



Submission to the Nunavut Wildlife Management Board

FOR DECISION

Issue: Request for approval of the proposed final *Recovery Strategy and Management Plan for the Red Knot in Canada*

Background:

- The draft recovery document was sent to the NWMB in June 2015 for the first jurisdictional review.
- A briefing note on the recovery document and the proposed consultation path was presented to the NWMB at their June 2015 meeting
- Community consultations on the recovery document were conducted from July to August 2015. Packages were sent to HTOs and regional wildlife organizations within the range of Red Knot. Packages included the draft recovery document, a presentation, a letter, a summary of the recovery document, and a questionnaire. A reminder email was sent on August 15, 2015 and follow-up phone calls were made in August. Environment Canada received the following responses:

Support / No Concerns: Arviat, Pond Inlet

No Response: Arctic Bay, Baker Lake, Bathurst Inlet, Cambridge Bay, Cape Dorset, Chesterfield Inlet, Clyde River, Coral Harbour, Gjoa Haven, Grise Fiord, Hall Beach, Igloolik, Iqaluit, Kimmirut, Kugaaruk, Kugluktuk, Omingmaktok, Pangnirtung, Qikiqtarjuaq, Rankin Inlet, Naujaat (Repulse Bay), Resolute Bay, Sanikiluaq, Taloyoak, Whale Cove.

- A second draft of the recovery document was sent to the NWMB in August 2015 for review.
- Environment Canada posted a proposed recovery document on the Species at Risk Registry in March 2016 for the 60-day public comment period, which ended on May 29, 2016.
- Environment Canada considered the comments received during the 60-day public comment period and revised the document.

- The recovery document includes critical habitat in Nunavut. This habitat is on Akimiski Island in James Bay (see attached map).

Next Steps:

- This briefing is the notification of the results of the consultations on the recovery document in Nunavut.
- Environment Canada is now prepared to post the recovery document on the Species at Risk Registry as final.
- Environment Canada is providing the recovery document to the NWMB for final approval decision as per the NLCA s. 5.2.34

Recommendation:

- That the NWMB considers whether or not they approve the proposed final *Recovery Strategy and Management Plan for the Red Knot in Canada* under the federal Species at Risk Act as per the NLCA s. 5.2.34.

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May 12, 2017

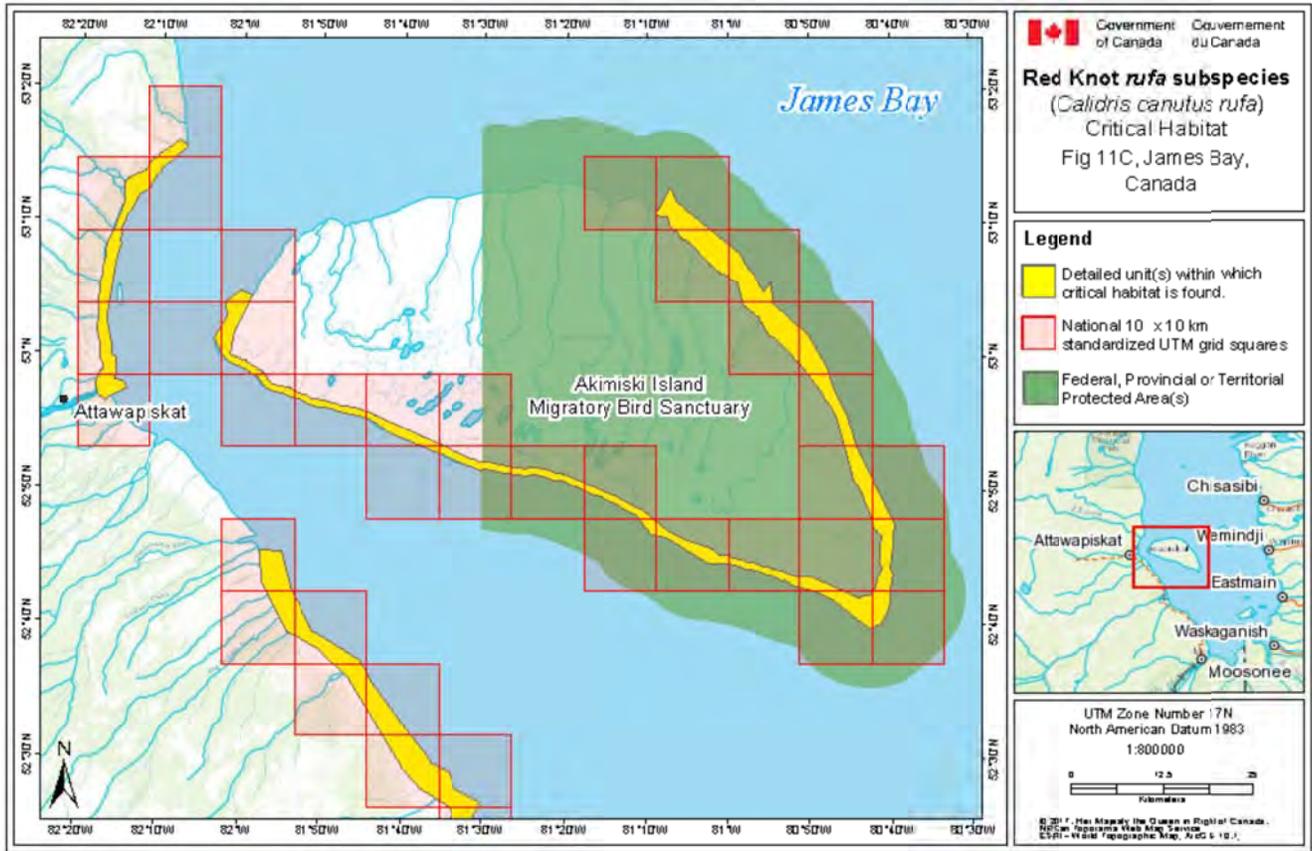


Figure 11c. Stopover critical habitat for *rufa* in James Bay is represented by the yellow shaded polygons where the criteria and methodology set out in section 7.1 are met. The 10 km × 10 km UTM grid overlay shown in this figure is a standardized national grid system that indicates the general geographic area within which critical habitat is found.



The *Species at Risk Act* and You

PROPOSED FINAL RECOVERY STRATEGY AND MANAGEMENT PLAN FOR RED KNOT IN CANADA

Summary

This is a summary of the information provided in the recovery document for Red Knot (*Calidris canutus*). Under the federal *Species at Risk Act*, three different subspecies were listed in 2012: *rufa* is listed as Endangered, *roselaari* is listed as Threatened, and *islandica* is listed as Special Concern. This summary will focus on the two subspecies that breed in the NWT and Nunavut (*rufa* and *islandica*)

The recovery document is a document that sets the goals and objectives for maintaining sustainable population levels for Red Knot.

This summary is based on the information in the full English version of the Red Knot recovery document. The original English copy of the recovery document has been provided for reference.



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Red Knot

Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Assessment and Species Status Information (Pages 1-3)

These pages provide the COSEWIC assessment table which is included here. It describes why COSEWIC has assessed Red Knot.

Date of assessment: April 2007

Common name (population):

- Red Knot *rufa* subspecies
- Red Knot *roselaari* type
- Red Knot *islandica* subspecies

Scientific name: *Calidris canutus rufa*; *roselaari* type; *islandica*

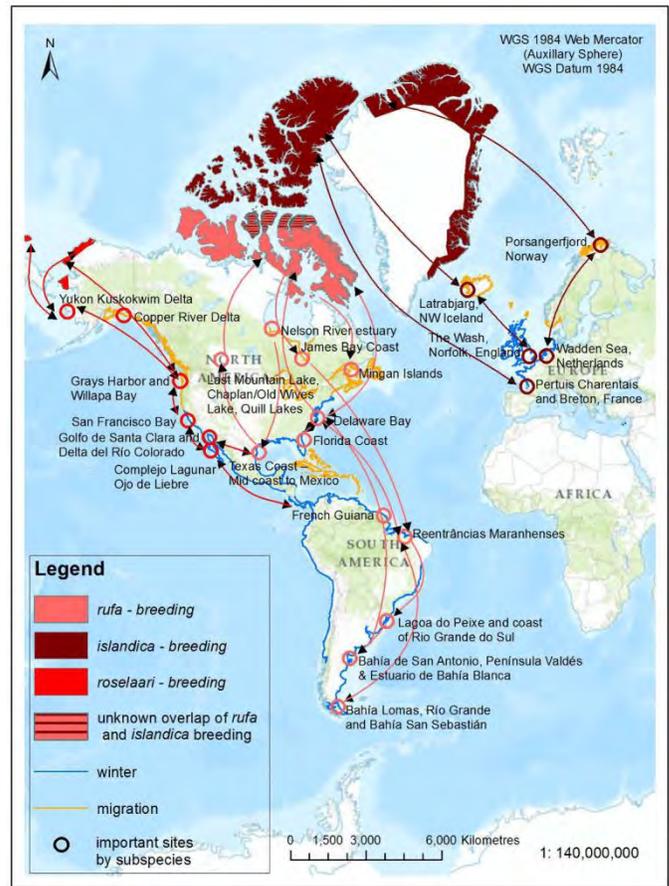
COSEWIC status: *rufa* = Endangered; *roselaari* = Threatened; *islandica* = Special Concern

Reason for designation (*rufa*): This subspecies is a medium-sized shorebird that breeds only in Arctic Canada and migrates thousands of kilometres between its Arctic breeding grounds and wintering areas at the tip of South America. The subspecies has shown a 70% decline in abundance over the past three generations (15 years). It is threatened by a depletion of horseshoe crab eggs, a critical food source used during northern migration. There is no potential for rescue from other populations.

Reason for designation (*roselaari*): This designatable unit includes the subspecies *roselaari* and two other populations that winter in Florida and northern Brazil and that seem to share characteristics of *roselaari*. The subspecies *roselaari* migrates through BC and breeds in Alaska. The migration routes and breeding areas of the other two populations are unknown. This group has declined by 47% overall during the last three generations (15 years). Ongoing threats include habitat loss and degradation on wintering sites and, for the Florida/SE US and Maranhão groups, depleted levels of horseshoe crab eggs, a critical food source needed during northward migration. Rescue from other populations is not anticipated.

Reason for designation (*islandica*): This subspecies is a medium-sized Arctic breeding shorebird that migrates to wintering grounds in Europe. Forty percent of the breeding population of this subspecies occurs in Canada. This subspecies has declined by 17% over the last three generations (15 years). There are no identified threats to individuals in Canada. Habitat on the Canadian breeding grounds is likely stable, but shellfish harvesting on the wintering grounds in Europe presents an ongoing threat.

This section also provides information on the status of the species throughout Canada, how it is protected in the Provinces and Territories and what rank of protection it has, and other types of protection that are provided to the species.



This is Figure 1 from the draft recovery document. It shows breeding and range for Red Knot in North America. The species typically winters in southern North America, South America and Europe.

Information about Red Knot (Pages 4-10)

This section of the draft recovery document for Red Knot provides some information such as what they look like, where they live, and what they need to survive.

- Red Knot is a medium-sized shorebird with a typical sandpiper profile: long bill and smallish head, long tapered wings giving the body an elongated streamlined profile, and longish legs. In breeding plumage, knots are highly distinctive, with face, neck, breast and much of the underparts coloured a rufous chestnut red.
- In Canada, *rufa* and *islandica* breed in the NWT and Nunavut.
- Red Knot winter from southern North America to South America, and Europe (see Figure 1).
- *rufa* populations declined steadily during the early 2000s. The population may have stabilized between 2009 and 2014 at a much lower level than in the 1980s and 1990s.
- In Nunavut, *rufa* breeds on Coats and Mansel islands in northern Hudson Bay, Southampton Island, Foxe Basin islands, the west coast of Baffin Island, probably through the west side of the Boothia Peninsula area, on King William Island, and on Victoria Island.
- The global population of *roseaari* is estimated to be approximately 17000. The population trend is not certain.
- *rufa* and *islandica* nest on the tundra at elevations less than 150m, and within 50m of the coast. After hatching, Red Knots require access to freshwater with insects to eat.
- At stopover sites, Red Knots use marine and estuarine habitats, and inland saline lakes, with low human disturbance. *rufa* rely on horseshoe crab eggs at US stopover sites.
- Red Knots are limited by Arctic weather, predator abundance, and access to stopover sites and food.

Threats to Red Knot (Pages 11-22)

This section of the draft recovery document describes the things that might cause Red Knot populations to drop. In Canada, the main threats are:

- **Housing/Urban/Commercial/Industrial Areas** – human development close to *rufa* and *islandica* habitat
- **Marine/Freshwater Aquaculture** – clam farming impacts the quality of *rufa* forage habitat
- **Mining/Quarrying** – increased mining activities and their associated infrastructure on *rufa* breeding grounds
- **Renewable energy** – habitat loss and collisions with wind turbines
- **Fishing/Harvesting of Aquatic Resources** – seaweed harvesting in Quebec has uncertain implications to *rufa* at stopover sites
- **Recreational Activities** – human disturbance from recreational users at *rufa* stopover sites
- **Dams/Water Management/Use** – Canadian prairies are under water management scenarios, which can impact food supplies/suitable roosting habitat for *rufa*
- **Invasive Species** – woody species or species that form bunches/mats reduce sparsely-vegetated/open habitats preferred by *rufa*
- **Predators** – predation from birds of prey may be increasing
- **Pollution** – *rufa* are at risk of pollution and shipping incidents in the Canadian Arctic and the Gulf of St. Lawrence. Some Red Knots

may be exposed to herbicides and pesticides from farming in Canada.

- **Habitat Shifting/Alteration** – warming climates, particularly in the Arctic, can change habitat, shift in food resources / breeding timing events, increase predation time, and change sea levels for *rufa* and *islandica*
- **Storms/Flooding** – a significant increase in number and strength of hurricanes in key *rufa* and *islandica* habitats

Mining/quarrying, and habitat shifting/alteration threaten Red Knot in the NWT and Nunavut.

Population and Distribution Objectives (*rufa*), and Management Actions (*islandica*) (Pages 22-23)

The recovery document has short and long term population objectives for *rufa* and *islandica*:

- **Short term (*rufa*, *islandica*)** – stop decline before 2025
- **Long term (*rufa*)** – increase and maintain populations at/above 1986-1990 levels (100,000 – 150,000 individuals)
- **Long term (*islandica*)** – maintain population at current levels

There are also distribution objectives:

- **Breeding (*rufa*, *islandica*)** – maintain the current known breeding extent of occurrence (the area that encompasses the geographic distribution of all known populations)
- **Migration (*rufa*)** – maintain all Canadian stopover sites with greater than/equal to 1% of the population

Four broad strategies are identified for Red Knot *rufa*: monitoring and research; habitat and species conservation and management; education and awareness, stewardship, and partnerships; and law and policy. A strategic direction has been outlined for *rufa* that includes a number of research and management approaches. For example:

- Determine causes of population decline and reduced adult survival
- Develop a long-term protected areas strategy for breeding habitat
- Develop beneficial management practices for the species, its prey, and their habitats

A strategic direction has been outlined for *islandica* that includes conservation measures, such as:

- Facilitate research to understand threats and requirements for recovery
- Promote cooperative action to legally protect the species and to promote compliance and/or enforcement of legislation

A detailed list of the strategic direction approaches and measures can be found in the recovery document.

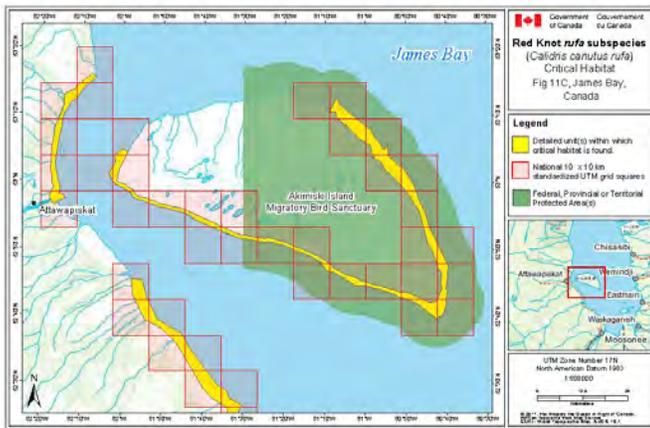
Critical Habitat (*rufa*) (Pages 27-46)

Critical habitat is only identified for Endangered or Threatened species. Using the best information available, critical habitat cannot be identified for breeding grounds at this time due to the difficulty in finding breeding pairs and nest sites that are thinly distributed over a large area in the Arctic.

However, critical habitat can be partially identified for stopover sites. Biophysical attributes for stopover sites include:

- Muddy/sandy/rocky coastal marine and estuarine habitats with large intertidal flats
- Access to adequate bivalves and other benthic invertebrates
- Roosting habitat close to feeding areas free from excessive human disturbance

At this time, only one stopover site has been located in Nunavut (Akimiski Island), and no sites are identified in the NWT.



A schedule of studies has been developed to identify critical habitat, and includes the following activities:

- Improve modelling of habitat use by *rufa*
- Enhance knowledge of habitat use by *rufa* through targeted surveys
- Determine the northern range limit of *rufa*
- Determine additional stopover habitat and its relative importance to Red Knot (i.e., proportion of each sub-population) in Canada

The draft recovery document also identifies Activities Likely to Result in the Destruction of Critical Habitat, which are any human activities which alter/disturb the biophysical attributes, reduce *rufa* access to or reduce the functionality of key habitat. For stopover sites, some activities include

off-road/all-terrain/motorized vehicle use, coastal development in roosting/foraging habitat, and construction of wind farms in roosting/foraging habitat. A full list of activities can be found in the draft recovery document.

Success of the population and distribution objectives will be evaluated every five years to determine if:

- Declining population trends for *rufa* and *islandica* have been halted or reversed before 2025 (Short term)
- *rufa* populations are increased and maintained at/above 1986-1990 levels, and *islandica* populations are maintained at current levels (Long term)
- Breeding extent of occurrence for *rufa* and *islandica* are identified and maintained in Canada
- *rufa* are maintained at all Canadian stopover sites identified with greater than, or equal to, 1% of the population



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 Red Knot



Proposed Final Red Knot Recovery Strategy and Management Plan



Jan van de Kam

June 2017
Species at Risk Program - Canadian Wildlife Service - Yellowknife, NT

Red Knot Description

- Medium-sized shorebird
- During the breeding season, the face, neck, breast and much of its belly are a brownish-red colour
- Nest on the ground within 50m of the coast
- 3 subspecies of Red Knot (*Calidris canutus*):
 - *C.c. rufa*
 - *C.c. roselaari*
 - *C.c. islandica*



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Red Knot *rufa* type (Endangered)



Reason for Designation

- Declined 70% in the past 15 years
- 2007 global population estimate: 42,000
- Breeding grounds only in Arctic Canada, wintering grounds at the southern tip of South America
- Depletion of horseshoe crab eggs during northern migration
- 100% of the global population breeds in Canada



Red Knot *islandica* type (Special Concern)



Reason for Designation

- Declined 17% in the past 15 years
- 2009 global population estimate: 450,000; Canadian population estimate: 80,000
- No threats to Canadian individuals, but shellfish harvesting in European wintering grounds an ongoing threat
- 40% of the global population breeds in Canada



Red Knot *roselaari* type (Threatened)



Reason for Designation

- Declined 47% in the past 15 years
- 2007 global population estimate: 17,000
- Habitat loss and degradation on wintering sites
- Depletion of horseshoe crab eggs during northern migration
- Migrates up western Canada towards Alaska
- Minor stopover points in Canada



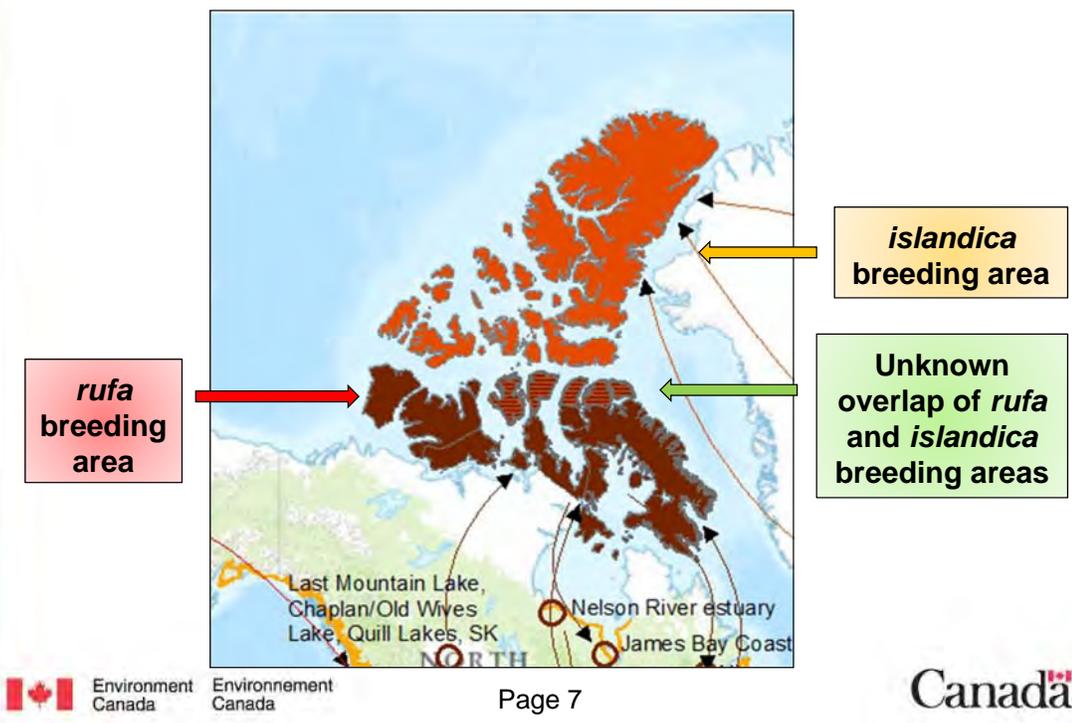
Recovery Document

Covers three subspecies of Red Knot found in Canada:

- *rufa* – breeds only in Canada (NWT, NU)
- *islandica* – breeds in Canada (NWT, NU) and Greenland
- *roselaari* – has a few minor stopover sites in western Canada and breeds in Alaska

Our presentation will focus on the two that breed in the NWT and Nunavut (*rufa* and *islandica*)

Red Knot Range – NWT and Nunavut

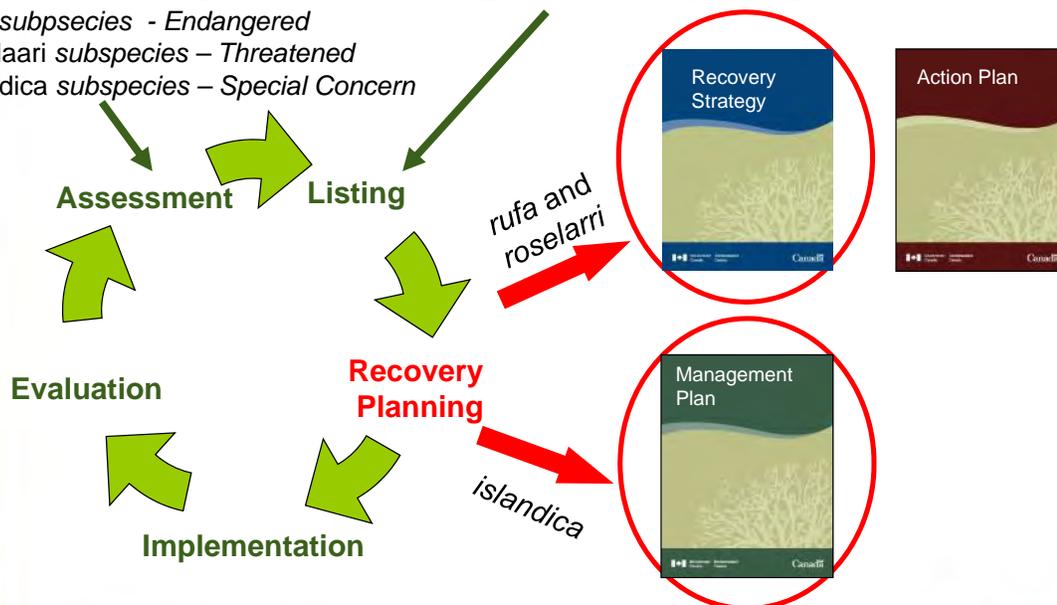


Federal Species at Risk Act (SARA) Process: *rufa* and *islandica*

COSEWIC-assessed in 2007

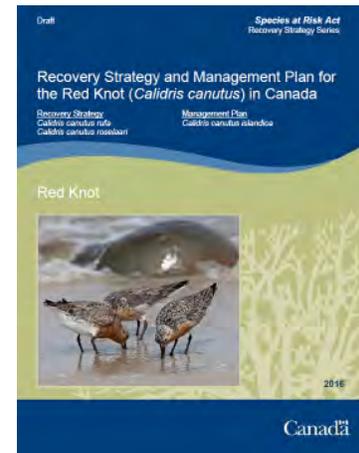
- *rufa* subspecies - Endangered
- *roselaari* subspecies – Threatened
- *islandica* subspecies – Special Concern

Listed under SARA in 2012



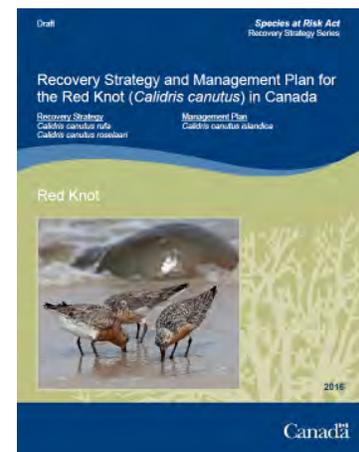
Recovery Strategy – *rufa/rosellari*

- Required for Endangered species within one year of listing, and within two years for Threatened species
- Includes measures to deal with the known threats to the species and its habitat and sets objectives for recovery
- Prepared in cooperation with wildlife management boards and directly affected Aboriginal organizations



Management Plan - *islandica*

- Required for species of Special Concern
- Must be prepared within three years of listing
- Includes measures for the conservation of the species and its habitat
- Prepared in consultation with wildlife management boards and Aboriginal organizations



Threats to Red Knots in Canada

- Breeding Area
 - Increased mining activities and infrastructure (*rufa*)
 - Habitat shifting / alteration due to climate change, prolonged periods of predation, sea level rise (*rufa, islandica*)
- Stopover Sites in Canada
 - Human development into habitat (*rufa, islandica*)
 - Clam farming impacts foraging habitat (*rufa*)
 - Seaweed harvesting (*rufa*)
 - Human disturbance from recreational users (*rufa*)
 - Water management impacts to food supplies and roosting habitat (*rufa*)
 - Invasive woody species or species that form bunches/mats reduce sparsely vegetated / open habitats (*rufa*)
 - Pollution and shipping incidents (*rufa*)
 - Increase in number and strength of hurricanes (*rufa, islandica*)



Population and Distribution Objectives

	SHORT TERM	LONG TERM
Population Objectives	<i>rufa</i> and <i>islandica</i>: Stop national decline before 2025	<i>rufa</i>: increase and then maintain the population at (or above) 1986-1990 levels (100,000 – 150,000 individuals)
		<i>islandica</i>: maintain the population at current levels

	BREEDING	MIGRATION
Distribution Objectives	<i>rufa</i> and <i>islandica</i>: maintain the current known breeding extent of occurrence (the area that encompasses the geographic distribution of all known populations)	<i>rufa</i>: maintain all Canadian stopover sites with greater than/equal to 1% of the population



Strategic Direction for Recovery

There are four broad strategies identified for achieving the population and distribution objectives:

- *Monitoring and research*
- *Habitat and species conservation and management*
- *Education and awareness, stewardship, and partnerships*
- *Law and policy*



Jennie Rausch

Strategic Direction for Recovery

- *rufa:*

Broad Strategy	Example: Research and Management Approach
Monitoring and research	Determine causes of population decline and reduced adult survival
Habitat and species conservation and management	Develop a long-term protected areas strategy for breeding habitat
Education and awareness, stewardship, and partnerships	Promote the establishment of a functional flyway-based network and develop a concerted strategy to engage partners and stakeholders
Law and Policy	Develop beneficial management practices for the species, its prey, and their habitats

Strategic Direction for Recovery

- *islandica*:

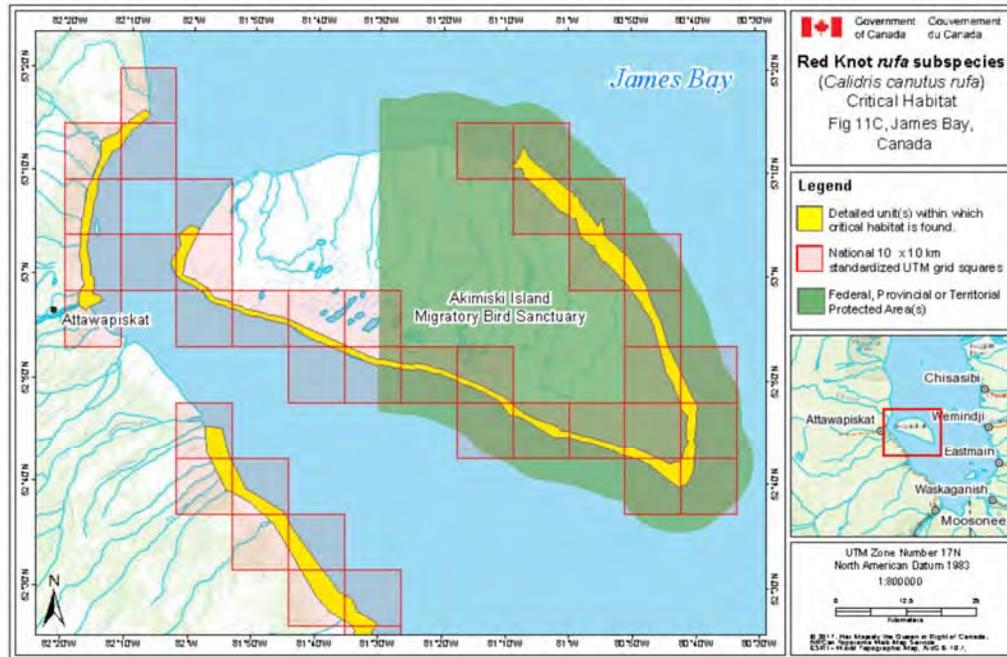
Broad Strategy	Example: Conservation Measure
Monitoring and research	Facilitate research to understand threats and requirements for recovery
Habitat and species conservation and management	Encourage the development of flyway frameworks and bilateral/multilateral agreements that promote cooperative action to manage and protect key sites
Education and awareness, stewardship, and partnerships	Promote public awareness of the species and its threats, especially the impacts of disturbance at foraging and roosting sites
Law and Policy	Promote cooperative action to legally protect the species and to promote compliance and/or enforcement of legislation

Critical Habitat: *rufa*

- Only required for Endangered/Threatened species, not species of Special Concern
- Partial identification of *rufa* critical habitat
 - Identified to the extent possible given the best available information
- Breeding critical habitat cannot be identified because it is difficult to locate nests, and breeding *rufa* are thinly distributed over a vast, remote area
- Stopover-site biophysical attributes of critical habitat can be identified
- A schedule of studies has been developed to address the information gaps

Critical Habitat: *rufa* Stopover Sites

- Example of stopover habitat in Akimiski Island (NU)



Additional Information for *rufa*

- To address information gaps for identifying critical habitat for *rufa*, two additional sections are included in the recovery document: Schedule of Studies, and Activities Likely to Result in the Destruction of Critical Habitat.
- Activities Likely to Destroy include any human activities which alter/disturb the biophysical attributes, reduce *rufa* access to or reduce the functionality of key habitat.

Schedule of Studies Examples	Activities Likely to Destroy Examples
<ul style="list-style-type: none"> - Improve modelling of habitat use using existing sightings - Enhance knowledge of habitat use through targeted surveys - Determine northern range limit 	<ul style="list-style-type: none"> - Off-road / all-terrain / motorized vehicle use - Coastal development in roosting / foraging habitat - Beach nourishment

Measuring Progress

	SHORT TERM (Before 2025)	LONG TERM (2025)
Population Objectives	rufa and islandica : declining population trends have been halted or reversed	rufa : populations have increased and are maintained at (or above) 1986-1990 levels islandica : populations are maintained (2016)
Distribution Objectives	BREEDING	MIGRATION
	rufa and islandica : maintained (at 2016 levels) in Canada	rufa : maintained at all Canadian stopover sites identified with greater than, or equal to, 1% of the population

*One or more Action Plans for *rufa* will be posted on the Species at Risk Public Registry within 5 years of the posting of this recovery document.



Request of the Board

- That the NWMB considers whether or not they approve the proposed final *Recovery Strategy and Management Plan for the Red Knot in Canada* under the federal Species at Risk Act as per the NLCA s. 5.2.34.

