

## BIRDS IN A CHANGING CLIMATE

More than 350 species of birds rely on the forests, wetlands, grasslands and farmlands of the Greenbelt during their life cycle. In the not too distant future, however, watching and listening for birds in the region will be a very different experience for the nearly 1 in 5 Ontarians who consider themselves a recreational 'birder'. Though habitat loss is the predominant driver of biodiversity loss in Ontario, Canada and around the world, human-induced climate change has emerged as a key and interconnected threat. As global temperatures rise, birds are facing a deadly combination of severe weather, increased frequency of fires and flooding, collapsing food webs, and heightened pressure from parasites and disease.

Even a minor shift in the seasonal timing of insect emergence due to climate change, could result in mismatched seasonal cycles of birds and their insect prey that could be disastrous for species with no alternative food source. Long distance migrants may be particularly hard hit due to storms and alterations in habitat and food sources along their migration routes, changes expected to result in longer, more perilous journeys and increased exposure to predation and starvation.

According to a 2015 Audubon study, 314 North American bird species are likely to lose more than half their geographic range by 2080, under various greenhouse gas emission scenarios. Of the 314 species, 188 are "climate threatened" and 126 are "climate endangered".

As these changes unfold, the Greenbelt will become increasingly important as a climate refuge, providing habitat that will buy time for birds and other animals to adapt. Connecting over 800,000 hectares of natural areas and farmland from Niagara to Tobermory and from Waterloo Region to Rice Lake, the Greenbelt affords vital greenspace for wildlife to persist and move across the landscape to find food and shelter, offering a buffer against added threats and uncertainty.

## CLIMATE IMPACTED BIRDS

**SOME 31 SPECIES OF BIRDS IN THE GREENBELT ARE ALREADY AT RISK, AND WILL BECOME INCREASINGLY VULNERABLE, AS CLIMATE CHANGE ADDS TO OTHER THREATS, INCLUDING HABITAT LOSS.**

Climate threatened birds are projected to lose over 50 percent of their current range by 2080, with potential to make up for losses through range expansion. Climate endangered birds are projected to lose over 50 percent of their current range by 2050, with no potential to make up for losses through range expansion.



Photo by David Watkins

### **Bobolink:** Climate threatened

This at-risk songster is one of several grassland birds experiencing steep population declines in Ontario. With one of its strongholds along the central and northern Niagara Escarpment in Grey and Bruce, it relies on grasslands, hayfields and other suitable farmland for breeding. By 2080 it is expected to experience an 80 percent loss of the areas where the climate is suitable for breeding.



Photo by Tom Murray

### **Eastern Whip-poor-will:** Climate endangered

This at-risk forest-dweller is one of several insectivores experiencing significant declines since the mid-1990s. There are still significant populations along the Bruce Peninsula and the Oak Ridges Moraine.<sup>1</sup> The Audubon model indicates it will lose 78 percent of its breeding range and 55 percent of its non-breeding range by 2080, noting that "its fate may be tied to how climate change affects its already disappearing habitat."



### **Ruffed Grouse:** Climate endangered

This hard-to-spot forest dweller is a year-round Greenbelt resident. The Audubon model projects a 34 percent decrease of its summer range and a 17 percent decrease of its winter range by 2080, by which time its distinctive courtship drumming is no longer likely to be heard in the Greenbelt.



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### **American Bittern:** Climate endangered

This secretive heron sports many nicknames - stake-driver, thunder-pumper, water-belcher and mire-drum - all of which reflect its unmistakable, guttural call. Currently a Greenbelt breeder, its summer range is not expected to extend south of Lake Superior by 2080.

<sup>1</sup> Breeding Bird Atlas, p. 313.

# CLIMATE ACTION THAT HELPS BIRDS

From a birder's perspective, the Greenbelt may not be silent in a few decades, but it certainly won't be the same. You may have noticed some of the changes already. There are steps you can take to help mitigate these impacts and preserve bird populations in and around the Greenbelt.

First, we must do our utmost to meet national and international greenhouse gas emission reduction targets. Beyond this, we must take action to mitigate impacts and help birds adapt to current and pending changes.

Implementing land-use and conservation plans that protect and improve the resilience of their habitats and support their movements across the landscape is a key action to support bird populations. Actions could include identifying and protecting areas of most importance to birds; restoring, buffering, expanding and connecting bird habitats; and reducing human-imposed stresses resulting from development, pollution, habitat fragmentation and invasive species.



## Decrease your carbon footprint

By using active transportation, eating local food, and choosing energy efficient appliances, you can reduce your own contribution to greenhouse gas emissions.



## Plant for good

Make your garden part of a healthy ecological system by choosing native plants. You can also participate in ecological restoration efforts in your community.



## Become a citizen scientist

The Great Backyard Bird Count and the Christmas Bird Count are annual events that engage over 160,000 volunteers to collect data on wild birds.



## Protect bird habitats

The protection and enhancement of important bird habitats across the Greenbelt and beyond gives birds the chance to survive and adapt.



## Speak up for birds

Effective laws and policies to conserve biodiversity and reduce greenhouse gas emissions are needed to reduce the impacts of climate change on birds and other wildlife.



The Greenbelt Foundation partnered with experts to understand how climate change is affecting our daily lives, and ways that we can individually and collectively respond to these challenges. For other installments in the series, visit [www.greenbelt.ca/changing\\_climate](http://www.greenbelt.ca/changing_climate)