

Red Knots & Horseshoe Crabs: A Relationship Thousands of Years in the Making

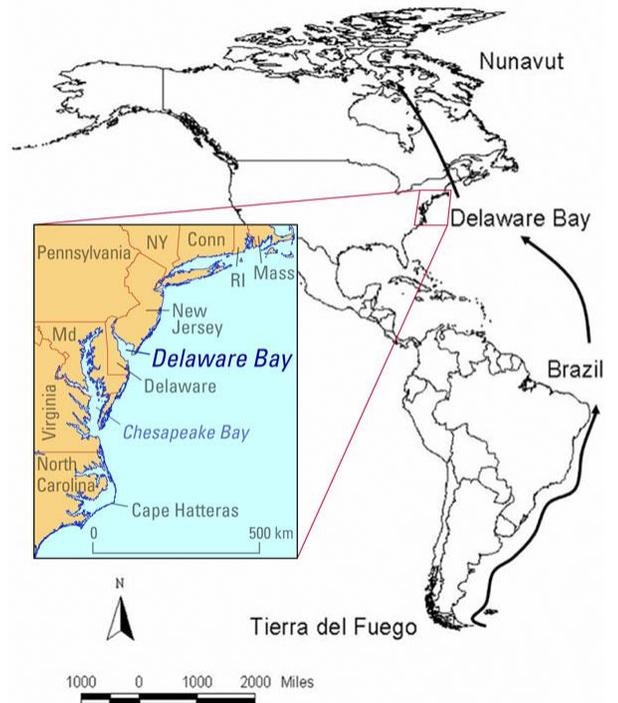


Red knot at the Rachel Carson Reserve, photo by Paula Gillikin

Meet the red knot. This little shorebird, weighing in at just under 5 ounces, makes one of the longest yearly migrations of any bird in the world, flying 9,300 miles from South America in Tierra del Fuego to the Arctic. As they fly from their southern wintering spot to their northern breeding grounds, red knots pause to rest and refuel along the east coast of the U.S. One of the most popular spots for migrating reds knots is Delaware Bay, though smaller numbers are spotted each year along the coast of North Carolina in places like Core Banks, Cape Lookout National Seashore, and the Rachel Carson Reserve, part of the North Carolina National Estuarine Research Reserve (NCNERR). These stopover sites are incredibly important for red knots, especially during their spring migration when they arrive to feed on the soft eggs of horseshoe crabs.

Horseshoe crabs are fascinating creatures. They're more closely related to spiders and scorpions than crustaceans and are one of the oldest creatures in the world, having been around for roughly 450 million years. These living fossils have other unique traits, like having ten eyes and blue blood that plays a vital role in human medicine. They also play a vital role in the annual migration of red knot populations.

In late spring and early summer, horseshoe crabs congregate in the thousands along the east coast of the U.S. to lay eggs on beaches and tidal flats in bays and inlets that have low wave energy. One female horseshoe crab will lay around 100,000 eggs each spawning season. Every year, red knots fly in to these areas to feed on the fatty, easily digested horseshoe crab eggs. This source of food is essential for red knots as it allows them to put on enough weight and have enough energy to complete their journey to the Arctic. Unfortunately, populations of horseshoe crabs along the east coast have dwindled significantly over the years, as have red knot observations.



Red knots migrate from Arctic breeding grounds to the southern tip of South America and back. Photo by USGS



Horseshoe crab at the Rachel Carson Reserve

In the 1980s and 1990s there was a huge decline in horseshoe crabs due to overharvesting by fishermen who were using them as bait to catch conchs and eels. Since that same time, red knot populations have fallen by about 75%, and while other factors like coastal development and rising sea levels contribute to this decline, the largest contributor is the lack of horseshoe crabs on the east coast. Coastal states have worked to implement stronger regulations to better manage the amount of horseshoe crabs collected each year. The U.S.

Fish and Wildlife Service also designated the red knot as "threatened" under the Endangered Species Act in 2014. Efforts being implemented on a national and state level will hopefully go a long way in ensuring the long-term protection and recovery of both species.

At NCNERR, staff are actively engaged in promoting the conservation of these species through education and stewardship programs. Site managers document sightings of red knots and report tag information to bird banding sites that gather long-term data on migratory birds in an effort to better understand habitat use and needs of threatened shorebirds. Education staff teach visitors about horseshoe crab behavior and work to debunk the common misconception that horseshoe crabs are harmful to humans. Children learn how to identify their tracks and know to flip them over if discovered belly-up on the shoreline. By exposing local community members to the natural world through hands-on educational experiences, we hope to create lasting memories and inspire life-long dedication to protecting our coastal and estuarine ecosystems.



Students on a field trip to the Rachel Carson Reserve watch a horseshoe crab make its way back to the estuary

Learn more about the red knot and horseshoe crab by clicking on the links below.

<http://www.fws.gov/northeast/redknot/facts.pdf>

<https://www.fws.gov/northeast/pdf/horseshoe.fs.pdf>