The **Red Knot**, *Calidris canutus*, a medium-sized sandpiper that is one of the longest-distance migrants in the Animal kingdom, has suffered sharp population declines in the New World since the mid-1980s. It has **received "Endangered" status** by the Committee on the Status of Endangered Wildlife in Canada. The U.S. Shorebird Conservation Plan ranks it in the highest concern category: **Highly Imperiled**. The subspecies *C. c. rufa,* which breeds in the Canadian tundra and "winters" 15,000 km away in Tierra del Fuego, is a **Candidate for U.S. Endangered Species Act Protection.** Declining availability of its main prey, horseshoe crab eggs, at Delaware Bay, USA, is considered the likely cause of the population decline of *rufa* Red Knots. Other threats include habitat degradation, and disturbance by dogs and humans at key migration stopover sites. Sea-level rise will also be detrimental.

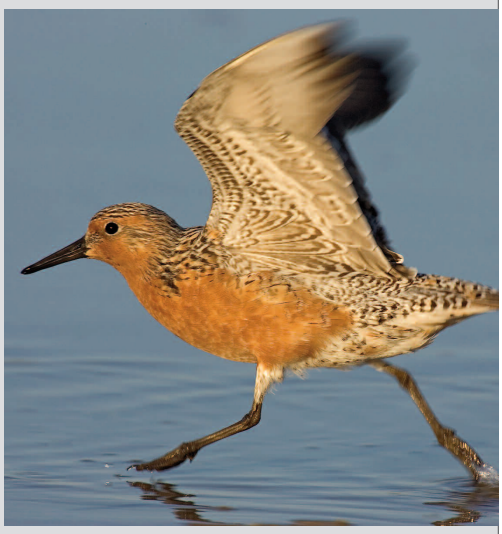

Photo: birdsasart.com

SHOREBIRD RECOVERY
RED KNOT
~ACTION SUMMARY~

Species Description

The Red Knot, *Calidris canutus*, is a highly migratory sandpiper. The colorful, russet breeding plumage that gives it its name changes to dull gray in "winter" (actually the austral summer). While globally there are six races of Red Knot, three, *C. c. islandica, C. c. rufa, and C. c. roselaari,* are native to the Western Hemisphere, and a fourth occurs on migration.

DISTRIBUTION OF NEW WORLD RACES OF RED KNOTS

Population Outlook

The population of the *rufa* Red Knot has declined dramatically since the mid-1980s. Previously estimated at 100,000-150,000, recent counts show that the wintering population in Tierra del Fuego dropped from 67,546 in 1985 to only 17,653 in 2005. Adult survival, the greatest influence on rates of population change, fell to 56% during 1999-2001 compared to 85% in the previous 5 years. The stark decline seems to be linked to the birds' inability to gain adequate fat reserves before leaving Delaware Bay, an important staging site.

Threats

Habitat degradation at traditional staging sites can affect large percentages of knot populations that congregate to prepare for long migratory flights by reducing the resources that attract them. **Decreased availability of horseshoe crab eggs** at the Delaware Bay staging site prevents northbound knots from arriving in good condition at the breeding grounds. **Chronic disturbance** by humans and dogs affects knots' ability to gain fat reserves at migration staging sites. All known major migration staging sites and most of the major wintering range are on temperate coastlines of both the New and Old World, where **sea level change** from global climate change is predicted to be greatest.

One of WHSRN's goals is to develop a consensus conservation agenda for the highest priority shorebirds and their habitats. We thank the following partners for the development and implementation of the **Red Knot Conservation Plan for the Western Hemisphere:** Lawrence Niles, Humphrey Sitters, Amanda Dey, and the Red Knot Status Assessment Group. For more information about this and other species' plans, please visit: **http://www.whsrn.org/shorebirds/conservation_plans.html**

WHSRN
WESTERN HEMISPHERE SHOREBIRD RESERVE NETWORK

Conservation Strategies and Actions

The recommended priority actions to protect Red Knots in the Western Hemisphere are:

By **2008**, develop a system for determining yearly population demographic status based on survey results, capture data, and resightings of banded individuals.

By **2008**, determine the genetic and breeding status of the three main non-breeding populations (Tierra del Fuego, Maranhao, and Florida).

By **2008**, achieve protection for key non-breeding habitats within Tierra del Fuego, Maranhao, and Florida; develop and implement management plans to guide conservation.

By **2008**, identify all important breeding locations in Canada, and recommend conservation action for the top 10 sites.

By **2008**, complete site assessments for (1) Bahia Lomas, (2) Rio Grande, (3) San Antonio Oeste, (4) Lagoa do Peixe, (5) Maranhao, (6) west coast of Florida, (7) Altamaha Region of Georgia, (8) Virginia Barrier Islands, (9) Delaware Bay, (10) Stone Harbor Point, (11) James Bay, (12) Southampton Island, and (13) King William Island.

By **2009**, determine key southbound and northbound stopovers that account for at least 80% of stopover areas supporting at least 100 Red Knots, and develop coastwide surveillance of birds as they migrate.

By **2010**, reduce impact of disturbance at all stopovers and wintering areas, particularly in high-importance, high-disturbance areas like Delaware Bay and the west coast of Florida.

By **2010**, connect all areas that hold >1% of the estimated population at each stage of the life cycle through a hemispheric-scale cooperative network.

By **2017**, recover and maintain Delaware Bay horseshoe crab egg densities at levels sufficient to sustain stopover populations of all shorebirds.

Migration

The Red Knot is one of the longest-distance migrants of the Animal kingdom, traveling from breeding grounds at the top of North America as far as southernmost South America. Knots make non-stop flights spanning thousands of kilometers. The principal *C. c. rufa* "wintering" (actually in the austral summer) zone is southern coastal Chile and Argentina. Large concentrations "winter" at Tierra del Fuego; lower numbers "winter" on the west coast of Florida and probably also on the Atlantic coast of northeast Brazil and Colombia. A population of 4,000 individuals winters in southeastern United States (mainly Florida); another of about 7,500 spends the non-breeding season on the north coast of Brazil. Neither of these populations is believed to have declined as sharply as the *rufa* population "wintering" in Tierra del Fuego. Substantial proportions of both Florida- and Brazil-wintering populations pass through Delaware Bay during northward migration, but banding studies show that these are distinct populations that do not interchange with the Tierra del Fuego knots.

- **Natural History:** Red Knots breed in northern/northwestern Alaska and northern Canada, typically arriving unpaired in breeding areas in late May–early June, depending on snowmelt. Timing for *C. c. rufa* is poorly known. Most *C. c. rufa* spend the non-breeding season on the coast of Tierra del Fuego; *C.c. roselaari* winters from California south to Atlantic and Gulf coasts; *C.c. islandica* winters in Western Europe.
- **Nesting habitat:** Arctic barrens and subarctic coastal plains in western Alaska and northern Canada. Red Knot nests are shallow scrapes on the ground dominated by stones, lichens, and tussock grass.
- **Foraging habitat:** During migration (both southward and northward) Red Knots frequent intertidal sandflats and beaches. In boreal winter on the coast of Tierra del Fuego they forage at specialized hard-packed *restingas* [rocky intertidal platforms] formations and extensive mudflats.
- **Important foods:** During non-breeding season, knots peck and probe for marine invertebrates, especially bivalves, small snails, and crustaceans. Diet in breeding season consists mostly of terrestrial invertebrates and occasional vegetation. Delaware Bay horseshoe crab eggs provide important food during northbound migration.

The Western Hemisphere Shorebird Reserve Network (WHSRN) is a partnership-driven, hemisphere-wide, site-based conservation initiative of the Manomet Center for Conservation Sciences, which is located in Manomet, Massachusetts.