

# ON nature

 Spring 2025  
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MAKING FORESTS MORE RESILIENT TO CLIMATE CHANGE p.24  
GREEN CORRIDOR CONNECTS COOTES WITH THE ESCARPMENT p.28  
CLIMATE ACTION NEEDS ELECTORAL REFORM p.38

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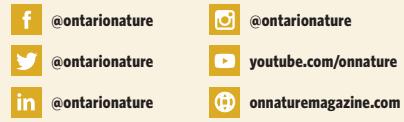
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# A Time of Change

By Caroline Schultz

**S**pring is the season of renewal. At this time of year, we all find joy as the trilliums and trout lilies emerge from the forest floor. We wonder when our favourite songbirds will return to stake out breeding territories and fill the woods with melodious song. We're awed by how spring peepers—a small wetland frog—can produce such deafening choruses. The transition from winter to spring is a magnificent force of nature.

Changes are also on the horizon for our political landscape. With a federal election looming, this issue of *ON Nature* magazine urges us to support leaders who are forces for nature. Conor Mihell's profile of the Cootes to Escarpment EcoPark System ("Ribbons of Green," page 28), an interconnected mosaic of greenspace that a variety of landowners around Hamilton manage cooperatively, is timely. Construction of the controversial Highway 413 is set to begin this year, fragmenting other ribbons of green that are essential to enabling the movement of fauna and flora through southern Ontario's patchwork quilt of human development.

Well-known creatures like eastern wolves and Blanding's turtles are not the only species that benefit from connected habitat. As Brian Banks shows in "As the Dragon Flies" (page 18), researchers are just discovering how common green darner dragonflies rely on a variety of ecosystems in making remarkable migrations, spanning multiple generations of insects, from Mexico and Central America to Ontario. Forests are also more diverse and resilient when they are linked through uninterrupted corridors. Jade Prévost-Manuel's story, "Growing Stronger" (page 24), explores the work of scientists at the Petawawa Research Forest and in other Ontario locations to make trees more resilient to climate.

We must elect leaders who recognize the potential of leveraging natural solutions to climate change rather than electing those with destructive outlooks. Furthermore, we must call on our governments to finally act on electoral reform. In her Last Word article (page 38), Sharon Sommerville makes a compelling case that proportional representation facilitates cooperation among political parties. Denmark's electoral system has produced enviable climate laws that can serve as a template for strong and lasting environmental policies in Canada.

Finally, Ontario Nature is also entering a period of transition. While I prepare to retire from my 19-year tenure as executive director, I reflect on the joys of working with a dedicated, passionate and insightful staff and board of directors and an incredibly diverse community of supporters. I am proud of the gains we have made for conservation in Ontario, including raising awareness with this great magazine. I also know we cannot—and trust we will not—rest on our laurels as seasons change in the future. 

Caroline



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# Earth Watch



**The Fact Is:** Invasive Norway maples are common on Ottawa's Parliament Hill. Once introduced to a forest, Norway maples quickly spread and outcompete native trees such as sugar maples and red oak.



**Poor sucker:** Black redhorse discovery is a beacon of hope for the threatened species.

## Rare Fish in Thames River

By Dan Schneider

**A** recent study has confirmed that the rare black redhorse, a species of sucker, still exists in the Thames River watershed.

"It's a threatened species at risk and there are relatively few records of it in Canada, so any time that we find them is significant," says Erin Carroll, aquatic biologist with the Upper Thames River Conservation Authority (UTRCA).

The three-year survey, which Fisheries and Oceans Canada supported, examined locations in the Upper Thames watershed where the fish were likely to be found. This species lives in fast-flowing, cool, medium-sized rivers and creeks. They require water with low turbidity and strong levels of dissolved oxygen.

"Excess nutrients, metals, salt, pesticides and pharmaceuticals can combine to make a section uninhabitable," notes Carroll. Drought and severe weather events, more common now due to climate change, pose a threat to the species, as does development along creeks or rivers.

The black redhorse's intolerance of poor water quality makes it an indicator species for habitat conditions. "Just knowing that they're there helps indicate the level of water quality," says Robert Messier, ecologist with the neighbouring Grand River Conservation Authority. Fisheries scientists consider the Grand and Thames the main Ontario rivers with black redhorse populations.

In addition to searching for the black

redhorse, the project implemented management practices and stewardship to improve and protect river and creek habitat. The UTRCA, along with local landowners and volunteers, worked on erosion control, planted cover crops and replanted riverbank areas. They also planted more than 20,000 trees to buffer and protect black redhorse habitat.

The survey team recorded 24 sightings of black redhorse at 19 different sites. At two locations, they found the species in each of the study's three years, which will help inform the focus of future protection efforts. "It's a small victory," says Carroll, "and it's a sign that local conservation efforts are working."



## Breeding Bird Atlas Findings

By **Sharon Oosthoek**

Canada's grassland birds are in trouble. Their populations are down by 67 percent since 1970, according to the latest State of Canada's Birds report released in October. The news is mixed for aerial insectivores: the species' numbers have plunged by 43 percent since 1970, but that decline seems to be levelling off, and some species may even be recovering. Firmly on the upside, waterfowl populations have risen by 46 percent and birds of prey by 35 percent in that time.

Ontario patterns mirror some of the national trends. Preliminary counts from volunteers across the province for the third Ontario Breeding Bird Atlas indicate that grassland species such as upland sandpipers and loggerhead shrikes are showing up in fewer regions, says atlas coordinator Mike Burrell, a zoologist with the Canadian Wildlife Service (Ontario). He points to agricultural fields being turned from pasture or hay that serve as the birds' habitat to

corn or soybeans and increased use of pesticides as two reasons for the drop. Aerial insectivores such as the purple martin are also declining significantly, possibly due to climate change-induced mismatches between the timing of insect populations and bird breeding.

"It's easy to focus on the negative," says Burrell. "But there are plenty of good-news stories." For example, birds of prey such as bald eagles have increased substantially



across the province in the past few decades as levels of eggshell-thinning DDT dropped after the pesticide was banned. Red-bellied woodpeckers and common ravens are also expanding their ranges. Red-bellied woodpeckers, historically a southern Ontario species, are spreading north with warming winters while ravens are edging south from the Canadian Shield. “We’re not sure why they have spread south so quickly, but corvids [which include ravens] are generally

regarded as some of the smartest birds we have,” says Burrell.

The Ontario Breeding Bird Atlas is a partnership between Birds Canada, Canadian Wildlife Service, Ontario’s Ministry of Natural Resources, Ontario Field Ornithologists and Ontario Nature. The third edition is now in its final year of data collection, and results are slated to be published in the fall of 2027.

Jenna Quinn, Ontario Nature’s conservation science manager, says that both the

**Fragile futures:** New report reveals mixed trends for the more than 280 breeding birds in Ontario.

report and the atlas highlight the success of restoration work conservation organizations have done, especially in wetlands, but more needs to be done. “For grasslands, meadows and alvars, [restoration] is really important,” she says. “We know they’re limited in our province.”

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## Spring Species Watch



### Ruby-throated Hummingbird

This fast and agile hummingbird, which feeds primarily on flower nectar, can be identified by its brilliant green plumage and red throat on the male.

By **Illian Brasselet-Darracq**



### Trillium

Trilliums require undisturbed mature forests and can take up to 10 years before they flower. If a trillium flower is plucked, the plant may not bloom again for seven years.

By **Rajinstan Kamalraj**



**Tragic tale:** Some 850 trees were cut for development, which includes a private spa.

## Farewell to Nature at Ontario Place

By Brian Banks

It was a slow death with a sudden end. Last October, the hope of preserving a vital urban forest and public park on the west island of Ontario Place in Toronto was effectively laid to rest. That is when Infrastructure Ontario crews, at the bidding of the provincial government, cut down 850 trees in less than 48 hours—paving the way for the construction of a planned spa complex on the nine-hectare property.

One final appeal was heard in January of this year, when the grassroots group Ontario Place Protectors challenged the provincial government's legislation enabling the project before the Ontario Court of Appeal. A ruling was still pending at press time, but win or lose, it is already too late for a waterfront site that was an important stopover for migratory birds in spring and fall and a winter haven for waterfowl from the Arctic.

"You also had other wildlife: foxes, beavers, muskrat, mink," says Zunaid Khan, past president of the Toronto Field Naturalists. The destruction of the park is a loss for the community too, he adds. "One of the issues in an urban environment is having equity of access to nature. We have a

long history of leading walks in that area because of the nature education opportunities it provided. And for people who aren't nature nerds like me, it was just a nice place to relax."

Catharine Nasmith, co-founder of Ontario Place Protectors, says her group is "extremely disturbed" by the project's environmental impact, while noting that the court challenge also addressed the legislation exempting the project developer, Therme Group, from all provincial heritage and environmental laws. The worry is that by setting a precedent, the move could enable the government to take the same course on future projects.

Adding to that concern are revelations in the Auditor General of Ontario's annual report released last December, says Tony Morris, conservation policy and campaigns director at Ontario Nature. The report concludes that the process used to award Therme a 95-year lease for the public land was not "fair, transparent or accountable."

"The arguments the government is using to justify the project don't stand up to scrutiny," says Morris. "Basically, it's development at all costs."

## Regenerative Tourism

By Nicola Ross

At the World Trails Network conference, held in Ottawa last September, more than 400 delegates from 35 countries were abuzz about a concept called regenerative tourism. Building on lessons from regenerative agriculture, which uses practices that improve the environment, organizations that follow the approach strive to involve and provide benefits to local residents, businesses and natural ecosystems.

According to Emilie Comeau-Sinclair, executive director of strategic initiatives at Destination Development (part of Destination Canada), a crown corporation that promotes tourism, regenerative tourism shifts the focus from volume (the number of visitors) to value (how tourism benefits businesses and the local economy). Destination Canada's 2023 report notes "the growing demand for experiences that are deeply meaningful and environmentally responsible, enriching both the guest and the host community." The report urges tourism organizations to regenerate "the vitality of our places" by incorporating a sense of place, thinking of places as living ecosystems, cultivating broad relationships, inviting contributions from locals and practising stewardship.

Trail organizations that follow these principles partner with local residents and businesses in managing hiking paths, creating post-hike events or festivals and providing signage about the trails' history and ecology, among other activities. They also join forces with communities to mitigate negative impacts of hiking, such as littering, trespassing and the spread of invasive species.

The Bruce Trail exemplifies many of these principles. Michael McDonald, CEO of the Bruce Trail Conservancy, says that "we have to consider the infrastructure that hiking requires, for instance parking and washrooms, and not just the trail itself." He adds that the conservancy does not only care for the natural landscapes the trail crosses but also engages others in protecting them.



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### **Andrew Interisano**

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The Natural History Museum listed this photo as Highly Commended in its prestigious wildlife photography competition. Interisano, a Creemore-based marketer and storyteller, works for BAM Strategy.

## Earth Watch

### Anti Greenwashing

By Douglas Hunter

The federal government has revised the Competition Act to address “greenwashing”—the practice of making false or misleading statements about the environmental benefits of a product or service. Some organizations argue that the new law goes too far while others see it as not going far enough.

It is now illegal to make “a statement, warranty or guarantee of a product’s benefits for protecting or restoring the environment or mitigating the environmental, social and ecological causes or effects of climate change that is not based on an adequate and proper substantiation in accordance with internationally recognized methodology.” Changes to the act also expand the definition of who can bring complaints before the federal Competition Tribunal, allowing environmental activists and climate advocacy groups, for example, to lodge complaints.

The amendments have been criticized for insufficient scope. The Canadian Association of Physicians for the Environment, Ecojustice, Équiterre and the Quebec Environmental Law Centre had pushed for expanding their reach to cover environmental claims that promote “activities, brands, and entities.” Meanwhile, Pathways Alliance, which represents Canada’s largest oilsands companies, was so unhappy with the changes to the law that its members ceased all public communications about environmental initiatives when it came into effect. The group argued that the revised section “opens the door for frivolous litigation, particularly by private entities who will now be empowered to directly enforce this new provision of the Competition Act.”

The Canadian Climate Law Initiative, meanwhile, said that while companies must be careful about statements that could be perceived as greenwashing, “they should not fear or refuse to publicly disclose climate-related information.” The organization added, “Companies should engage in real climate actions, avoid boilerplate disclosures, get third-party verification, and be transparent in their communications.”

Whether the revised act affects companies’ environmental claims remains to be seen. The impact of the changes also depends on the outcome of the next federal election, which must be held by October 20, 2025.

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### Landfill Space Rapidly Running Out

By Ron Corkum

Ontario has a waste problem. According to the latest data from Waste to Resource Ontario, an association representing the waste management and recycling sector, current landfill capacity will be exhausted within nine years. Today Ontario ships close to a third of its garbage to the United States. Michigan, the prime recipient, plans to stop accepting it, further reducing space for Ontario's waste. New or expanded landfills take up to a decade to establish, and local communities are understandably reluctant to welcome such facilities.

The Auditor General of Ontario reported that half of residential waste was recycled but only 15 percent of non-residential waste was likewise treated in 2018. Municipalities responsible for managing residential waste, which represents about 40 percent of Ontario's garbage, have widely varied recycling requirements, while institutions are not required to separate recyclables or compostable waste.

Owners of waste incinerators argue that incinerators can dispose of waste while

producing energy. The two existing facilities in Ontario are both proposing expansion. The process, however, generates significant greenhouse gas emissions and harmful pollutants,



including dioxins and furans, particulate matter and sulphur dioxide. Moreover, the ash from incineration, which can weigh as much as a third of the weight of the original waste,

must be transferred to landfills. Karen Wirsig, senior program manager at nonprofit Environmental Defence, says that "approving an incinerator is basically like saying, 'We believe in generating lots of waste, burning it in someone's backyard and burying the by-product in someone else's backyard for years to come.'

The Ontario government is implementing an extended producer-responsibility program that shifts responsibility for waste diversion from municipalities to producers. Wirsig notes, however, that this program has shown limited effectiveness so far and covers only residential waste.

"Most small businesses have no viable alternative to pitching their waste in the garbage for disposal," says Wirsig. "This urgently needs to change." She argues that the provincial government should promote options such as repair and renewal of old furniture, clothing and appliances, as well as elimination of unnecessary packaging and single-use products.

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**Turning the tide:** The government is undermining the integrity of conservation authorities.

## Developing Conservation Authority Land

By Anne Bell

The provincial government recently asked conservation authorities (CAs) across Ontario to prepare strategies and land inventories for the areas they own and manage. The inventories must identify whether any sites are suitable for housing development, a request raising concerns among conservation and community organizations.

According to Susan Watson, a founding member of community group Get Guelph Involved, the regulation “sets the table for a province-wide land buffet for developers.” In particular, she points to Grand River CA’s decision to declare surplus eight hectares of prime agricultural land within the former Kortright Waterfowl Park. Currently farmed, the land connects and creates buffers around nearby wetlands and woodlands and is less than 20 metres from a Provincially Significant Wetland. The property also falls within an area that provides habitat for a mixed wader nesting colony and five species at risk.

The government says that the information it collects will inform CA decisions about the lands they own and manage, but Tony Morris, Ontario Nature’s director of conservation policy and campaigns, wonders why CAs’ precious protected land should be considered for development. “The government’s own Housing Affordability Task Force said that there is already enough land available for development,” he says. “Continuing to sacrifice vital

natural areas will not solve the housing crisis.”

Many CAs explicitly reject disposing of land for development. Conservation Hamilton’s policy states, for example, that no properties with existing or potential ecological significance would be considered for disposition, and that in the unlikely event of a disposition (none are currently considered), it would seek to direct proceeds to securing additional lands for conservation.

When CAs do dispose of lands, it is generally because the properties do not support their programs and services or meet priorities for protection and restoration. In some cases, the CAs may consider land transfers if they identify more appropriate stewards, such as federal, provincial or municipal governments. Several CAs, including Lakehead Region and South Nation Conservation, would only contemplate disposition to secure lands of greater environmental, economic or social benefit. Toronto and Region CA stipulates that lands would be disposed of only if a net ecological benefit could be achieved.

Rick Wilson, data and analytics manager at Conservation Ontario, takes comfort in the fact that “CAs have more protections on their properties than they did in the past.” He cites conservation easements and the federal Ecological Gifts Program among measures that ensure lands are permanently held for conservation.

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### Ontario Nature Enlarges its Gananoque Lake Nature Reserve

By Smera Sukumar

The Frontenac Arch, one of the most biologically diverse areas in Canada, has gained greater protection with the expansion of the Gananoque Lake Nature Reserve. With the support of numerous organizations and individuals, Ontario Nature has acquired an additional 23 hectares of conservation lands. “It’s rare to find intact habitat where we can maintain connectivity and corridors for species,” says Caroline Schultz, Ontario Nature’s executive director.

The area abounds in habitats essential for 18 species at risk and 20 rare species—from eastern musk turtles basking along the natural shoreline of Gananoque Lake to breeding cerulean warblers calling from the treetops in the deciduous forests. The property features deciduous and mixed forests, treed swamps, open rock outcrops, Provincially Significant Wetlands and a thicket swamp.

The Yates family owned the land previously. Dr. Stephen Yates has been caring for

the Gananoque Lake property since 2020 as a volunteer and will continue in this role. “We’re just stewards, taking care of the forest for the next generation,” he says.

The long-term vision for the nature reserve is to allow the forest to mature and to protect the established wetlands. The waterfront provides access for field research in the lake and wetlands and along the shoreline without disturbing the pristine habitat and at-risk species. Protecting



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the property will bolster habitat connectivity along the Algonquin to Adirondacks corridor and adjacent protected areas such as Ontario Nature's Lost Bay Nature Reserve, Thousand Islands National Park and other land trust properties.

Ontario Nature's 26 nature reserves now protect 3,182 hectares of rare and vulnerable habitats that support many species at risk. Staff have mapped habitats and, together with expert naturalists, have begun

**Protected paradise:** *The property is habitat for at least 18 species at risk.*

documenting species at the new property, which will inform its management. While Gananoque Lake Nature Reserve is not open to the public, people interested in learning more about it or volunteering at any of Ontario Nature's 26 nature reserves can find more information at [ontariornature.org/nature-reserves](http://ontariornature.org/nature-reserves).

*This project was undertaken with the financial support of the Government of Canada through the Natural Heritage Conservation Program (part of Canada's Nature Fund), the Flanagan Foundation, Ottawa Field Naturalists Club, Kingston Field Naturalists, Waterloo Region Nature and many Ontario Nature members.*

**Winged wanderers:** Common green darners migrate long distances in search of suitable habitat.



# As the Dragon Flies

The annual migration of common green darner dragonflies is less understood than that of monarch butterflies, but scientists are starting to discover just how epic these insects' journeys are.

By Brian Banks



COMMON GREEN DARNER DRAGONFLY

**T**he swarm envelops David Bree as he approaches the beach at Presqu'ile Provincial Park. Hundreds of dragonflies are whizzing around him, snap-turning in every direction as though attached to invisible yo-yo strings, then suddenly changing course, again and again.

He points his camera above and clicks, freezing the action. In the image: a seemingly chaotic squadron of tiny flying figures silhouetted against a pale blue background; T-shaped insects with thick round heads and bodies, rigidly perpendicular wings and long, thin tails, tilted at all angles, facing every way.

Bree had seen this spectacle before. As chief park naturalist at Presqu'ile for 16 years before retiring in 2021, he has come to view this annual gathering of common green darners, one of North America's largest and most ubiquitous dragonfly species, as a highlight of the late-summer season. "If you walk through the fields and along the shoreline anywhere in Prince Edward County in the first week of September, you can often scare up hundreds of green darners," he says.

At other times, getting a close encounter with even one of these colourful insects—named for their iridescent green face and thorax—requires more effort. In spring and

**Dragonfly diversion:** Some birders have shifted to also watching dragonflies.

summer, adult green darners fly solo, hunting small insects on the wing. But come August and September, they move south as one. The swarms at Presqu'ile and elsewhere in the province are participating in a great annual migration, much like that of



PURPLE MARTIN

**Bon appétit:** Purple martins feed on common green darners.

the storied monarch butterfly. In winter, common green darners have been spotted in the southern United States, Mexico and Central America. However, while the monarch's multi-generational migratory cycle has been heavily studied, inspiring an international effort to conserve the habitat these

butterflies depend on, details of the green darner's transcontinental journey are just starting to be understood.

"Monarch has gotten a lot of attention, and rightly so," says Bryan Pfeiffer, a field naturalist and adjunct instructor at the University of Vermont. "But when I tell folks, even somewhat accomplished naturalists, that some dragonflies migrate, they're like, 'Wow, really?'"

In recent years, Pfeiffer notes, a growing number of birders have taken up dragonfly watching. The green darners' group staging is a scene akin to that of the kettling of hawks and other raptors for fall migration. (In fact, the species are often seen together, with some raptors eating the dragonflies.) But there are big differences. "We take migration for granted when we think about birds," says Pfeiffer, "but that this little insect that weighs not much more than a drop of water can move great distances is pretty cool."

Scientists believe there is much to gain by filling in the missing puzzle pieces of the green darner's annual cycle. "Dragonflies are key players in multiple ecosystems over their lives, both as consumers and as prey," says Ryan Norris, associate professor in the department of integrative biology at the University of Guelph. "For us to understand our impact on different ecosystems, it's important to understand the life histories of organisms that move through them. When are they there? How long are they there? Where else are they going? If we don't



COMMON GREEN DARNER NYMPH





COMMON GREEN DARNER DRAGONFLY

**Marvelous migration:** Common green darners travel from Ontario to as far as Central America in their fall migration.

have that information, it's hard to make good conservation decisions."

Green darners may have the word "common" in their name, but their annual migration makes them exceptional. Only about a dozen of the 135 dragonfly species native to Ontario migrate. Similarly, of the more than 330 species of dragonflies found in North America, just 16 are considered true migrants. Given that insects in the order Odonata (which includes dragonflies and damselflies) and their immediate ancestors were among the first organisms to achieve flight roughly 300 million years ago, it is not surprising, says Pfeiffer, that some have evolved to fly great distances. But why only a few do is unclear.

One factor that has held back research on dragonfly migration is the insect's size. Green darners are generally too small to be fitted with the radio and satellite transmitters commonly used to track birds on their migrations. However, in a study published in 2019, two Guelph students (supported by Norris)

managed to put radio transmitters on 38 green darners captured on the Saugeen (Bruce) Peninsula. They discovered that one travelled 122 kilometres in a single day; another individual reached a (wind-assisted) top speed of 77 kilometres per hour. While the study was too limited in scope to support broad conclusions, it confirmed that green darners are capable of long-distance flight.

“

If you walk through the fields and along the shoreline anywhere in Prince Edward County in the first week of September, you can often scare up hundreds of green darners.

To date, most of what is known about dragonfly migration has come from two types of molecular study: DNA analysis, which reveals how much populations in different locations interact; and stable-hydrogen isotope analysis, which detects a geographic signature in animal tissue

pinpointing the latitude where individuals were born, which enables researchers to calculate how far they travelled before capture.

A few years ago, isotope analysis yielded the biggest breakthrough thus far in understanding the common green darner's annual migratory life cycle: that it involves three generations of dragonflies. The research was done by a team of U.S. scientists using wing tissue

from more than 850 common green darners, including museum samples as much as 140 years old. They learned that the generation that emerges here migrates to the south, breeds and dies; their offspring hatch and emerge in the south and remain there; then a third generation comes north in the spring, where they breed and die. The distances they travel are impressive:

upwards of 680 kilometres going south and at least 650 kilometres coming north.

Not only did the study confirm that the green darners seen leaving Ontario in the fall will never return, but the researchers also paired their isotope findings with community science observations to show that



green darners' northward migration tracked the seasonal advance of the 9 C mean daily temperature threshold. This is why common green darners sometimes show up in the north before all ponds and wetlands are free of ice. Those early fliers are migrants from the south, explains Colin Jones, provincial invertebrate zoologist at the Ontario Ministry of Natural Resources' Natural Heritage Information Centre, whereas the first local nymphs that emerge as adults usually do not appear until June.

**I**sotope analysis has limitations, however. It can identify the approximate latitude where dragonflies emerge but not specific locations. It also says nothing about their actual journey.

"There're still many unanswered questions," says Smera Sukumar, Ontario Nature's conservation science and stewardship director. "We need further research on how they're navigating and to understand what threats they face in different parts of their life cycle." That information, she notes, could support an international effort to protect wetland habitats, which play an important role not only in the dragonflies' larval stage but also in their adult stage and migration. (Like all dragonflies, common green darner nymphs hatch from eggs laid in ponds, lakes, slow streams and rivers, later emerging as winged adults.)

The potential impact of climate change on green darner migration also merits study. As one of the first insects to fly in the spring, green darners are an important food source for early-migrating birds such as purple martins. "There have been years when a big weather event, like a snowstorm, killed all the common green darners

that came up early. As a result, the baby purple martins starved," says Ami Thompson, assistant professor of biology at North Carolina Wesleyan University. "With more data, we hope to understand if climate change is going to cause a mismatch in the abundance of common green darners as a food source for these birds."

To that end, Thompson is in the final

**Tracking travel:** Researchers seek to better understand migration behaviour.

preparatory stages of a new common green darner tracking study in which she plans to use radio tracking tags much lighter than those used previously. Her aim is to partner with other researchers to tag large numbers of green darners as they migrate across the continent. "We don't know much about how they move individually. That's what these little trackers will tell us," she says. "It's like this is a book and this is just the first chapter. I want to read it and find out what's going on."

**Brian Banks** is a writer and editor who has regularly contributed to ON Nature.

Learn more in Ontario Nature's dragonfly and damselfly guide: [ontarionature.org/dragonflies](http://ontarionature.org/dragonflies).



BLACK SADDLEBAGS DRAGONFLY

## The Dragonflies of Ontario

Ontario is a treasure trove for dragonfly watchers, thanks to its warm summers and wide range of habitats. At least 135 of the 154 species of dragonflies that live in Canada are found here.

Dragonflies occupy many different ecological niches. Along with the common green darner, migratory species include the vividly named black saddlebags, the variegated meadowhawk and spot-winged and wandering gliders. The wandering glider does not breed here but is a regular summer visitor. It is also considered the world's most travelled dragonfly, capable of crossing oceans in migrations that span thousands of kilometres.

Ontario is also home to numerous endangered dragonflies, such as the rapids clubtail, pygmy snaketail and Hine's emerald, the last of which can be found in only one location: the Minesing Wetlands. But even more common dragonflies can be hard to spot given their elusive behaviour. Several species of shadowdragons, for example, leave their roosts (presumed to be in trees) only briefly at dusk, flying low over rivers and streams to hunt other insects.

—**Brian Banks**

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EASTERN WHITE PINE

# Adapt or Perish

With threats to forests multiplying, Ontario researchers are seeking ways to keep the woods resilient. Can forests adapt in time to stay ahead of climate change?

By Jade Prévost-Manuel

**C**urved around the southern shoreline of Corry Lake, the 10,000-hectare forest near the community of Chalk River is habitat for scurrying woodland creatures and contains towering trees that frame woodland paths, lakes and ponds. The area looks like many other Ontario forests, but it is actually a living laboratory. Called the Petawawa Research Forest (PRF), this is where some of Canada's leading forestry researchers are working to make forests stronger and healthier.

Ontario's forests are under increasing pressures from a changing climate, but how these changes will affect forest ecosystems is not entirely predictable, says Trevor Jones, a research scientist co-leading the Adaptive Silviculture for Climate Change project at the PRF. A branch of experimental forestry that studies ways to manage the growth and composition of forests, adaptive silviculture aims to help forests withstand the stress of ecological and climatic shifts through different forms of intervention. "Forests are going to change," says Jones. "Either you can do the work now to help them change, or you can do the work later to try to get productive forests once they have fallen apart."

Ontario encompasses more than 70 million hectares of forest. These vast wooded stretches represent 20 percent of Canada's forests and 2 percent of the world's. Combined, the province's forests would constitute an area the size of Germany, Italy and the Netherlands. "Ontario is a forest province," says Corina

Brdar, OECM advisor with Ontario Nature. "Most of the natural ecosystems here are forest ecosystems."

Diversity of species and diversity of forest structure make forests more resilient to certain disturbances. Diversity is a good way of protecting against some natural disturbances that target individual species. If climate change weakens forest ecosystems, the ecological and economic consequences would be devastating. Forests are both a natural resource that contributes around \$5 billion annually to Ontario's GDP and

1918, PRF scientists have worked on a range of forest projects, from reforestation techniques to epidemiological studies on the spruce budworm.

The PRF is located in a transition zone between the forests of the Great Lakes—St. Lawrence and the boreal region, allowing researchers to study how trees in these different environments respond to climate change and researchers' interventions. Among the PRF's more than 2,000 experimental plots are areas of white pine where some trees are more than 100 years old.

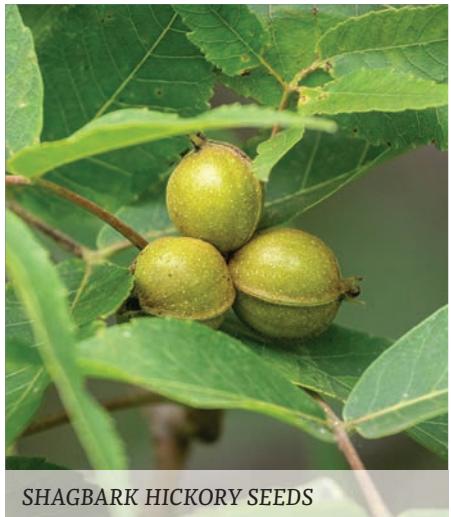
Their future is uncertain, however. Scientists expect white pine, a dominant species in many forests, to be particularly vulnerable to climate change because the tree does not thrive in dry conditions. Drought can weaken its ability to regenerate effectively.

"White pine hasn't had a good mass seed crop in [the PRF] for decades. It's really struggling to reproduce naturally here."

storehouses billions of tonnes of carbon. If forest biodiversity diminishes, wildfires could become far more severe and difficult to contain. Warming temperatures could also bring new pathogens and invasive tree-damaging insects, whose natural ranges the cold typically keeps in check. Jones says that warmer and drier conditions—including potential prolonged droughts—could turn the PRF and other forests that grow on sandy, rocky soils into another ecosystem altogether: "If it gets too bad, you start pushing these systems [to turn into] savannas."

**T**he PRF is the oldest continuously operating research forest in Canada. Since the federal government established it in

**Researching resilience:** Scientists are studying forest adaptations to climate change.



SHAGBARK HICKORY SEEDS



BUR OAK SEEDS

locations in Ontario, including Barrie—all locations within the species' natural range. The team plans to monitor how the resulting trees help the forest regenerate in the years to come.

While assisted migration may expand the genetic diversity of a forest ecosystem, which in turn may boost its ability to fight stressors such as extreme weather, disease, and warmer temperatures, the strategy

has its critics—especially when plants are translocated outside of their natural range. Some plants have the potential to become invasive or can carry diseases and parasites that harm native plants. They can also threaten existing populations through hybridization, whereby hybrid plants compete with locally adapted variants and can even drive the native species to extinction.

These scenarios are unlikely with the species that Jones and his team are migrating, he says. In any case, the imminent threat makes creative solutions essential. “If we don’t do

**Future-proofing:** Saving seeds from the healthiest trees helps reforestation.

something about species composition and structure,” says Jones, “it will be difficult to maintain these forests.”

**W**hite pine is not the only species experiencing a long reproductive drought in southern Ontario. The endangered butternut is another. Once common along stream banks and forest edges, the species’ population has been decimated by the butternut canker fungus and the steady loss of its traditional forest habitat. Individual butternut trees are now so isolated that perpetuating themselves has become difficult.

To solve the butternut’s fertility woes, the Forest Gene Conservation Association (FGCA), a not-for-profit focused on conserving the genetic diversity of forests, has established a network of breeding orchards within the range of the species that serve as genetic archives. The trees in these orchards are grafted from healthy butternuts that show tolerance to butternut canker, the tree’s primary existential threat. Kristen Sandvall, the FGCA’s seed and climate change program manager, calls the

**Imperfect fix:** Assisted migration helps genetic diversity but can have unintended consequences.



resulting hubs of resilient trees a “dating service for lonely trees.”

“Seed orchards allow us to ensure that we have good genetic diversity from known sources that can then be put back onto the landscape,” says Sandvall, whose organization also works on conserving other tree species, such as black ash. The genetic information that trees pass down through seeds plays a large part in determining the survival not only of individual trees but of a forest, she adds.

Seeds from most conifer species can be preserved for decades if stored correctly, but not every tree’s seeds can be easily preserved. Seeds from beech, oak and hickory, for example, cannot be stored for long periods of time. Identifying the best seeds and safely storing them is a skill that the FGCA teaches in its Certified Seed Collector Course, a program for conservation groups, forestry companies, native seed nurseries, and even individuals. The FGCA provides other training opportunities in this area as well.

The seeds that the FGCA collects through projects can end up in a variety of places, from test plots in the PRF to the country’s National Tree Seed Centre, which stores seeds from more than 200 tree and shrub species. “We



**Future proofing:** Seed containers at the National Tree Seed Centre.

can’t move a 400-year-old oak tree,” says Sandvall, “but we can move its offspring and seeds.”

As for the PRF, it will be five or six years—the time it takes for tree seedlings to become established—before Jones and his team will know whether their efforts will be successful. As the seedlings grow, they will help the researchers understand how soil moisture, genetic diversity, forest

structure and type, and the density of tree stands can affect the forest’s resilience.

Arming a forest with the defences it needs to weather climate change may require creating new forest conditions and changing the forest’s makeup. Forests of the future may also need active management. “If you leave a forest alone, it will do something, but it will almost certainly not be what was there before,” says Jones.

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**Jade Prévost-Manuel**, a freelance journalist, has written several stories for ON Nature.

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# Ribbons of Green

A natural corridor from Hamilton's Cootes Paradise to the Niagara Escarpment shows the biodiversity benefits of connected habitat—and of conservation partnerships.

By **Conor Mihell**

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**Cootes to Escarpment EcoPark System:**  
*Roads and urban development in and around Hamilton and Burlington compete for space with nature.*

**A**cross southern Ontario, vestigial forests, grasslands, savannas, wetlands and other natural ecosystems shine like gems amid sprawling housing developments, gravel pits, big-box plazas, industrial parks and roads. These pockets of “near-urban nature” support communities of flora and fauna—including humans—with habitat and ecosystem services such as flood prevention, water filtration and outdoor recreation. A prime example lies between and within the boundaries of Hamilton and Burlington, extending from Lake Ontario’s marshy shores at Cootes Paradise to the angular limestone outcroppings of the Niagara Escarpment. Spanning about 2,200 hectares, the Cootes to Escarpment EcoPark System’s partner-owned lands support over 60 species at risk, including Jefferson salamanders and Blanding’s turtles, and is a key stopover area for millions of migrating birds. Located in the heart of Canada’s densest urban area, it is a model of how people can collaborate to create ribbons of green across the landscape.

The Cootes to Escarpment EcoPark System includes several recognized environmental designations, among them Environmentally Significant Areas, Areas

of Natural and Scientific Interest and a UNESCO Biosphere Reserve, as well as a Provincially Significant Wetland. Yet its transformation over time is what Tomasz Wiercioch of Burlington and Hamilton’s Royal Botanical Gardens finds most amazing. “There were old farms, open-pit mines and dumps, all of which have been actively restored over the past 100 years to the state they are in now,” Wiercioch says. “It’s a

intact deciduous forests, wetlands and clean woodland ponds over their life cycle and occur in only a few places in southern Ontario. He also notes recent observations of rare freshwater bivalves, including the mapleleaf, a palm-sized mussel with scalloped edges, as indicative of improving water quality in streams. Cootes Paradise Marsh has long been a provincial birding hot spot. In 2012, Lake Ontario’s first breeding pair of bald eagles in half a century nested here, and generations of eaglets have followed, says Wiercioch. “In spite of all the ongoing pressures and the history of industry,” he adds, “nature still thrives.”

Less than 6 percent of southern Ontario’s land is protected, and one-third of Canada’s human population lives here. Given the pressures of development, along with the systematic erosion of Ontario’s Endangered Species Act and a series of provincial governments’ wavering commitments to safeguard key features such as the Greenbelt, not surprisingly the province’s list of species at risk grew by 22 percent between 2009 and 2020, and most of those species are dependent on habitat in southern Ontario. Cootes to Escarpment EcoPark System is part of a constellation of refuges, such as Rouge National Urban Park east of Toronto, that offer tantalizing glimpses of what was once a vast stronghold of biodiversity. It is also a vision of a future where natural corridors link southern Ontario’s remaining chunks of intact habitat. “This is the most urban area in Canada,” says Wiercioch. “The EcoPark System is a living lab where we can find answers to the question of how we can all coexist.”

**Making connections:** Species need natural cores and corridors to flourish.



ROYAL BOTANICAL GARDENS

**This is the most urban area in Canada. The EcoPark System is a living lab where we can find answers to the question of how we can all coexist.**

result of a lot of organizations, private land-owners and individuals working together. For me, that’s really unique.”

Wiercioch is the coordinator of a coalition of nine partners, including both government and not-for-profit land-owning agencies, that came together in the name of conservation in 2006. As a sign of effective collaboration and stewardship, he highlights the presence of Jefferson salamanders, shiny grey and brown amphibians with blue spots that move between

In 1967, American ecologists Robert MacArthur and E.O. Wilson first described a concept conservationists today take for granted: larger areas, and those that are closer or more connected to other patches of natural habitat, provide habitat for more species than smaller, insular pockets do. MacArthur and Wilson’s Theory of Island Biogeography has been repeatedly proven in all corners of the world, including southern Ontario, where the remaining oases of nature are essentially islands,

JEFFERSON SALAMANDER



BLANDING'S TURTLE



MAPLELEAF MUSSEL



#### EcoPark partnership: System lands provide habitat for more than 60 species at risk.

adrift in a sea of development—and biodiversity has suffered accordingly. Along with protecting the largest, most intact natural spaces in such fragmented regions, recognizing, restoring and protecting the corridors between them is necessary to preserve ecosystem functions across the entire landscape.

The Jefferson salamander is just one example of the way species rely on a diverse array of habitat conditions through their life cycle. Another is the redside dace, a minnow named for its flashy colours that is listed as Endangered in Ontario. Many of this species' remaining populations are concentrated in headwater streams of the Greenbelt, an 800,000-hectare arch of woodlots, farms and rural lands surrounding Toronto where legislated restrictions control urban sprawl. Here the minnows feed on insects in cool, shady pools and move to shallow riffles to spawn in May and June. Converting forests to urban and agricultural landscapes causes sedimentation and warmer water temperatures, wiping out redside dace.

Tony Morris, Ontario Nature's conservation policy and campaigns director, says the Ontario government's plan to sell off chunks of the Greenbelt to housing developers could have spelled the end for redside dace and threatened many other species. Public outcry and a politically damaging

scandal thwarted those plans, yet the provincial government has remained steadfast in its intentions to build Highway 413 and the Bradford Bypass, two projects that will destroy vital farmland, high-quality forests, many wetlands and significant wildlife habitat, and will threaten the ecological integrity of watersheds.

"Headwaters are essential for maintaining connectivity for aquatic species that move up and down waterways," says Morris. "Riparian zones are important for land species as well. Put a highway through that and you're creating a wall for many species. Stormwater will run into the creeks, taking all the contaminants with it. No amount of engineering or mitigation can completely eliminate the impacts."

Premier Ford is not the first to lead a government in Ontario that prioritizes development over conservation. Only about 11 percent of Ontario's land mass is protected (compared to 19.7 percent and 16.9 percent in British Columbia and Quebec, respectively), and few tangible additions have been made in the last two decades. That is why local collaborations like the Cootes to Escarpment EcoPark System are so refreshing. The coalition comprises the Royal Botanical Gardens, the Hamilton Naturalists' Club, the Bruce Trail Conservancy, Conservation Halton, Halton Region, the Hamilton Conservation Authority, McMaster University, the City of Hamilton and the City of Burlington. The partnership emerged in the wake of cleanup efforts in Hamilton Harbour,

about 20 years ago, Wiorcioch explains. "All partners had a long history of stewardship and restoration work in the Hamilton and Burlington areas," he says. "They talked about how they could work better together. No existing models [such as a provincial or national park] fit exactly, so they made their own."

Each partner participates voluntarily and manages the land it owns in the EcoPark System. The EcoPark System is not a regulatory authority. The partners act on a consensus basis to set and meet conservation targets that they have planned and agreed to. The model is based on a "collaboration of equals," Wiorcioch explains. "If we can't reach consensus, it means we haven't talked enough. The focus is on shared goals, like connectivity."

The Hamilton Naturalists' Club, an Ontario Nature group, has been involved in the area for over a century. The 2004 purchase of the 18.6-hectare Cartwright Nature Sanctuary in nearby Dundas, acquired in partnership with Conservation Halton, was a key milestone in land protection in that area, and in looking at different ways to protect land, says Jen Baker, the organization's general manager. It helped to reduce the threat of development in a part of the Cootes to Escarpment EcoPark System with lush forests of red oak, shagbark hickory and rare sweet pignut hickory, as well as one of Canada's only colonies of American colombo, an endangered wildflower. Baker says an additional 67 hectares of protected land have been

secured in Dundas through the collaborative efforts of EcoPark System partners.

Meanwhile, the City of Burlington has closed a section of King Road each spring since 2012 to allow Jefferson salamanders to move freely between overwintering areas to breeding habitats in ephemeral forest pools. The coalition has also predicted critical passageways for Blanding's turtles, which travel up to two kilometres from Cootes Paradise Marsh and Grindstone Marsh to upland nesting sites from May through early July. Royal Botanical Gardens collaborated with the City of Hamilton and Hamilton Conservation Authority to install roadside barriers to reduce Blanding's turtle road mortality

along Cootes Drive in Hamilton. Corridors of movement between and within partner-owned properties for species such as northern short-tailed shrew and white-tailed deer were also predicted by studies the EcoPark System conducted.

"Cootes to Escarpment EcoPark System brings attention to the significance of natural features and the connections between them in this heavily urbanized area," says Baker. "This includes connections with private landowners about the importance of their property on the landscape. It helps the partners to see areas where natural connections [to other natural spaces] can be restored."



## Road Ecology

Tim Gray, the executive director of Environmental Defence, wistfully recalls the hopeful early days of Ontario's Endangered Species Act (ESA), which came into force in 2007. The twinning of Highway 69, north of Parry Sound, was among the first infrastructure projects to which this widely lauded act pertained. The old two-lane highway was dangerous for drivers and wildlife alike, since it passed through sensitive ecosystems. Long stretches of new four-lane highway were fenced, with culvert underpasses installed to allow wildlife safe transit, and a larger wildlife overpass was constructed near the turnoff to Killarney Provincial Park, south of Sudbury. "It's the only such highway overpass Ontario ever built," laments Gray. A subsequent series of exemptions with far-reaching consequences gutted the ESA, Gray adds, and Ontario currently lags far behind provinces like Alberta and British Columbia in building highways that allow motorists and wildlife to coexist.

Seasonal road closures and barriers installed in the Cootes to Escarpment EcoPark System reveal the benefits of allowing wildlife to pass safely around smaller roadways. In another example, simple silt fencing the National Capital Commission installed along roads in wetland areas in Ottawa's Greenbelt reduced turtle mortality by over 70 percent. Gray insists that Ontario could make a high-profile statement by installing wildlife crossings where Highway 401 bisects the Frontenac Axis, near Kingston. "Right now, very few mammals, amphibians and reptiles get across it alive," he says. "Underpasses and overpasses would be a great benefit to wildlife and public education. It's a no-brainer, it would do so much for connectivity, and it would also stop people from dying in collisions with wildlife."

—Conor Mihell

Morris notes that the public is becoming more aware of the importance of natural corridors, in part due to programs like Cootes to Escarpment EcoPark System and campaigns like the Southern Ontario Nature Coalition, which includes Ontario Nature. In 2023, Parks Canada recognized Cootes to Escarpment EcoPark System with funding to serve as a pilot project for a new federal initiative to identify priority areas for ecological corridors, as part of efforts to reach Canada's conservation target of protecting 30 percent of its land mass by 2030. Wiorcich says the money was earmarked for habitat restoration and public outreach, including a McMaster University-led project to build relationships between local Indigenous communities and conservation groups.

Emerging from the pilot project, Parks Canada identified 23 key corridors, including five in Ontario. Cootes to Escarpment EcoPark System is part of a larger ecological corridor, stretching along the Niagara Escarpment from Lake Ontario to the tip of the Saugeen (Bruce) Peninsula at Georgian Bay. Other priority areas include the Frontenac Axis, from Algonquin Provincial Park to Lake Ontario; the north shore of Lake Superior east of Thunder Bay; a link between the Algoma Highlands, Lake Superior and Lake Huron, around Sault Ste. Marie; and Lake Erie's north shore, from Windsor to the mouth of the Grand River and inland to the City of London.

Morris says that such grand, forward-thinking vision is essential in both supporting the annual movements of species and facilitating longer-term migrations as flora and fauna respond to climate change. The catch is, only so much can be done at local and federal levels. Formalizing such corridors is contingent on the Ontario government's assent, Morris says, since the government controls the majority of public land.

"More and more people understand the intrinsic ecosystem values of nature and biodiversity," says Morris. "Over 80 percent of Ontarians want more provincial parks. This is not a political issue. The disconnect is at the provincial level. The Ontario government has acknowledged that climate change and biodiversity loss are issues, but it continues to push initiatives that will undermine possible conservation gains."

**Conor Mihell** is a freelance writer, author and outdoor educator based in Sault Ste. Marie.



Gray Fox (threatened)

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# A Conservation Project With Legs

By Lesley Rudy



**Caprine conservation:** Goat grazing can control invasive species.

Toronto Field Naturalists (TFN) is helping the City of Toronto explore a novel method for controlling invasive species in natural areas: goats. The group has partnered with the municipal government to test “prescribed grazing” as a way to manage invasive plants in meadows and other habitats.

The city piloted the approach in a meadow environment at the Don Valley Brick Works property last summer. TFN volunteers monitored the site before and after goat grazing and will do so again in the spring to note changes in plant composition and whether the goats trampled desired plants.

Goats have several benefits over other methods of invasive species control. The animals leave desirable meadow plants such as milkweed, which they do not eat, while devouring bindweed, Queen Anne’s lace, buckthorn and other invasive species. Last summer, Jason Ramsay, a long-time member (including past president) of TFN who is involved in the project, watched a goat carefully eat bindweed entwined around milkweed while leaving the milkweed

intact. Goat herds can even be trained to selectively eat certain plants that property managers want removed. These animals

can also reach places that a mower cannot, such as up steep slopes, and can perform initial clearing that enables people to better see and pull the invasives that remain.

Another benefit of goats over mowers is public engagement. Ramsay saw many visitors show interest in the goats, which gave TFN and the city a chance to talk about invasive species, biodiversity and native ecosystems.

Collaborations like the one between TFN and the City of Toronto are essential to achieving conservation goals despite limited resources, says Ramsay. The nature group has partnered with the city on numerous other projects, including vegetation monitoring at Cottonwood Flats, a restoration project now in its eighth year, and other community-based nature stewardship programs.

While the goats’ effectiveness at controlling invasive plants remains to be confirmed, the innovative approach has potential to advance conservation in urban environments. 

GREY BRUCE NATIVE SEED BANK



## Nature Network Welcomes Two New Groups

The **Grey Bruce Native Seed Bank** was formed in 2022 to sustainably collect seed adapted to the wild to grow in “seed orchards,” and then harvest and process new seed. The resulting large quantities of genetically diverse seed can be used in local restoration projects.

The **E Escarpment Corridor Alliance**, formed in 2021, has a mission to protect the Niagara Escarpment of South Georgian Bay by creating an ecological corridor across the region for nature and future generations of Ontarians.

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## In House



**Noble Naturalists:** Waterloo Region Nature celebrates nearly a century of conservation.

## Naturalists celebrate 90 Years

By Kirsten Dahl

**T**en naturalists gathered at a YMCA in 1934 to form Kitchener-Waterloo Field Naturalists, a club committed to discovering, protecting and enjoying nature. About 30 years later, the group—now known as Waterloo Region Nature (WRN)—purchased 35 hectares of land south of Cambridge and created the F.W.R. Dickson Wilderness Area.

Members of WRN and Ontario Nature met at the property last fall to celebrate 90 years of kinship, caring and environmental engagement. As a fitting tribute, the club donated \$10,000 to support Ontario Nature's expansion of its Gananoque Lake Nature Reserve in the Frontenac Arch.

"We welcome the opportunity to contribute to Ontario Nature's protected lands," says long-time WRN member Graham Macdonald. "A small club or organization like our own can make a difference by contributing and make an impact."

WRN expert guides Fraser Gibson and Janet Ozaruk led participants through three habitats within the wilderness area, which lies at the northern edge of the Carolinian

zone. The group first paused on a boardwalk traversing a swamp thicket dominated by dogwood, willow and highbush cranberry shrubs. Continuing over gently rolling terrain, they arrived at the second habitat: an oak and hickory forest. "We stopped to admire the multi-lobed leaves of sassafras trees, the aptly named interrupted fern, the tiny strap-like petals of the American witch-hazel blooms and the fruit of a hearts-bursting-with-love running strawberry bush," Ozaruk recalls. Climbing up a slope, they emerged into the third habitat, where waist-high grasses dominated a tallgrass prairie dotted with occasional trees, such as the American elm and the shagbark hickory.

"It was a true joy to bring together so many people from both organizations for this celebration," says Jenna Quinn, Ontario Nature's conservation science manager. "The hike took place at one of the first nature spaces in the region to be protected and remains much-loved to this day."

Interested people can join WRN or donate to its Sanctuary Fund at [waterlooregionnature.ca](http://waterlooregionnature.ca).

# The Road to Unsustainable Growth

By Jenna Kip

**O**ntario's new Provincial Planning Statement (PPS), which overhauls the earlier land-use framework, officially came into effect in October 2024.

It merges the 2020 policy statement with A Place to Grow, the Ontario government's broader economic plan for the Greater Golden Horseshoe. The result effectively dismantles the policies that guided sustainable growth within one of Ontario's fastest growing regions.

The government says that the new PPS will enable "more housing to be built faster in a way that protects the environment." The revisions, however, significantly weaken existing environmental protections and put Ontario's natural heritage, farmland and wetlands in further jeopardy while encouraging unnecessary urban sprawl.

Under the previous plan, key water and natural heritage features within the Greater



**Greedy gains:** The new Provincial Planning Statement weakens environmental protections.

Golden Horseshoe were strictly protected from development. The new PPS retains protection for Provincially Significant Wetlands but eliminates it for unevaluated wetlands and other natural features. Combined with the provincial government's weakened wetland evaluation system (see "Keeping Ottawa Wet and Wild," Fall 2024), the effect could be devastating for wetland ecosystems.

The new PPS also reduces density targets, allowing development in previously protected areas. The change opens the door for more development on the outskirts of cities where natural and agricultural lands are currently found.

"These policy changes are a major setback for Ontario," says Tony Morris, director of conservation policy and campaigns at Ontario Nature. "By prioritizing sprawl over smart growth, the government is undermining our ability to address the interrelated crises of biodiversity loss and climate change." 

# CONSERVATION LEGACY READY & WAITING

Lands set aside for conservation through the Forest Stewardship Council certification process present a significant opportunity to meet Canada's international commitment to protect 30% of lands and waters by 2030. These lands remain threatened by mining, hydro development and changes to forestry plans.

## Protecting these lands contributes to:

### Biodiversity Conservation

Conserving intact ecosystems and habitat for wildlife, including species at risk.

### Climate Regulation

Storing an estimated 400 million tonnes of carbon while providing movement corridors and refuge for wildlife.

### Cultural Revitalization

Protecting areas of cultural and spiritual significance when working in partnership with Indigenous communities.

### Water Protection

Safeguarding water quality and hydrological functions.

The Government of Ontario must commit to permanently protecting these lands with the consent of Indigenous communities.

FOR MORE INFORMATION, VISIT:  
[ontariornature.org/designated-conservation-lands](http://ontariornature.org/designated-conservation-lands).



# Electoral Reform is Needed for Climate Action

By **Sharon Sommerville**

The provincial government recently passed Bill 212, which authorizes the construction of the controversial Highway 413, northwest of Toronto. It is a perfect example of how our electoral system, first past the post (FPTP), can undermine nature conservation and action to mitigate climate change.

The 2022 provincial election delivered 100 percent of the power to the Progressive Conservative Party with only 41 percent of the popular vote. Importantly, only 18 percent of the overall electorate voted for the government, meaning that our government represented a small minority of Ontarians. When a political party wins the majority of seats, rarely does that mean it won the majority of votes.

With a majority of seats, a new government will often undo legislation the previous government enacted. Bill 212 is a case in point. The former Liberal government

cancelled Highway 413 because of the catastrophic environmental impact it would have had on surrounding areas while providing negligible improvements to traffic flow. That bill will remove years of environmental protection and stall environmental and climate action.

Why is our FPTP system to blame? Political parties need to work together for the common good, but FPTP ensures that this much-needed cross-party cooperation does not happen. The alternative is proportional representation (PR), under which the percentage of the popular vote a party receives determines the number of seats it obtains. A party that wins 10 percent of the votes gets 10 percent of the seats.

Most Western democracies use some form of PR. They also tend to deliver stronger action to address climate change. The top five countries in the Climate Change Performance Index—an independent monitoring tool for tracking countries' climate

protection performance—use PR electoral systems. Denmark, which is one of them, in 2020 enacted one of the strongest climate laws in the world because nearly all its political parties collaborated on the legislation.

Policies built through collaboration are much more likely to last through changes of government and tend to produce less polarization around issues. Policy stability is key to maintaining and building environmental legislation. PR helps provide that needed stability. We need to tell our politicians that a PR electoral system serves citizens of all political stripes while advancing our goal to stabilize our climate and protect our environment. Making this change will take political will, but politicians of all parties must put the needs of their citizens and our climate above the needs of their party. 

**Sharon Sommerville** is the former chair of the Waterloo Region Fair Vote Canada chapter.

# BEAUTY IS IN THE DETAILS



**PILEATED WOODPECKER**

*Dryocopus pileatus*

*Photo: Mike Ashbee*



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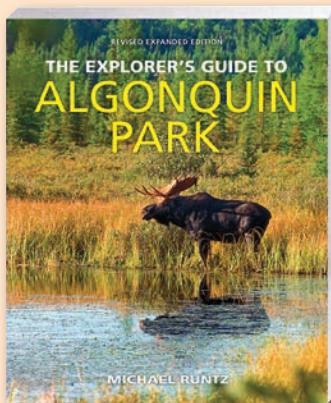
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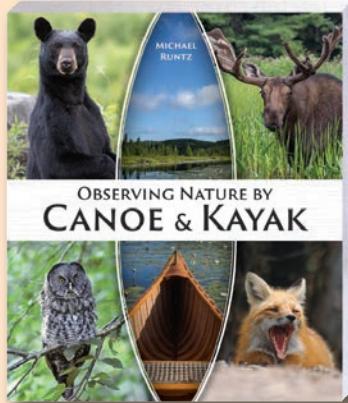
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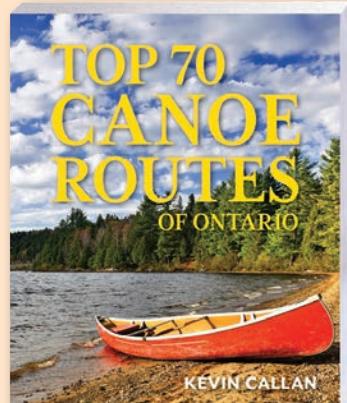
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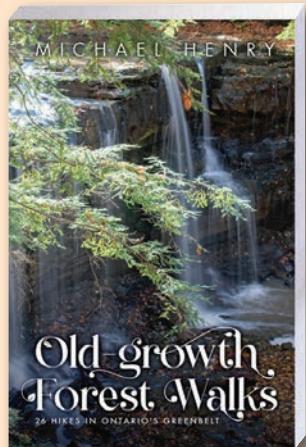
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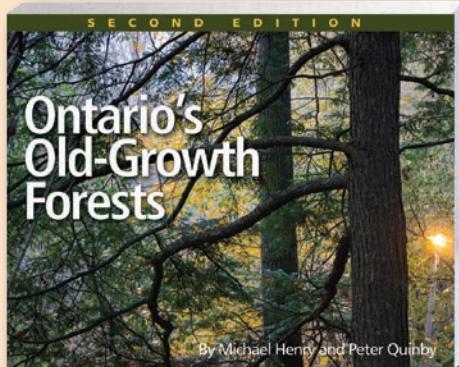
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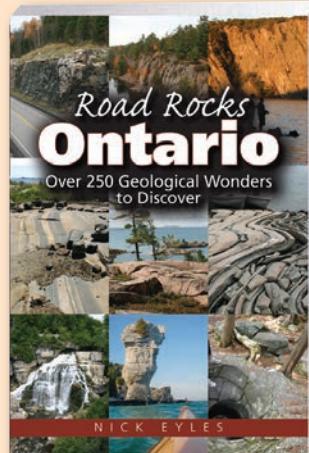
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