

# TO *the* MOON!

(and partway back)



Red knots in Brazil on their northbound migration to breed in the Arctic.

Edson Endrigo

## *A red knot's incredible journey*

**By Jeremy Taylor**

Imagine flying the equivalent of the distance from the earth to the moon and partway back. Now imagine doing this if you weighed only four ounces! Sounds incredible, but this is exactly what one bird has done over the last two decades.

The red knot (*Calidris canutus*) has one of the longest migrations of any bird, travelling nearly 10,000 miles each spring and fall between its summer breeding range in the Arctic to the winter range in southern Chile and Argentina. This would be a feat for any bird, but for something with a wingspan of slightly more than 20 inches, it's nothing short of incredible! A perilous journey even once, this trip has successfully been made twice a year for at

least 21 years in a row by a male red knot, dubbed "Moonbird" due to the cumulative distance he has flown. In that time span, Moonbird—the oldest known of his species—has flown the equivalent distance of a trip to the moon and partway back.

First banded at two years of age in 1995 in Rio Grande, Tierra del Fuego, Argentina, Moonbird (also known as B95 for the number on the leg band he wears) has become a celebrity of sorts. Birders up and down the east coast from Long Island to Florida hope to be the one who spots him on his biannual migratory journey. The city of Rio Grande named him their "Natural Ambassador" and is planning a monument in his honor; a statue of Moonbird exists on

Delaware Bay (an important "refueling" stop for red knots) as well. Sighted along the Jersey Shore in late May of 2014 (check the sidebar on page 19 for where to see a video), Moonbird has become a poster-child for his species and the dangers they face on this incredible journey.

As are many species of birds, red knots are incredibly vulnerable to the impacts of climate change. Their arctic breeding grounds are warming, coastal habitats where they winter and feed are disappearing due to rising seas and an increase in violent storms, they face perilous journeys made even more dangerous by changing weather patterns, and their food is becoming harder and

harder to find in reliable quantity. Development of shoreline habitat and overharvesting of key food species also negatively affect red knot populations, which are in decline.

Migrating red knots feed heavily on the eggs of horseshoe crabs, with the Delaware Bay being one of the primary stopovers on the trip north to breed each spring. Flying 1,500 miles or more at a time, nonstop, these sites filled with abundant food supplies are critical to the birds' successful migrations. As the number of horseshoe crabs decline, so do the numbers of red knots. The importance of Delaware Bay to the red knot migration led to its designation in 1986 as the first site in the Western Hemisphere Shorebird Reserve Network.

Outside of the Delaware Bay area, the birds feed mainly on small clams and mussels; in 1995 scientists studying red knots discovered that roughly one-third of the eastern red knot population makes a stopover in the barrier islands off the Virginia coast. Other large stopover sites

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Red knots' wintering plumage contrasts significantly with breeding plumage (previous page).

have been documented in the southeastern United States and along the western Gulf of Mexico.

In New York, red knots are listed as a Species of Greatest Conservation Need. In migration, they can be found along almost any large body of water with suitable shoreline habitat. The heaviest

concentrations can be found on the south shore of Long Island and in the Great Lakes region. Large gatherings of migratory shorebirds—including red knots—are observed feeding on horseshoe crab eggs each spring along the beaches of Sandy Hook Bay, Lower New York Bay and Jamaica Bay.

## Why Knot?

What's in a name? There are two main theories about the origin of "knot." A commonly accepted explanation is that the bird is named after King Canute, or Cnut the Great, an ancient Norse king. Legend has it that Cnut was so proud that he believed he could even hold back the tide simply by commanding it not to rise. When the water rose anyway, he was forced to move his seat back up the beach. To some, the foraging behavior of knots along the tide line seemed emblematic of Cnut's attempt to control the incoming waters, thus the name. Another explanation suggests that the name is a representation of the grunting call note made by the birds.



## Red Knot (*Calidris canutus rufa*) Migration Map



Courtesy of U.S. Fish and Wildlife Service

The population of red knots has always fluctuated, largely dependent on both healthy horseshoe crab populations and healthy beaches on which to feed and rest. During the 1990s, the harvest of horseshoe crabs (primarily used as a bait species and in medical research) skyrocketed, with dramatic negative impacts on the red knot population; it wasn't until the late 1990s that a plan was put into place to properly manage horseshoe crabs. The red knot population plummeted during the early 2000s; some estimates indicate a decline of as much as 75 to 90 percent.

Once numbering as many as 100,000 on Delaware Bay, the population declined in recent years to an estimated 12,000 (2003), although it has rebounded somewhat since then; current estimates place the population at around 30,000. Some scientists estimate that nearly 90 percent of the population can be seen at one time on Delaware Bay during the spring migration.

**Want to learn more?** The plight of red knots and their connection to horseshoe crabs has been documented in the PBS film *Crash, A Tale of Two Species*, part of the long-running series *Nature*. The story of Moonbird was also told in the 2012 book *Moonbird: a Year on the Wind with the Great Survivor B95* by Phillip Hoose. More information about the book and the work being done to conserve red knots and other shorebirds can be found at



U.S. Fish and Wildlife Service / Greg Breese

Red knots feed heavily on horseshoe crab eggs.

In 2012, the Atlantic States Marine Fisheries Commission adopted a plan to link all future bait harvests of horseshoe crabs to meet red knot population recovery targets. Added to Canada's List of Species at Risk in 2012, red knots were officially proposed to be listed as a threatened species by the U.S. Fish and Wildlife Service (USFWS) in 2013. One of six subspecies of red knots worldwide and three found in North America, the *rufa* subspecies (of which Moonbird is one) received threatened status in December 2014. Although populations have stabilized somewhat according to the USFWS, they are certainly not at former levels.

Large "peep" shorebirds with rusty coloration in spring, red knots are one of the last shorebirds to arrive in the spring, hitting peak migration numbers in May in New York. So, the next time you are at the beach on a warm spring day and see a bunch of small shorebirds running along the water's edge, you could very well be seeing Moonbird or one of his compatriots taking a break along their incredible journey. Although perhaps not the most spectacular of creatures, a four-ounce bird that has spent the better part of its life flying annually from one end of the globe to the other and back is nothing short of miraculous, and rightly deserves that break along the shore.

*Conservationist for Kids* editor **Jeremy Taylor** grew up on a family farm in Greene County, and has spent most of his life surrounded by animals of one kind or another. He has been an avid birder since first being introduced to the hobby as a child by his maternal grandfather.

**Editor's note:** Moonbird was seen in Argentina in January! Watch for him this spring.

<http://moonbirdfund.org/> A short video of Moonbird in NJ during late May 2014 can be viewed at <http://youtu.be/vpRU8gwqBOo>.

Additional information about the horseshoe crab in NY can be found on the DEC website at [www.dec.ny.gov/animals/36195.html](http://www.dec.ny.gov/animals/36195.html), as well as in the June 2011 issue of *Conservationist*, [www.dec.ny.gov/pubs/74688.html](http://www.dec.ny.gov/pubs/74688.html).