

## RED KNOT

Donald Shephard



Red Knot breeding plumage. Photo by Gregory Breese USFWS

In 1028 A.D., King Canute of England, Denmark, Norway, and parts of Sweden sat on his throne in the tidewaters of the Thames at Westminster and watched the river rise about his ankles to prove he could not stem the tides. In 1758, Linnaeus allocated the species name, *canutus*, to the Red Knot because he likened their habit of foraging along the tide line to Canute's behavior. Knot is a form of Canute. Another etymology suggests an onomatopoeic origin based on the bird's grunting call.

Largest of the sandpipers in North America, the Red Knot is colorful. It makes one of the longest yearly migrations of any bird, some traveling 9,300 miles from its Arctic breeding grounds to southern South America

as far south as Tierra del Fuego. North American breeders also migrate to coastal areas in Europe while Eurasian populations winter in Africa, Papua New Guinea, Australia, and New Zealand. In many areas, this species forms enormous flocks after breeding, but not here.

Becky Bowen, the Save Our Shorebirds (SOS) volunteer coordinator, reports these numbers for Red Knot sightings: 22 in 2007, 0 in 2008, 12 in 2009, 0 in 2010, 18 in 2011, and 2 in 2012. Becky says: "Our summer numbers show we rarely see Red Knots on the Mendocino Coast – and only in summer and early fall. In breeding plumage, they are easy to identify, but otherwise, they present a serious challenge. Andarin Arvola and I spent an hour at Ten Mile Beach one morning a few years ago, trying to figure out the identity of a lone bird foraging on wet sand. We finally decided to apply some Toby wisdom which is, "Figure what the bird is not. So, it's not a peep, it's not a Wandering Tattler and it's not a Sanderling and so forth. Therefore it's probably a Red Knot. One thing about learning shorebirds from Toby, you never forget the lesson. In the last couple of years, Richard Hubacek has seen the most Red Knots on SOS surveys."

An adult Red Knot measures 9–10 inches long with a wingspan of 18–21 inches. Like other members of the *Calidris* genus, the head and eyes are small, the neck short and the thin, dark bill slightly tapering. The relatively large size, white wing bar and grey rump and tail help the otherwise difficult identification. When feeding, the short, dark-green legs give a characteristic 'low-slung' appearance. When foraging singly, they rarely call, but when flying in a flock they make a low monosyllabic *knutt* and when migrating they utter a disyllabic *knuup-knuup*.

Red Knots can double their weight prior to migration. Like many migratory birds they also reduce the size of their digestive organs at that time. The atrophy is not as pronounced as in species like the Bar-tailed Godwit, probably because there are more opportunities to feed during migration for the Red Knot. They ingest food whole and crush it in their muscular stomach, reminding me of my sons in their teenage years. The gizzard increases in thickness when they feed on hard-shelled mollusks, bivalves, gastropods and small crabs on the wintering ground and decreases in size when they feed on softer foods such as, spiders, arthropods and larvae, in the breeding grounds. Unlike many species of birds., it does not regurgitate undigested hard parts of prey.

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continued

While feeding in mudflats during the winter and migration, Red Knots are tactile feeders. When the tide ebbs, they tend to peck at the surface and in soft mud. They may probe and plough forward with the bill inserted to about a centimeter depth.

Males migrate before females and establish territories in moist tundra in June. When males arrive, they display, and aggressive defense of their territory. The display song of the male is a fluty *poor-me* sung while circling high with quivering wing beats and tumbling to the ground with the wings held upward.

Red Knots nest on the ground, both near water and inland. They scrape a hollow for a nest and line it with leaves, lichens and moss. Males construct three to five nest scrapes in their territories prior to the arrival of the females. The female lays three or usually four eggs over the course of six days. Downy cryptic feathers cover the precocial chicks. They join with their parents away from the nest within a day of hatching and forage. The female leaves before the young fledge while the male stays on. After the young have fledged, the male migrates south leaving his young to make their first migration alone. How do they know where to go?

During their first year, juveniles have fine black and white edges to back and wing coverts creating a scalloped appearance. Juveniles are slightly slimmer than adults, with a distinct pink-buff wash on the breast and browner upper parts.

Perhaps as much as 90% of the population of North American Red Knots can be found in Delaware Bay, feeding on the eggs of spawning horseshoe crabs. The birds have become threatened as a result of commercial harvesting of these crabs, which began in the early 1990s. Delaware Bay is a critical stopover point during spring migration; the birds refuel on crab eggs almost exclusively. Delaware enacted a two-year ban on harvesting horseshoe crabs, but a judge struck it down, citing insufficient evidence to justify the disruption to the fishing industry. A male-only harvest has been in place in recent years. If horseshoe crab numbers in the Bay decline there may be fewer eggs to feed on, negatively affecting Red Knot survival. On the positive side, New Jersey state and local agencies have limited horseshoe crab harvesting and restricted beach access.

In Europe, Knots, as they are known there, face many local declines caused by the dredging of intertidal flats for edible cockles in the Dutch Wadden Sea.

To be assured of seeing a "patch", "fling", or "tangle" of Red Knots, take a trip to Delaware Bay, or visit Morecambe Bay on the west coast of England. You may want to see them on The Wash in eastern England too. Perhaps Queensland appeals to you more. If you spend a long day watching Red Knots there, you could enjoy a bottle of "good cheap wine" called Red Knot cabernet sauvignon.

Red Knots feeding on horseshoe crab eggs in Delaware Bay. Photo by Gregory Breese USFWS

