



Delaware's Horseshoe Crab Monitoring



Surplus horseshoe crab eggs provide a bonanza for migratory shorebirds and often color Delaware beaches green.



Spawning typically peaks on the nighttime high tides around the new and full moons, but daytime spawning can be good.



Delaware has a long history of horseshoe crab harvest.

For more information on horseshoe crabs contact:

Stewart Michels
Fisheries Scientist
3002 Bayside Drive
Dover, DE 19901
(302) 739-4782 x14

stewart.michels@state.de.us

The horseshoe crab plays a prominent role in the ecology and fisheries of Delaware Bay. The crabs are huge feeders on marine worms and bivalves. Their eggs serve as a primary food source for migratory shorebirds, juvenile fish and a variety of crabs. Juvenile and adult crabs are fed upon by sea turtles and sharks. Horseshoe crabs also serve as the primary bait used in the American eel and whelk pot fisheries and their blood is used in the manufacture of Limulus Amoebocyte Lysate (LAL) - the worldwide standard for testing virtually all pharmaceuticals for the presence of endotoxins.

The Division monitors Delaware's horseshoe crab population using multiple methods. In partnership with Limuli Labs, the University of Delaware, the USGS, the NJ DEP, the USFWS, Delaware's Coastal Zone Program, and numerous volunteers, the Division annually funds and participates in the Delaware Bay Horseshoe Crab Spawning Survey. The survey is conducted around the new and full moons each May and June – when spawning activity peaks. Results from the survey provide managers with the best available tool to monitor the Delaware Bay horseshoe crab spawning population.

The Division also monitors horseshoe crab surface egg abundance as part of a baywide study to monitor horseshoe crab egg availability to migratory shorebirds. The survey is conducted following the lunar events from May through the first week in June to coincide with the presence of migratory shorebirds. Though the survey is still in its infancy, it should provide a useful tool by which resource managers can gauge the success of management strategies.

Division personnel monitor the commercial horseshoe crab fishery through a mandatory reporting system and check stations. Information on the number, size, sex composition and location of the harvest is collected to ensure regulatory compliance.

Juvenile and adult horseshoe crab populations are also monitored through Delaware's ongoing trawl surveys. These surveys, though not designed specifically to monitor horseshoe crabs, are useful for monitoring long-term trends in the population.

The Division has provided support for a number of additional horseshoe crab projects related to such things as age and growth, fecundity, genetics, migration, and artificial bait research. The attention horseshoe crabs receive is well justified given their particular importance to the Estuary and its people.

