

UPDATES FROM THE DELEP CONTINUED

funding from the William Penn Foundation, DRBC hired a professional environmental consensus-building and facilitation firm in 2001 to conduct stakeholder interviews, identify key issues, and make recommendations concerning the formation of a PCB TMDL Implementation Advisory Committee (IAC). This step helped to improve cooperation between regulators, dischargers, and environmental organizations. The Coalition has since contributed scientific expertise to the TMDL development process, and its member dischargers and others are voluntarily undertaking PCB track-down studies and minimization plans.

In October 2003, DRBC formed the IAC and initiated a collaborative, problem-solving process aimed at developing effective strategies for reducing PCB contamination in the Delaware Estuary. The IAC's recommendations will be produced in the form of two reports: one containing immediate-action strategies for achieving reductions in PCB loadings, and the other containing long-term strategies for reducing PCB contamination in the Estuary from current levels that are several orders of magnitude above those considered protective of human health. The IAC's reports will be presented to regulators, dischargers, and other implementers as the proposed basis for their programs to implement the TMDLs for PCBs, and to achieve the Estuary water quality standards.

The IAC includes about 20 members and alternates representing regulatory agencies, large and small municipalities, industrial dischargers, and environmental interests. The IAC has now met seven times, including a two-day workshop to forge a common understanding of source categories and loadings. The workshop provided an opportunity for IAC members to engage in a dialogue with scientific experts and to begin to explore implementation strategies. It is hoped the IAC process will help to improve relationships among regulators and stakeholders and increase coordination and cooperation among existing programs within state and federal environmental agencies. The process already is achieving two other important goals by increasing the technical understanding required of all participants to manage bio-accumulative toxic chemicals in our environment, and building capacity for solving complex environmental problems in our region into the future. Improving our region's capacity to address environmental problems, improving water quality, and eliminating fish consumption advisories in the Delaware Estuary will benefit the region's ecology, economy and community.

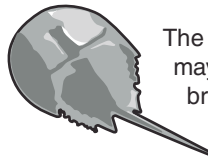
The IAC's recommendations will be submitted next year to the various agency and non-agency participants for their consideration in planning next steps in the effort to implement the TMDLs and reduce Estuary PCB contamination. Recommendations that have the strong support of diverse IAC members will certainly carry extra weight. However, all regulatory actions to implement IAC recommendations will be subject to the customary public notice, comment and approval processes.

More info

For more information about the PCB IAC please contact Pamela Bush, Commission Secretary and Assistant General Counsel of the Delaware River Basin Commission at (609) 883-9500 ext. 203 or pamela.bush@drbc.state.nj.us.

IT'S TIME TO LEARN WHAT IS REALLY GOING ON OUT THERE

BY ROBERTA RICCIO AND GAYL SOLOMON, DELAWARE ESTUARY PROGRAM, U.S. ENVIRONMENTAL PROTECTION AGENCY



The odds are daunting. A single horseshoe crab may lay as many as 90,000 eggs during one breeding episode. Of the over 1 million eggs that get fertilized, only 30 horseshoe crabs, on average, survive their first year of life.

This was just one of the many interesting facts we learned, this past May, while on a field trip to Slaughter Beach, Delaware, an area which was recently recognized as a horseshoe crab sanctuary. A few Delaware Estuary Program (DELEP) Public Participation Implementation Team (PPIT) members, and a group of students and their chaperones from the Wilmington Montessori School, met with Glenn Gauvry, a horseshoe crab expert from the Ecological Research and Development Group. We were there to witness the once-a-year spawning activity of these amazing creatures. Horseshoe crabs have been around on our planet for thousands of years, despite the incredible odds against their survival.

“More than one million eggs get fertilized and only 30 horseshoe crabs may survive.”

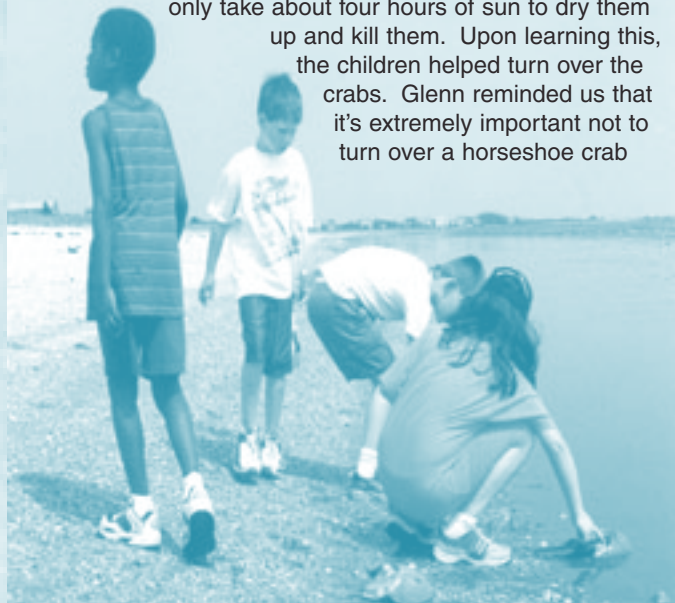
Glenn provided us all with great insight on the life of horseshoe crabs as we walked along the beach. For example, one of the first things we learned from Glenn about the myths associated with this great creature is that the term horseshoe “crab” is a misnomer and that the horseshoe crab is really not a crab at all! They belong to the phylum of Arthropods, which consists of animals having an articulated body and limbs. The three major classes of Arthropods are Insects, Arachnids and Crustaceans. The horseshoe belongs to its own class called Merostomata, which means “legs attached to the mouth.”

As we first approached Slaughter Beach, thousands of shorebirds were feasting on the horseshoe crabs eggs. The shorebirds, which travel through the Delaware Estuary, depend on the horseshoe crab eggs to survive. The eggs provide them with the energy needed to sustain their journey from South America to the Arctic.

The female horseshoe crab uses the assistance of the high tide to help her move up onto the beach in order to dig a hole so that she can lay her eggs. Once fertilized by the males, the eggs will be buried in the sand, hopefully protected from predators, until they mature, hatch, and then make their way to the ocean's waters.

Female horseshoe crabs are typically much larger than males, and the male crabs have a more curved shell than the females. If you flip a horseshoe crab over you can tell the males from the females by looking at the first pair of appendages, which on the male are larger and much more pronounced. The male uses this appendage to hold onto and attach himself to the female during spawning, so that he can fertilize the eggs once the eggs are laid by the female. Although one male may attach to a female during this time, there is no guarantee that this male will be the male that fertilizes all of the eggs. In fact the eggs usually disperse into the tidewater surrounding the female, where many other males have congregated in the hopes of being the lucky male to fertilize these eggs. Any one or all of these males may be responsible for fertilizing the eggs.

During our visit, many horseshoe crabs had washed onto the shore with the help of the high tide. Now that the tide was low, some had been stranded on the shoreline, either because they had flipped upside down, or could not make it back to the water on their own accord. In this position, it would only take about four hours of sun to dry them up and kill them. Upon learning this, the children helped turn over the crabs. Glenn reminded us that it's extremely important not to turn over a horseshoe crab



Learning a thing or two about horseshoe crabs on Slaughter Beach

by it's tail, or telson, because the telson is extremely delicate and necessary for the crabs survival. Once it is broken off, the crab is almost completely helpless to flip itself over and navigate through the water.

By flipping the crabs, the children discovered that these creatures are not dangerous and will not sting you or pinch your fingers. In fact they are quite lazy and need the help of the tide to keep their eggs safe and themselves safe from predators.

Glenn picked up a few horseshoe crabs to demonstrate to us that even though these great creatures have a fierce-looking "coat of armor," similar to one of King Arthur's Knights; this armor or shell is necessary to protect the docile creature that lies underneath. A horseshoe crab will shed it's shell each year until it reaches maturity, at about 11 years of age for males and 12 years for females. After that time, the horseshoe crab will keep its shell until it dies. Horseshoe crabs live an average life span of about 20 years.

During our time on the beach, we realized that we were not the only people who are interested in the lives of horseshoe crabs. One of the students discovered a horseshoe crab that was tagged by the U.S. Fish & Wildlife Service (along with a host of collaborators at the state and local levels). Glenn explained to the children and teachers that they should write down the identification number and telephone number on the tag and call the Service to report the whereabouts and the physical condition of this particular crab.

Glenn did a great job at explaining this once a year phenomena, and his enthusiasm for these marvelous creatures spread amongst all who participated.

NEWS IN A FLASH

TO BE PERIODICALLY UPDATED ABOUT VOLUNTEER ACTIVITIES, EVENTS, AND PROGRAMS TAKING PLACE IN THE DELAWARE ESTUARY, SEND YOUR EMAIL ADDRESS WITH YOUR NAME AND PHONE NUMBER TO DROSS@DELAWAREESTUARY.ORG

