

Kirtland's Warbler Habitat Restoration on the Oak Ridges Moraine

Re-establishing a Lost Ecological Community of Southern Ontario



The Oak Ridges Moraine Land Trust (ORMLT) is collaborating on an ambitious conservation project to restore critical habitat for Ontario's endangered Kirtland's Warbler. One of Canada's rarest songbirds, the Kirtland's Warbler depends on a highly specialized young pine-oak ecosystem that was once more widespread across the Great Lakes region. These ecosystems occur on sandy, well-drained soils and were historically maintained by natural wildfire cycles.

Known as the "bird of fire," Kirtland's Warblers nest on the ground beneath the protective cover of young Jack Pine and Red Pine branches and dense ground vegetation. These conditions are particularly abundant following wildfire. European settlement dramatically altered this landscape through land clearing and the suppression and disruption of natural fire cycles, contributing to the loss of the young pine-oak habitat on which the species, and many other fire-adapted species, depend.

This project represents an important opportunity to bring back a rare ecosystem while protecting the Oak Ridges Moraine and Greenbelt. Rather than manipulating existing habitat, ORMLT and its partners are actively restoring the ecological processes and habitat conditions needed to support the return of a species that was once part of Ontario's natural landscape. This is the first time this approach has been used for this species in North America.

Building a Connected Restoration Landscape

Since March 2023, three strategic properties in Northumberland County have been secured for Kirtland's Warbler habitat restoration, with support from federal and provincial programs, foundations, and private donors. The properties have been intentionally assembled to create a connected restoration landscape:

- In June 2024, 36.7 hectares were acquired less than 250 meters east of the original restoration property, providing an important opportunity to expand and connect suitable habitat.
- In March 2026, an additional 37.6-hectare property was secured approximately 1 kilometer to the south.

Together, these acquisitions are creating a strategically positioned cluster of conservation lands and an emerging restoration corridor in Northumberland County, increasing the scale and connectivity needed for a species that requires large areas of suitable young forest habitat.



Restoration in Action

Since 2023, restoration work at the MapleCross Featherstone Nature Reserve has already begun transforming the landscape:

- Nearly 85,000 trees planted
- Approximately 312,500 acorns planted
- 1,740 native shrubs planted
- 52 hectares (129 acres) actively restored
- More than 80 species of native grasses, shrubs and wildflowers seeded

The project is also creating opportunities for local people to directly participate in conservation. A volunteer seed-collection initiative has engaged Northumberland residents aged 55+ and students from Fleming College, connecting generations through hands-on ecological restoration while building local knowledge and stewardship capacity.

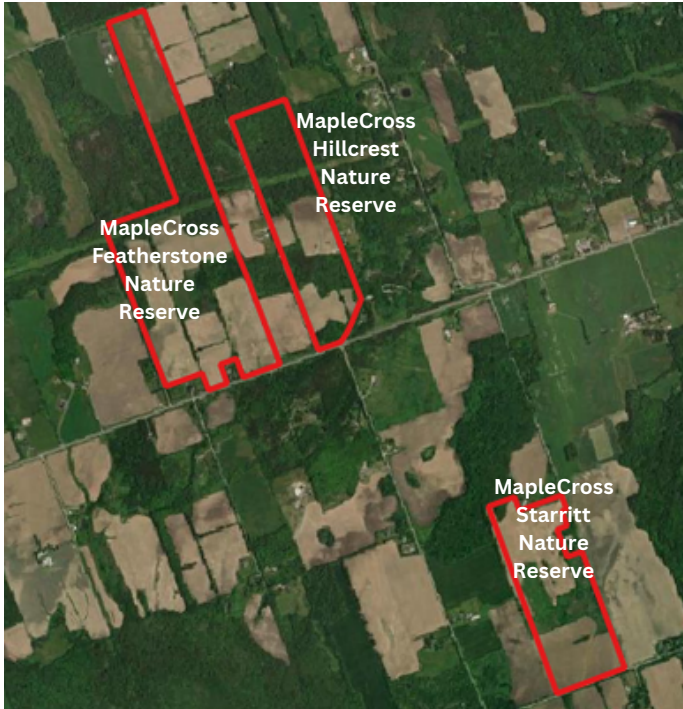
Why This Matters for Northumberland, and Ontario

This project demonstrates what is possible when land securement, ecological restoration, government investment, private philanthropy and community participation are brought together around a shared conservation goal.

The work is not only about recovering Kirtland's Warbler. Restoring pine-oak ecosystems increases habitat diversity, supports pollinators and other wildlife, strengthens ecological connectivity and contributes to the long-term resilience of the Oak Ridges Moraine and Greenbelt.

Most importantly, the project provides a tangible example of proactive conservation in Ontario: protecting land today while restoring the ecological conditions that allow threatened species to recover. The growing restoration landscape in Northumberland County has the potential to become an important demonstration site for how strategic land protection and restoration can help reverse biodiversity loss across the province.





Restoring the Kirtland's Warbler habitat in Ontario offers much more than habitat for a single species including:

1. Enhanced Biodiversity: Creating a robust ecosystem that benefits numerous native plant and animal species, including those at risk.
2. Habitat Connectivity: Facilitating wildlife movement, gene flow, colonization, and population stability by connecting habitats.
3. Improvement of Ecosystem Services: Enhancing water quality, soil retention, pollination, and pest control.
4. Habitat Health Indicators: The presence of the Kirtland's Warbler indicates reduced habitat fragmentation, the replacement of invasive species with native ones, and a balanced ecosystem.
5. Raising Conservation Awareness: Efforts to protect this endangered species will raise public awareness about biodiversity, restoration, and ecosystem management, promoting conservation efforts in communities.
6. Supporting and benefiting at least 30 other rare and at-risk species, including the Eastern Whip-poor-will, Eastern Meadowlark, Eastern Hog-nosed Snake, Yellow-banded and American Bumblebees, Bobolink, Red-headed Woodpecker, and Short-eared Owl, all listed as Species at Risk in Ontario.

Partners include; Fleming College, GEI Consultants, Mary Gartshore, Simcoe County, Nature Conservancy of Canada, American Bird Conservancy, Forest Canada, and the US Kirtland's Warbler Conservation Team.



Endorsements for the Kirtland's Warbler Restoration Initiative in Ontario

"This ambitious project to restore the habitat for Kirtland's Warbler and other species in southern Ontario is the type of conservation action that can inspire a generation! Not only will it protect important biodiversity, it will rebuild a "green infrastructure" that benefits us all. I'm very pleased to see the spirit of cooperation going on between American and Canadian agencies to achieve this. It's an example of an enduring cooperation that has successfully protected migratory birds for over 100 years under the Canada US Migratory Bird Act!"

Frank B. Gill, Former Senior Vice President & Director
for Science, National Audubon Society

"Part of the magic of nature is a sense of place. The loss of nature through man's activities brings with it a loss of a sense of place. Not just for the animals we love but also for our human society. We are all connected. Not only do I think that everybody should appreciate nature, but that they should also appreciate how nature engenders a deeper understanding of the places we live. This effort to restore the habitat for Kirtland's Warbler and other important species represents an opportunity to rebuild a sense of place rooted in the special nature that occurs in southern Ontario. I'm impressed and grateful that a new generation is tackling such an important task."

Robert Bateman, Naturalist and Painter





OAK RIDGES MORaine
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The Kirtland's Warbler habitat restoration started in Simcoe County with work at the Packard and Museum Forest tracts. In 2022, six singing male Kirtland's Warblers were found at the Packard site, delighting hundreds of visitors and showing that if you build it, they will come. In 2026, two males spent the summer at the Museum site, attracting hundreds of more visitors. Scan this QR code to watch Environment & Climate Change Canada's video "The Kirtland's Warbler: A Biodiversity Success Story" to learn more.

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We can't wait to share our future restoration successes with you!

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