



Horseshoe Crab Population Study and Tagging Project

Project Status:
Ongoing

Center volunteers have tagged over 12,300 horseshoe crabs since 2002 in order to track their movements over time.

Project Summary

Background

Horseshoe crabs play a key ecological role in coastal bays because the eggs they lay on beaches each spring provide a critical food source for migrating shorebirds and many resident birds and fish. Since the early 1990s, however, overharvesting has resulted in a 90% decline in the Atlantic Coast population, with major consequences for the species that rely on them. Because of their importance, the U.S. Fish and Wildlife Service (USFWS) coordinates a coast-wide program that records data on horseshoe crabs by tagging them and tracking their movements. The Center for the Inland Bays is a partner in this program, which provides data on the distribution, movement, and longevity of horseshoe crabs. Data are used by the government to inform management decisions about harvest rates.

Project Description

Each year, Center staff and volunteers mark crabs by attaching plastic button tags to the outer edge of their shell (called the "prostoma"). This does not injure the animal. The size and location of the tagged crab are recorded, and this information is submitted to the USFWS. Members of the public, researchers, and commercial fishermen report the ID numbers from tagged crabs, along with the location and condition of the animal. More than 12,300 crabs have been tagged in the Inland Bays by volunteers since 2002. Center scientists recently analyzed data on the locations of tagged crabs that were re-sighted and reported and found that 1,123 re-sights of horseshoe crabs tagged in the Inland Bays were reported by the public from 2002 through 2016, with the majority of those reports occurring between Barnegat Bay, New Jersey, and Chincoteague Inlet, Virginia.

Objective

Understanding the interconnectedness of horseshoe crab populations in the mid-Atlantic region will allow scientists to better understand how population changes in one bay could impact the region's stock as a whole. Proper regional management of horseshoe crabs is essential to maintain and grow healthy populations.

Project Contact:

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Project Partner:

U.S. Fish and Wildlife Service

Funding Partners:

- Delaware Department of Natural Resources and Environmental Control
- U.S. Environmental Protection Agency

Project Timeline:

Tagging began in 2002 and occurs annually during the spawning season (May through June).





Numerous horseshoe crabs coming ashore to spawn at the James Farm Ecological Preserve.

Project Highlights

- Horseshoe crabs can travel from the Inland Bays and into other nearby estuaries between spawning seasons, exceeding distances of 50 miles.
- While the majority of tagged crabs were re-sighted within a year, several were re-sighted over eight years after tagging.
- This work was featured in a peer-reviewed publication in the scientific journal "Estuaries and Coasts."
- Horseshoe crabs typically remain near spawning beaches for at least five days, but between years they do not appear to return to the same spawning site like some sea turtles or birds do.

What You Can Do

Volunteer to assist with the horseshoe crab survey by contacting Project Manager, Nivette Pérez-Pérez, at nperezperez@inlandbays.org.

Report sightings of tagged crabs to U.S. Fish and Wildlife Service at www.fws.gov/crabtag.

CCMP Focus Area

This project fulfills objectives outlined in the Comprehensive Conservation Management Plan (CCMP) for the Delaware Inland Bays:

- Focus Area: Outreach and Education
- Objective: Encourage more stakeholder support through volunteerism.
- Action: Involve stakeholders in demonstration projects that model desired changes in practices and citizen science research.



Citizen scientists (one in-the-making) show off a recently tagged horseshoe crab.



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The Delaware Center for the Inland Bays is a nonprofit organization established in 1994 to promote the wise use and enhancement of the Inland Bays and its watershed. With its many partners, the Center conducts public outreach and education, develops and implements restoration projects, encourages scientific inquiry and sponsors research. To learn how you can get on board with the bays, please visit www.inlandbays.org and follow us on Facebook [@deinlandbays!](https://www.facebook.com/deinlandbays)