Rusty Blackbird Classroom Kit

Teacher's Guide

Dear Educator:

Welcome to Ecology North's Rusty Blackbird Classroom Kit! This resource has been developed as part of the Northwest Territories Species at Risk Program. It offers an NWT-focused perspective on some of the factors affecting species at risk, by taking a closer look at the rusty blackbird. The aim of the resource is to provide teachers with interactive, fun and fast ways to educate their students about this little known species and the factors affecting it in the NWT. The activities and information presented can easily be adapted to multiple grade levels.

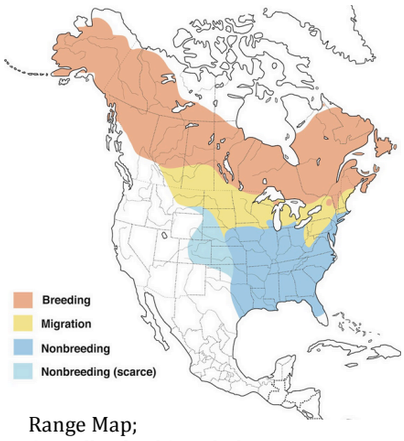
Science and Technology Curriculum Connections:

Grade 5 – Wetland Ecosystems
Grade 7 – Interactions and Ecosystems
Grade 9 – Biological Diversity
Science Focus Experiential Science 10 – Response of Animals and Plants to Changing Climate

Spring plumage;
Photo: eBird

Summer Habitat;
Photo: D. Cook

Summer plumage;
Photo: NWT Species at Risk



Range Map;
Cornell Lab of Ornithology

Fun Bird Facts: Rusty Blackbird *(Euphagus carolinus)*

Who am I?

The rusty blackbird is an important forest dwelling bird that ranges across much of North America. They have dark plumage, which can be black to brownish grey depending on whether they are male or female. They are sometimes called "rusties" because of the rust coloured edges of their feathers. They often travel with other birds, like red-winged blackbirds. The rusty blackbird plays an important role in forest ecosystems throughout its range.

Where do I live?

Rusties specialize in living in forested wetland habitat. They prefer to nest in spruce trees near water where they can hide easily from predators and find lots of food to eat in the water. The favorite foods of the rusty blackbird are aquatic insects and larvae that live in the mud and swim in swamps and forest pools. Rusty blackbirds make sturdy nests of sticks, moss and lichen, in low trees or shrubs near water. They make a new nest every year, and other birds often make use of the old nests.

In the fall they fly south to spend the winter in the southeastern United States. In the spring they migrate north to spend the summer in the boreal forests of Canada and Alaska. Rusties usually arrive in the NWT in May and leave again in October. The NWT is a key part of their summer range, and here rusties can find plenty of forested wetland habitat. Further south their habitat is becoming scarce, which has caused the number of rusty blackbirds in North America to drop dramatically in the past 50 years.

Why am I at risk?

Scientists estimate that the population of rusty blackbirds has dropped by 85% since the 1960's. In Canada it is listed as a species of special concern because the factors causing its decline are not improving – if it continues to decline it will eventually be at risk of extinction.

There are many factors causing the rusty blackbird population to decline. The biggest problem is the loss of habitat in its southern wintering grounds. Wetlands continue to be drained and forests are cleared to make room for farms and cities to expand. This reduces the amount of habitat available to rusty blackbirds and many other species.

Climate change is affecting habitats all around the world. The rusty blackbird is especially sensitive to changes because of its large migratory range. In the NWT the boreal forest is changing, wetlands are drying out, the tree line is moving northward, and forest fires are becoming more common and extreme. Scientists are worried that the effects of climate change are becoming an important factor affecting this sensitive species.

Gwich'in Knowledge

Gwich'in words for rusty blackbird:
tsilch'òo' (Teetł'it Gwich'in dialect)
tsilch'ù' (Gwichya Gwich'in dialect)

In the Mackenzie delta, blackbirds are only around for a short time in summer, but in some areas there has been a noticeable decline in populations of rusties and other songbirds.

What can you do to help?

Learning about species at risk is one of the best things we can do to help protect them. With this knowledge we can monitor how the population is doing and identify threats to its survival. Conservation of migrating species like the rusty blackbird can be tough, since it is very hard to change the things that are affecting them far away. What we can do is protect its habitat here in the NWT. By learning about the species we can see the importance of its boreal forest habitat, help scientists understand the role the rusty blackbird plays in the ecosystem, and address the threats to its survival here in the NWT.

Discuss, Challenge, Explore:

- **Connect to climate change:** Climate change is having many effects on NWT species. Discuss the effects of climate change.
  - *Average temperatures are rising.*
  - *New species are moving northward.*
  - *Wetlands may dry up. Dry conditions promote forest fires that burn hotter and longer. Burn zones may be great hunting grounds for predators. They also attract lots of insects.*

  How do you think the rusty blackbird will respond to these changes? It's important to continue looking for answers to this question if we are going to protect it from becoming endangered.

- **Species at Risk Show and Tell:** Have each student pick a species to research and present to the class. Work on skills important for scientific inquiry and learn about some of the other species at risk in the NWT. This website is a good place to start: http://www.nwtspeciesatrisk.ca/SpeciesAtRisk

- **Forest Bird Walk:** Take a walk in the forest and record your bird sightings. Report your sightings as a class to the international birding database, eBird, and engage students in a fun citizen science activity. Explore the site to find maps of bird sightings from around the world! http://ebird.org/content/ebird/about/

Get Involved:

Find more information, videos and activities related to the rusty blackbird, its boreal forest habitat, and the effects of climate change by visiting: http://ecologynorth.ca/our-work/environmental-education/

Take the time to learn about the species at risk in your area, and spread the word about how important birds are in our ecosystem.

Avoid disturbing birds or their nests.

Help protect the boreal forest, so that it can continue to provide shelter and food to humans, rusty blackbirds, and numerous other species.

Find simple ways to reduce your waste and energy consumption at home and in the school. Start a school project and fight against climate change!

Be a citizen scientist! Report sightings of species at risk to wildlifeOBS@gov.nt.ca.

More Bird Resources:

Migrations connect ecosystems around the world!

Check out this cool interactive bird migration map of North America, published by National Geographic. Although it doesn't include the rusty blackbird, it does offer an excellent perspective on bird migrations in the Americas. https://www.nationalgeographic.org/hires/1979-bird-migration-in-the-americas-map/

Make Connections:

- **Boreal Food Webs!**
  Draw a boreal food web. Label the trophic levels (producers, consumers, decomposers, etc.) and use arrows to show the direction energy flows through the system.

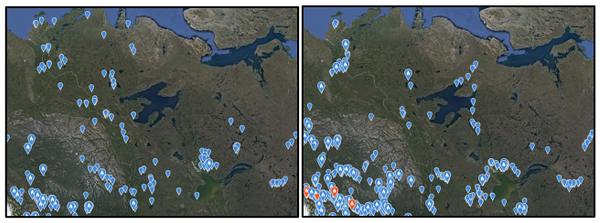
  Think about it…
  - *How many different animals and plants share this ecosystem, and how are they all connected?*
  - *Where does the rusty blackbird fit into the web?*

Citizen Science:

Here is a quick way to show how the rusty blackbird population has changed over time. Individual sightings submitted by birders can be used as a rough index of population size. The number of rusty blackbird sightings appears to have increased. Let your students analyze the data and generate their own questions and explanations.

eBird Sightings of Rusty Blackbird
(flame icons mark birding hotspots)

1998-2007 *2008-2017*



Outdoor Classroom:

Citizen science is all about getting outside and observing the world around you. You and your students can help contribute to our understanding of species at risk in the NWT. Get outside regularly, with your class. Bring your field notebooks; record the birds you see, the plants, the snow and ice. Draw pictures. Ask questions, and watch for changes in your environment.

Check out websites like eBird, NatureWatch, and LEO Network to see what other people have observed in your area.

Further Reading:

Climate change and the decline of a once common bird. McClure et al. 2012. Ecology and evolution, 2(2): 370–8. http://onlinelibrary.wiley.com/doi/10.1002/ece3.95/full

Peterson Field Guide to Western Birds. Peterson 1990. Houghton Mifflin Company, New York. p. 306-7.

Rusty Blackbird (*Euphagus carolinus*). NWT Species at Risk. http://www.nwtspeciesatrisk.ca/species/rusty-blackbird

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NWT Species at Risk

Government of Northwest Territories

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