1. **A Living Fossil**

Horseshoe crabs have existed for approximately 350 million years, looking precisely back then as they do today. Only one of the four species worldwide lives in North America: the American horseshoe crab, *Limulus polyphemus*. They can live to be 20 years old.

2. **Not a true crab**

Horseshoe crabs aren’t really crabs at all – they are more closely related to spiders and scorpions. Its spiny tail won’t sting you, either. The crabs use it to flip themselves right-side up if they get turned over.

3. **Green eggs and sand**

Each spring, the crabs make their way to shore to spawn. The females can lay approximately 4,000 olive-green eggs in a sandy nest on the shore. They can spawn repeatedly, laying approximately 100,000 eggs in a season. The eggs hatch in two-four weeks.

4. **As the waters warm**

Young horseshoe crabs molt, shedding their shells as they grow to make room for their enlarged bodies. This ends once they reach maturity at about age five-seven.

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UNH researchers need your help. If you see a horseshoe crab near Great Bay, especially if it has a tag on it, please report it by taking a few moments to complete a short survey about where you saw it. This will help researchers improve population estimates and understand the distribution of the horseshoe crabs in Great Bay.

**Take the sighting survey:**

[www.surveymonkey.com/s/Q6K3VKZ](http://www.surveymonkey.com/s/Q6K3VKZ)

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[www.seagrant.unh.edu](http://www.seagrant.unh.edu)
Great Bay Horseshoe Crab Research

UNH researchers are examining horseshoe crab populations in Great Bay through a variety of studies. The crabs have inhabited the bay for eons, causing a natural form of disturbance in the sediments when they dig pits to find invertebrates – like worms and clams – to eat. Researchers conducted aerial surveys using video cameras attached to remote-controlled airplanes to determine the extent of sediment disturbance. The videos reveal that these round pits are found throughout the bay. Scientific studies indicate that the number of invertebrates in a pit decreases for up to three days after a crab feast. Slowly the invertebrates move back into those areas. This natural form of disturbance makes the bay a very interesting place to study!

Scuba surveys have revealed the presence of juvenile crabs in Great Bay, meaning that crabs can go through their entire life cycle there without leaving the bay’s protected waters.

Researchers are working with volunteers to improve their estimates of the horseshoe crab populations in Great Bay. They began a tag-recapture study, the first of its kind for horseshoe crabs in the bay. Round plastic tags were placed on the crabs’ shells with an identification number on each. This helps scientists identify individuals if the crab is caught again. So far, more than 500 crabs have been tagged in Great Bay. Future efforts to recapture tagged crabs and tag new individuals will help improve their population estimates.

Researchers have also used horseshoe crabs to study how their nervous systems create rhythmic behaviors such as swimming, feeding and breathing. Horseshoe crabs are also among the few species that have internal biological clocks that control both their daily and tidal rhythms.

Horseshoe crabs are part of the bay’s natural ecology and fill a niche that helps maintain a healthy balance in the bay. The more we learn about the crabs, the better we can identify any changes that occur in Great Bay. If the crab population suddenly begins to drop, or their spawning grounds are no longer in use, this may indicate other problems going on within the bay’s system.

What’s So Important About Them?

Horseshoe crabs provide a variety of ecological and economic services. They are an important part of coastal ecology, with their eggs providing a critical food source for migrating shore birds. Their unique blue blood is used in the biomedical industry, providing health benefits for humans. They are also used as bait for the American eel and conch fisheries.

Horseshoe crabs are found along the Atlantic Coast of the U.S., with the largest populations centered around the mid-Atlantic states of Delaware and New Jersey. New Hampshire horseshoe crabs are smaller than their southern counterparts. Those born in Great Bay remain there for their entire lives. They live in the bay’s deeper waters in winter and slowly move into shallower waters during the summer. Look closely – you might see them digging in the mud looking for food, leaving round pits behind when the tide goes out.

A map of Great Bay, home to horseshoe crabs.

Horseshoe crab pits in Great Bay.

UNH graduate students educate the public about horseshoe crabs at the Jackson Estuarine Lab.

Two tagged horseshoe crabs mating.