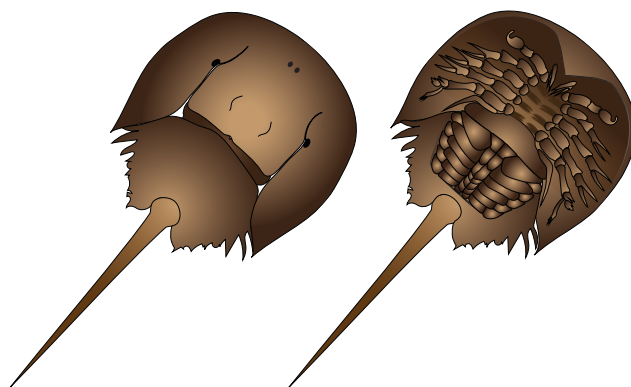


SPECIES SNAPSHOT

A 2022 status update for South Carolina's saltwater species

HORSESHOE CRAB

The Atlantic horseshoe crab (*Limulus polyphemus*) is an unusual marine arthropod whose family has remained relatively unchanged for hundreds of millions of years. They play an important role in South Carolina's coastal environment, where their eggs provide nutrients to shorebirds, as well as in biomedicine, where an extract of their blood is used to detect toxins.



SIZE

Young horseshoe crabs, or trilobites, are the size of a pinhead at birth. After molting over a dozen times, the crabs grow to roughly the size of a dinner plate. Adult females are noticeably larger than males.

AGE

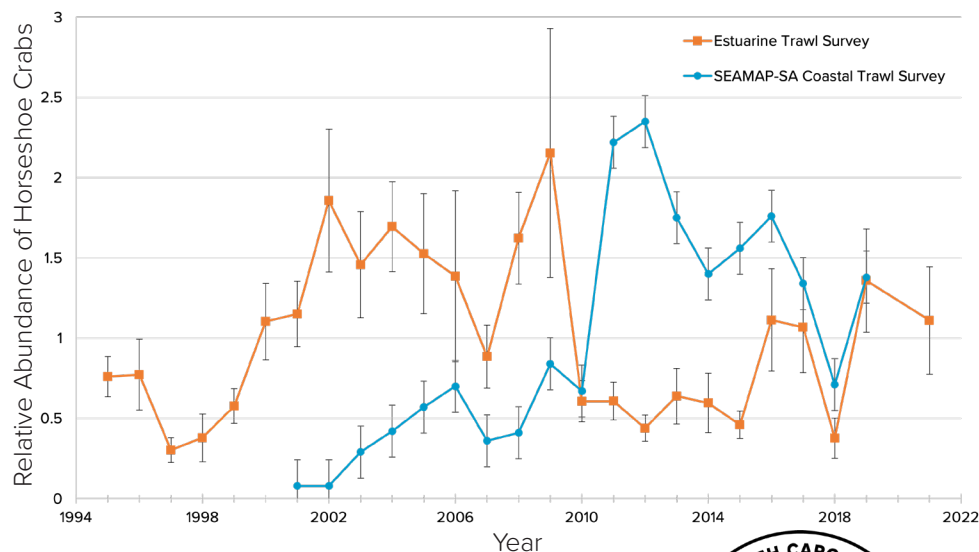
Horseshoe crabs take nearly a decade to reach reproductive age and can live about 20 years. The group to which they belong is an estimated 450 million years old, making them about twice as old as the earliest dinosaurs.

HABITAT

Adult horseshoe crabs move to shallow waters each spring and spawn on sandy beaches and in salt marshes. Outside of spawning season, horseshoe crabs live and forage in deeper waters offshore.

Horseshoe Crab Numbers in SCDNR Surveys Have Remained Stable Over Time with Fluctuating Habitat Use

- How to read this graph: Each data point has been standardized in reference to the long-term average. Error bars show variability in the data.
- The survey trends at right may be a result of alternating habitat usage; in years horseshoe crab numbers were high offshore, they were lower close to shore (and vice versa).



FOR MORE INFORMATION

South Carolina Department of Natural Resources
Marine Resources Division | marine@dnr.sc.gov | 843-953-9300



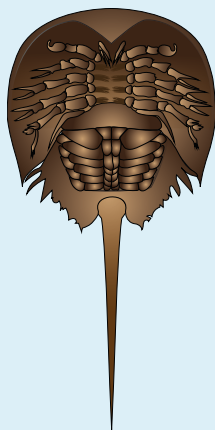
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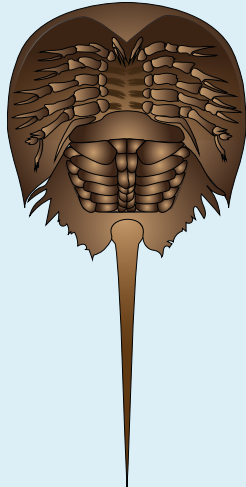
HORSESHOE CRAB

How do we get these numbers?

How to identify male vs. female horseshoe crabs



Adult male: first pair of appendages are hook-like. Body up to a third smaller than adult females.



Adult female: first pair of appendages has pincers.

- SCDNR biologists conduct three long-term surveys that look at horseshoe crabs in three different geographic areas of the coast (rivers/estuaries, estuaries/sounds and in the open ocean).
- Survey estimates of estuarine populations can fluctuate greatly from year to year, which is why SCDNR researchers use multiple data sources to determine the status of a species – and why it is significant that each of the surveys captures horseshoe crabs in a different geographic area.
- The SEAMAP (Southeastern Monitoring & Assessment Program) Coastal Trawl Survey expands our data set beyond South Carolina by sampling shallow coastal waters from North Carolina to northern Florida. This survey also looks at average body size, which can be an indicator of population health. Horseshoe crab size has remained stable in SCDNR surveys over time.

Other SCDNR research project findings



GENETICS

A 2014 genetic survey of SC's adult horseshoe crabs suggested that there is just one population within the state and found little evidence for inbreeding, indicating a relatively healthy adult population of horseshoe crabs.



MORTALITY ESTIMATES

A 2017 research project that simulated the harvest, transport and pre-bleeding holding conditions of horseshoe crabs found that death associated with the process was ~11%, which was consistent with previous studies (8%-20%).



SPAWNING HABITAT

Recent SCDNR research has shown that salt marshes represent a much greater source of horseshoe crab spawning activity than previously realized, with spawning densities and egg counts on par with sandy beaches.

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