

The light of the full moon helped, but the miner-like headband lights worked even better for the middle schoolers from Virginia who swarmed Prime Hook Beach and waded into the Delaware Bay Saturday night.

They showed up to count the horseshoe crabs that arrive each spring in a prehistoric mating ritual involving a full moon, a high tide and a stretch of sand.

"There's something in my shoes," someone said in the dark.

Physical science teacher Belinda Casto-Landolt proposed the trip after her husband showed her a magazine article entitled "Sex on the Beach" about the annual spawning.

A kayaker who enjoyed spotting the creatures, Casto-Landolt learned that Virginia ranked among their biggest harvesters.

"Why isn't Virginia doing anything about monitoring?" she wondered.

She began teaching her students at Rodney E. Thompson Middle School in Stafford, Va., about the crabs and contacted Glenn Gauvry, a researcher who runs the Lewes-based nonprofit Ecological Research & Development Group that he founded in 1995. Gauvry has spearheaded campaigns to limit catches, mark off sanctuaries for the animals and count the pairs that spawn each spring on Delaware shores.

The bay carries a celebrity status in the science world. Japanese researchers, who counted a total of 1,500 spawning pairs last year on their coasts, marvel at Gauvry's numbers -- 27,000 at Prime Hook Beach and 250,000 on Slaughter Beach in 2005.

"They all know about the Delaware Bay and they're all dying to come over here to see this," he said.

The perfect place, Casto-Landolt figured, to get her students involved and to highlight science as part of every day life.

"These kids just soak this information up," she said.

Moonlight mystique

When his head lamp's beam showed a horseshoe crab crawling back to the water, seventh grader Ian Bamerg pulled a camera from his poncho pocket and clicked a shot. He stopped further along the shore to flip a crab that lay upside down, snapping its photo before it made its way to the water.

"They look like they're from the prehistoric period," said Ian, who wanted to help count the crabs and see if their population was increasing or decreasing. "They're very unique."

Gauvry pointed out a female submerged in the shoreline sand to lay her eggs.

Ian hurried over in his flipper-like shoes, then turned to a classmate: "My hands are wet, can you take a picture?"

Most of the students have never seen the creatures before and Gauvry called out tidbits of horseshoe crab knowledge:

Several males will try to fertilize the eggs that a female lays when she burrows into the sand.

"Nobody knows who the daddy is in this situation," he said, drawing giggles and "uh-ohs."

The female will lay clusters of about 5,000 eggs, returning the next night to lay more, until she uses up the approximately 100,000 that she carries. Only she doesn't dig very well to lay them.

"That's why the high tide is so important," Gauvry said to the sneaker and sandal-clad students walking in the bay, noting the way the water helps the crab sink into the sand the same way it does for human feet that stand on the wave-washed shore.

"I had never heard of such an animal like that," said eighth grader Andrea Palacios. "They look so different."

She noted their hard shells, helmet-like shape and mating method.

"They don't have any physical, like, you know," Andrea said. "They just do it without any physical interaction."

The ritual shocked seventh grader Sarah Cottrell-Cumber -- "Five on one!" she repeated.

Conservation connection

Up ahead of the herd, volunteer surveyors Nancy Bearss and Jenni Lindsay took a couple of students to complete the more accurate survey, counting the crabs in 20-meter sections to canvass the beach.

"You look at the beach differently when you see these animals come in," Bearss said. "What a wonderful way to learn about an animal."

To seventh grader Sara Fitzgerald, tracking the crabs provides a way to conserve them.

"I feel like I'm doing something, something to help," she said, climbing up the sand back to the school bus as the survey ended at about 11 p.m. "A lot better than being stuck in a classroom."

The students had prepared for the trip with research and by taking part in ERDG's horseshoe crab art contest, contributing paintings, drawings, even a song on the animals.

"They're real excited," Gauvry said.

Gauvry is just as excited. The kids plan to hold a mock town hall meeting in the fall with their local politicians to detail the steps that Virginia can take to mitigate the horseshoe crab harvest in its waters.

"It's actually a nice piece of activism by these students. I'm real impressed," he said. "These kids were really, really motivated."

Some of them missed weekend sports games to take the trip. One has a shellfish allergy and brought his emergency medication.

Gauvry knows that the students may not continue any work or even any interest in the marine biology field when they grow up, but he expects the survey to instill respect.

"Plant the seed of appreciation for other living beings and let it grow where it grows. Tonight, the horseshoe crabs are better teachers than I am," Gauvry said.

Practical knowledge

Assistant principal Andrew Bathke tagged along, a miner's light wrapped around his head to better spot the beach-bound crabs, whose importance Bathke noted.

The bait industry relies on them to catch eel and conch, used to catch larger species. The medical industry uses their unique blood to test for bacteria in vaccines. Their eggs feed populations of migratory shorebirds making their way along the coast on trans-continental flights from South America to the arctic in the spring.

"It's big business," Bathke said, noting the real-life conflict on policy-making between environmentalism and human interests.

To Bathke, that exposure makes the trip worthwhile. He expects his students to realize that they researched horseshoe crabs for a reason, that they can use their knowledge to shape public policy, that they will learn about the natural world by performing the survey work.

"It gives them an opportunity to be involved in the real deal. This is practical application," he said.

He recalled an old phrase: If you tell me, I will forget. If you show me, I will remember. If I do it, I will learn.

"They're doing it," Bathke said.

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