

# Red Knot *rufa* subspecies

## Ontario Government Response Statement



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### Protecting and Recovering Species at Risk in Ontario

Species at risk recovery is a key part of protecting Ontario's biodiversity. The *Endangered Species Act, 2007* (ESA) is the Government of Ontario's legislative commitment to protecting and recovering species at risk and their habitats.

Under the ESA, the Government of Ontario must ensure that a recovery strategy is prepared for each species that is listed as endangered or threatened. A recovery strategy provides science-based advice to government on what is required to achieve recovery of a species.

Within nine months after a recovery strategy is prepared, the ESA requires the government to publish a statement summarizing the government's intended actions and priorities in response to the recovery strategy. The response statement is the government's policy response to the scientific advice provided in the recovery strategy. In addition to the strategy, the government response statement considered (where available) input from Indigenous communities and organizations, stakeholders, other jurisdictions, and members of the public. It reflects the best available local and scientific knowledge, including Traditional Ecological Knowledge where it has been shared by communities and Knowledge Holders, as appropriate and may be adapted if new information becomes available. In implementing the actions in the response statement, the ESA allows the government to determine what is feasible, taking into account social, cultural and economic factors.

The Recovery Strategy for the Red Knot *rufa* subspecies (*Calidris canutus rufa*) in Ontario was completed on December 7, 2018.

Red Knot is a medium-sized shorebird that undertakes lengthy migrations between South America and the Canadian Arctic. It has a long bill and legs, and a slender, streamlined body. During breeding, the face, neck, breast and undersides of the bird develop a chestnut red appearance.

## Protecting and Recovering Red Knot

Red Knot *rufa* subspecies is listed as an endangered species under the ESA, which protects both the bird and its habitat. The ESA prohibits harm or harassment of the species and damage or destruction of its habitat without authorization. Such authorization would require that conditions established by the Ontario government be met.

Red Knot have a wide global distribution and can be found in North and South America as well as in Europe, Asia, Africa and Australia. The species is known for extraordinary long-distance migrations between its breeding areas in the middle and high arctic and southern wintering areas. There are six recognized subspecies of Red Knot across the globe, three of which are found in Canada; *rufa*, *islandica* and *roselaari*. All three subspecies are considered at risk in Canada, but only the *rufa* subspecies is found in Ontario and provincially listed as at risk. The *rufa* subspecies breeds entirely within Canada, and the entire global population was estimated to be about 42,000 individuals in 2012; indicating a 70 percent decline in abundance over the last three generations (15 years). Several shorebird species found in the Western Hemisphere (the western half of the globe) have experienced recent declines, but declines in the *rufa* subspecies of Red Knot have been particularly severe.

In Canada, the Red Knot *rufa* subspecies (hereafter *rufa*) is listed as at risk under Ontario, New Brunswick, Nova Scotia and Newfoundland and Labrador species at risk legislation. Federally, *rufa* is listed as endangered under the *Species at Risk Act* and also receives protection under the *Migratory Birds Convention Act*. The conservation status of Red Knot has also been recognized in other jurisdictions throughout the Western Hemisphere including under the Convention on Migratory Species and in the U.S, Brazil, Argentina, Uruguay and Chile.

The *rufa* subspecies does not breed in Ontario but passes through the province during annual migrations between its wintering grounds in South America and summer breeding areas in Arctic Canada. In Ontario, *rufa* is primarily found at stopover areas (sites where birds rest and feed during migration) along the Hudson and James Bay coasts. Given the length of its migration, the Red Knot is heavily reliant on stopover areas with abundant, easily digested food (e.g., crab eggs and invertebrates such as insects, thin-shelled snails and clams) to recover after long flights and achieve sufficient body mass to complete its migration. Red Knot stopover areas are generally located in coastal or estuarine (areas where freshwater and seawater mix) habitats that provide quality foraging and roosting habitat and are relatively free of human disturbance. Collaborative research between federal and Ontario provincial governments has demonstrated that a significant portion (perhaps most) of the global population of *rufa* use the stopover areas

in Ontario's Far North before undertaking their southward migration. Concentrations of *rufa* are occasionally observed along the Lake Ontario shoreline; these concentrations are thought to result from birds temporarily ceasing migration due to harsh weather conditions.

During their northward spring migration, *rufa* rely heavily on eggs provided by spawning Horseshoe Crabs (*Limulus polyphemus*) at a stopover area at Delaware Bay in the United States. Although the threats impacting the species are not fully understood, overharvest of Horseshoe Crabs in Delaware Bay is thought to have been the primary cause of the decline. Horseshoe Crabs are currently harvested to provide bait for several important fisheries (e.g., eel, conch) as well as for human biomedical use, but were once heavily harvested for use in fertilizer and livestock feed. Overharvest resulted in declines in Horseshoe Crab numbers, reducing the availability of food for *rufa* and negatively impacting the birds' ability to survive migration. Horseshoe Crab harvest is now adaptively managed in Delaware Bay, and harvest restrictions appear to have resulted in crab population stability, although numbers have not rebounded to their previous levels. A stock assessment is currently being undertaken in the United States.

Within Ontario, the species may be threatened by pollutants, quarrying and mining, and wind power development. Coastal areas within Ontario (and most coastal areas within the global range of *rufa*) have the potential to be impacted by pollutant spills (e.g., oil) from shipping incidents. Spills can negatively affect both *rufa* and their invertebrate food sources. Increases in the length of the ice-free season in the Arctic are expected to result in increased shipping activity, further increasing the risk of spills. Contaminants associated with former military radar sites (i.e., the Mid Canada Line) may also impact *rufa* and their habitat, however, remediation is now in progress or complete for most sites in Ontario. Quarrying and mining activities near stopover areas in Ontario and Québec may also result in habitat loss or degradation. In addition, wind power development along migratory routes may result in mortality of birds as well as negative effects on bird behaviour and their habitat. Climate change and severe weather are likely to impact *rufa* throughout its range, particularly in staging areas and Arctic breeding areas. The exact nature of the impact of climate change on the species is unknown but may include changes in habitat and food availability.

Outside of Ontario, *rufa* may be impacted by: recreational activities that disturb roosting or foraging birds (e.g., hiking, boating, off-road vehicle use); urban, commercial and industrial development; invasive plants, water management or mining activities that reduce habitat suitability; and, direct harvest of the birds in southern wintering areas.

Given the inter-jurisdictional nature of threats and the species' reliance on a small number of key stopover locations, it is recognized that the recovery of *rufa* will require collaboration and recovery efforts at a variety of scales. Maintaining important migratory stopover habitats within Ontario and supporting inter-jurisdictional efforts to protect and conserve shorebirds will be key to the global recovery of the species and will be the focus of Ontario's efforts given the scope of the province's jurisdiction.

### **Government's Recovery Goal**

**The government's goal for the recovery of Red Knot *rufa* subspecies is to support the global recovery of the species by maintaining existing migratory stopover habitat in Ontario and supporting inter-jurisdictional recovery efforts.**

### **Actions**

Protecting and recovering species at risk is a shared responsibility. No single agency or organization has the knowledge, authority or financial resources to protect and recover all of Ontario's species at risk. Successful recovery requires inter-governmental cooperation and the involvement of many individuals, organizations and communities. In developing the government response statement, the government considered what actions are feasible for the government to lead directly and what actions are feasible for the government to support its conservation partners to undertake.

### **Government-led Actions**

To help protect and recover *rufa*, the government will directly undertake the following actions:

- Continue to collaborate with partners and other jurisdictions to fill knowledge gaps and implement conservation actions for arctic shorebirds through initiatives such as the James Bay Shorebird Project, Burntpoint Creek Research Station shorebird ecology studies, the Arctic Shorebird Demographics Network and Interactions Working Group.
- Continue to implement the *Ministry of Environment and Climate Change Emergency Response Plan (2017)* as necessary to respond to environmental spills within Ontario.
- Educate other agencies and authorities involved in planning and environmental assessment processes on the protection requirements under the ESA.
- Encourage the submission of *rufa* data to the Ontario's central repository through the citizen science projects that they receive data from (i.e., iNaturalist.ca, eBird) and directly through the Natural Heritage Information Centre.

- Undertake communications and outreach to increase public awareness of species at risk in Ontario.
- Continue to protect *rufa* and its habitat (i.e., migratory stopover areas) through the ESA.
- Support conservation, agency, municipal and industry partners, and Indigenous communities and organizations to undertake activities to protect and recover *rufa*. Support will be provided where appropriate through funding, agreements, permits (including conditions) and/or advisory services.
- Encourage collaboration, and establish and communicate annual priority actions for government support in order to reduce duplication of efforts.
- Conduct a review of progress toward the protection and recovery of *rufa* within five years of the publication of this document.

### Government-supported Actions

The government endorses the following actions as being necessary for the protection and recovery of *rufa*. Actions identified as “high” may be given priority consideration for funding under the Species at Risk Stewardship Program. Where reasonable, the government will also consider the priority assigned to these actions when reviewing and issuing authorizations under the ESA. Other organizations are encouraged to consider these priorities when developing projects or mitigation plans related to species at risk.

#### **Focus Area: Research and Monitoring**

**Objective:** Increase understanding of *rufa* population levels and trends, life history characteristics and the threats impacting the species in Ontario.

As *rufa* is reliant on a relatively small number of key stopover areas, including remote areas along the Hudson and James Bay coasts in Ontario, it is important to monitor the species and its habitat in these areas to evaluate the effectiveness of recovery efforts and adjust as necessary. Although monitoring efforts have been undertaken in several jurisdictions in the last few decades, they have not been carried out in a standardized, consistent manner; developing and implementing standardized monitoring protocols will help further knowledge of the species and global population size and trends.

Despite recent efforts, the reasons for the species’ decline are not fully understood, and further collaborative research is required to fill knowledge gaps related to threats and life history characteristics (including movement and migration) to better direct recovery efforts. Investigating the severity and extent of the threats affecting the species in Ontario will further our understanding of their impact on global recovery. Knowledge of *rufa* may be further improved by working with interested Indigenous communities and Knowledge Holders to understand Traditional Ecological Knowledge of the species and encourage its integration into collaborative management actions.

**Actions:**

1. **(High)** In collaboration with other jurisdictions, develop and implement standardized protocols to monitor *rufa* and its habitat within Ontario. Update protocols as necessary.
2. **(High)** Investigate the severity and extent of known and suspected threats to the species and its habitat within Ontario.
3. Collaborate with partners and other jurisdictions on research to better understand global population size and trends; migratory routes and behaviour; distribution and movement; and causes of population decline.
4. As appropriate, encourage the recording, sharing and transfer of Traditional Ecological Knowledge on *rufa*, where it has been shared by communities, to increase knowledge of the species and support future recovery efforts.

**Focus Area: Habitat and Threat Management**

**Objective:** Maintain the quality and quantity of existing migratory stopover habitat within Ontario, and support efforts to conserve key habitats outside Ontario.

Given the importance of the migratory stopover habitat in Ontario to the species, maintaining the quality and quantity of these habitats will be key to supporting *rufa* recovery globally. Efforts will focus on minimizing threats to the species in these key areas. Where habitat monitoring information identifies the need for efforts to maintain or enhance the quality of the habitat, they should be undertaken in collaboration with interested Indigenous communities and organizations as well as land users. Given the migratory nature of *rufa*, supporting efforts to conserve key habitats outside of Ontario will also be important to furthering recovery of the species.

**Actions:**

5. **(High)** Develop, implement, and assess the effectiveness of best management practices to minimize the impact of mining, quarrying and wind turbines on the *rufa* and their habitat.
6. Collaborate with partners and other jurisdictions on initiatives to conserve key habitats outside Ontario, such as efforts being undertaken through the Western Hemisphere Shorebird Reserve Network.
7. Where deemed necessary, undertake on-the-ground efforts to maintain or enhance migratory stopover areas within Ontario in collaboration with organizations, industry and interested Indigenous communities and organizations.



**Focus Area: Awareness**

**Objective:** Increase level of public awareness of and engagement in protecting and recovering *rufa* in Ontario.

*Rufa* is typically found in remote areas along the coasts of Ontario's Far North. These areas are traditionally used by Indigenous peoples, as well as for recreation and industrial development. As a result, the involvement of several groups and organizations will be necessary to implement recovery actions and promote awareness of the species and its threats. Collaboration between organizations will support coordinated implementation of actions, improve efficiency and prevent duplication of efforts. Increased promotion and volunteer participation in established survey and monitoring programs will further awareness of the species, as well as contribute to filling knowledge gaps.

**Actions:**

8. **(High)** Collaborate with conservation partners, industry and Indigenous communities and organizations to promote awareness of *rufa* among people engaged in development, recreation, traditional uses and stewardship activities in and around *rufa* stopover areas in Ontario by sharing information on:
  - how to identify the species;
  - the species' habitat requirements, including important migratory stopover areas;
  - the protection afforded to the species and its habitat under the ESA; and,
  - actions that can be taken to avoid or minimize impacts to the species and its habitat, such as minimizing disturbance of birds at stopover locations and reporting pollutant spills to the Ontario Spills Action Centre.
9. Promote awareness and volunteer participation in established surveys and monitoring programs, such as the Ontario Shorebird Survey.

## Implementing Actions

Financial support for the implementation of actions may be available through the Species at Risk Stewardship Program. Conservation partners are encouraged to discuss project proposals related to the actions in this response statement with the program staff. The Ontario government can also advise if any authorizations under the ESA or other legislation may be required to undertake the project.

Implementation of the actions may be subject to changing priorities across the multitude of species at risk, available resources and the capacity of partners to undertake recovery activities. Where appropriate, the implementation of actions for multiple species will be coordinated across government response statements.

## Reviewing Progress

The ESA requires the Ontario government to conduct a review of progress towards protecting and recovering a species no later than the time specified in the species' government response statement, or not later than five years after the government response statement is published if no time is specified. The review will help identify if adjustments are needed to achieve the protection and recovery of *rufa*.

## Acknowledgement

We would like to thank all those who participated in the development of the Recovery Strategy for the Red Knot *rufa* subspecies (*Calidris canutus rufa*) in Ontario for their dedication to protecting and recovering species at risk.

### **For additional information:**

Visit the species at risk website at [ontario.ca/speciesatrisk](http://ontario.ca/speciesatrisk)  
Contact the Ministry of the Environment, Conservation and Parks  
1-800-565-4923  
TTY 1-855-515-2759  
[www.ontario.ca/environment](http://www.ontario.ca/environment)