NEAR-URBAN NATURE NETWORK: A SOLUTION TO CLIMATE CHANGE AND BIODIVERSITY LOSS

Southern Ontario Nature Coalition

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Near-Urban Nature Network: A Solution to Climate Change and Biodiversity Loss
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Environment and Climate Change Canada
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Ontario

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consecon foundation

The Southern Ontario Nature Coalition (SONC) is a group of experienced provincial, regional, and community-based conservation organizations, land-based policy experts, and Indigenous consultants. With support from the Government of Canada, SONC is developing a strategy that supports a robust Near-Urban Nature Network for the Greater Golden Horseshoe. What we learn in southern Ontario will inform, inspire, and connect urban landscapes across the country. Ultimately, our work today is critical to the resilience and prosperity of Canadian communities tomorrow. The Coalition is committed to engaging Indigenous Communities in accordance with community protocols and the development of Ethical Space for all to contribute meaningfully. SONC would like to express its deepest appreciation to all authors and contributors. Please see the *Technical Background Report: A Solution to Climate Change and Biodiversity Loss* for a detailed list of contributors.

C·I·P·S Cambium Indigenous Professional Services

Carolinian Canada

Cootes to Escarpment EcoPark System

GREEN BELT Possibility grows here.

ONTARIO FARMLAND TRUST PROTECTING FARMLAND FOREVER

OLTA ONTARIO LAND TRUST ALLIANCE

Ontario Nature

WILDLANDS LEAGUE A chapter of the Canadian Parks and Wilderness Society

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A matter of urgency

The importance of nature to our future has never been clearer. The dual crises of biodiversity loss and climate change, as well as the importance of delivering on Truth and Reconciliation calls-to-action, requires us to change our relationship to nature.

Nature is not just "out there" in rural or remote regions or in designated conservation areas, it is right here and all around us. Some of the most ecologically important areas in Canada are the natural areas and farmland in and around our cities. And with 80 per cent of people in Canada living in urban areas, nature's benefits are closely felt. At the same time, these are also the most vulnerable areas: from 1992 to 2000, 16 per cent of habitat lost globally was directly due to urbanization. Without a different course of action, even greater losses are expected by 2030.

The elements of near-urban nature – the forests, river valleys, wetlands, grasslands, farmlands, and other natural features that surround and intersect our cities – provide resilience to extreme weather, important outdoor spaces for communities, and habitat for plants and animals. Nature is also central to Indigenous Ways of Knowing and culture and provides local food and essential gifts from nature or "ecosystem services" to communities. These benefits will only become more important as climate change progresses.

Governments around the world are making bold commitments to protect nature, conserve biodiversity, and help communities adapt to climate change. Canada has committed to conserving 25 per cent of its lands, freshwater, and oceans by 2025, working toward 30 per cent by 2030, as a member of the global High Ambition Coalition for Nature and People (these area-based targets are expected to become Canada's new Biodiversity Target 1, currently at 17 per cent). The Government of Canada's two billion trees commitment supports restoration of Canada's natural areas by 2030, which in turn will support reducing greenhouse gases by removing and storing carbon from the atmosphere. The federal and provincial governments have also committed to supporting Indigenous rights, responsibilities, and priorities in conservation as described in the 2020 report *One with Nature: A Renewed Approach to Land and Freshwater Conservation in Canada.*

These goals require a strategy to protect and restore nature in Canada's near-urban landscapes. While our governments have made progress in protecting biodiversity by conserving large wilderness areas, efforts in urban areas require a different approach.

The Southern Ontario Nature Coalition (SONC) proposes a Near-Urban Nature Network for Ontario's Greater Golden Horseshoe (GGH), which is Canada's largest and most rapidly developing urban area. Like urban areas across Canada, the GGH is facing biodiversity loss, climate change, and growing demand for access to greenspace. Fragmented landscapes and ownership, and competing visions for the use of lands in the GGH create challenges to conserving near-urban nature. Ecological corridors that connect habitats and enable wildlife to move across the landscape are critical to conserving biodiversity and near-urban nature in regions like this. New protection tools can help communities meet growing demand for access to greenspace and restoration activities can create jobs and build climate-resilient communities. Land-use policies and decisions must also recognize the need for nature.

A Near-Urban Nature Network involves:

- **Protecting land** by expanding critical natural core areas and corridors that enable wildlife movement and conserve biodiversity;
- **Restoring landscapes and ecosystems** to increase climate resilience to flooding, provide relief to extreme heat, and prevent drought;
- **Preventing further degradation**, such as erosion, removing invasive species, reintroducing native plant species, and allowing streams to run freely;
- **Working collaboratively with Indigenous Peoples** in Ethical Space, honouring Indigenous Knowledge and relationships to the land and nature;
- **Forging community partnerships** to manage lands; and
- **Creating accessible greenspace** to meet growing demand for recreation, as well as spiritual and cultural connection.

Local communities and governments in other Canadian cities support similar actions, including establishing more national urban parks to anchor habitat protection and connectivity, connecting people with nature, and significant national programs to manage biodiversity and protect and restore ecological corridors.

The Greater Golden Horseshoe (GGH)

The GGH is home to 70 per cent of Ontarians, several First Nation Communities, and 10 million residents. The population is expected to grow to 15 million by 2051. At the end of 2020, only 94,687 hectares of the GGH have been recognized as Protected Areas through Canada Target 1 accounting. This includes Rouge National Urban Park and provincial parks in the northeast, and amounts to 2.6 per cent of the total area of the GGH.

Nature Conservancy of Canada has identified biodiversity priority areas for urgent action across southern Canada. Their report shows two 'crisis ecoregions' in the GGH, a designation that refers to an area of high ecological value at high-risk of being degraded or lost. Urbanization poses a significant threat, despite a strong land-use planning framework. The demand for recreational access to greenspace is higher in this region than anywhere else in Canada. As the climate changes, increased flooding is a reality and the region is already one of the hottest in the country. The number of summer heat waves is expected to double by 2050. Drought is a growing concern.

The Great Lakes are the largest natural barrier to terrestrial species migration in eastern North America. The urban landscapes around the lakes are further impeding the movement of wildlife, which need to migrate in order to adapt to climate change. The GGH covers 3.2 million hectares of land; corridors are needed to maintain ecological connectivity and species movement through this region and south from the US, highlighting the importance of bilateral efforts with the US to achieve conservation of species.

Fortunately, there is tremendous opportunity to protect biodiversity and nature's benefits in the GGH. An estimated 30 per cent natural cover remains in the region and the 7,000 square kilometre Greenbelt contains a natural heritage and water resource system that stretches across public, private, and agricultural lands, and into cities through 21 Greenbelt-protected urban river valleys. The Greenbelt's approach and success to conserving connectivity is unique within Canada's urbanized areas and one of the best examples of its kind in the world. A review of natural heritage systems adjacent to the Greenbelt indicates connectivity corridors remain with significant ecological landscapes external to the GGH including the Carolinian Zone to the west, Algonquin to Adirondack Corridor to the east, Cootes to Escarpment EcoPark System on Lake Ontario, and Great Lakes coastal wetlands.

A Place to Grow: Growth Plan for the Greater Golden Horseshoe also guides development to support transit-friendly, complete communities, and curb sprawl. However, policy gaps may result in the loss of significant ecosystems and ecological connectivity. For example, incomplete data relating to changes in biodiversity in the region impedes understanding and is a gap that needs to be addressed.

Action is needed before ecological connectivity is lost.

Capacity funding from Environment and Climate Change Canada and support from the Government of Ontario, delivered through the Greenbelt Foundation, has allowed the Southern Ontario Nature Coalition (SONC) to identify opportunities for a Near-Urban Nature Network in the GGH. This network would form a key terrestrial link between ecoregions and freshwater bodies in Ontario and Great Lakes Basin. This report builds on progress in protecting near-urban nature in this region to date, identifies key partnerships including municipalities, Conservation Authorities, land trusts, and private and agricultural landowners, and provides a model for action in urban centres in Southern Canada. The report is timely as countries are meeting to set global environmental targets over the coming decades, and as the dual crises of biodiversity loss and climate change demand accelerated and concerted action.

Key findings and opportunities for action focus on alternatives to purchasing lands outright, and address the social, cultural, and economic needs of cities that will drive change.

Key Findings and Opportunities for Action

There is tremendous support for a Near-Urban Nature Network in the GGH – a connected network of lands and waters across the entire region, supported by cross-cultural understanding, in which nature's benefits are well understood and accessible to all, and restoration efforts create jobs and build climate-resilient communities.

Ecological connectivity was viewed as especially important in near-urban nature contexts, where many natural areas have been lost and roads, railways, and other barriers to movement are common. A collaborative and regional approach was viewed as essential.

Report recommendations are based on research, mapping, and a series of stakeholder and Indigenous engagements. These recommendations can provide insights and inform a pan-Canadian approach to creating nature-centered urban areas:

National Nature Strategy for Southern Canada

Near-urban nature objectives need to be integrated into all new national biodiversity, climate adaptation, and agricultural related policies and programs, and any new biodiversity policy coming out of the Convention on Biological Diversity (COP15) scheduled for fall 2021.

Biodiversity, ecological connectivity, and ecosystem services or nature's benefit considerations, must also be incorporated into federal funding programs for protection and climate resilience, including the Canada Nature Fund, Natural Infrastructure Fund, two billion trees commitment, Canada's National Adaptation Strategy, Natural Climate Solutions for Agriculture Fund, Canadian Agri-Environmental Strategy, and Health of Canada's *Health of Canadians in a Changing Climate: Advancing our Knowledge for action* report. Federal leadership is also needed to provide guidelines on identifying significant ecological corridors and ensuring impacts on biodiversity and ecological networks are considered as part of public infrastructure projects and the environmental assessment process.

Federal lands both inside and outside of national parks in urban and near-urban areas can provide significant opportunities for the public to experience, learn about, and help steward nature in densely populated areas. These lands should be assessed for opportunities to contribute to protecting ecological cores and corridors where possible, including lands near Rouge National Urban Park.

Indigenous Rights and Capacity

Indigenous Knowledge Systems and the leadership of Indigenous Peoples results in stronger, more effective conservation. Indigenous capacity support could create more opportunity to engage interested local Indigenous Communities, including urban Indigenous Peoples, in significant and positive nature projects, such as the Near-Urban Nature Network.

Canada jobs and other governments grants can provide needed capacity for engagement activities and the participation of Elders and Knowledge Holders to ensure Indigenous Ways of Knowing, in regard to the lands and waters, are being incorporated into both policy and proposed actions. Creating opportunity for multiple Indigenous Communities to apply collectively for funding, such as through the Indigenous Guardians Programs, would be helpful. Restoration-based economic development investments can help to grow Indigenous-led restoration and community-based forest economies, such as the native plant industry.

Protecting an Ecological Network of Cores and Corridors

Municipalities and Conservation Authorities are landowners with large tracts of land. County and regional forests, Environmentally Significant Areas (ESAs), parklands, and conservation areas could potentially be protected to count toward Canada's Target 1 goal to conserve 25 per cent of its lands, freshwater, and oceans by 2025, working toward 30 per cent by 2030.

Preliminary mapping of natural features and ecosystems, and the use of new protection tools such as Other Environmental Conservation Measures (OECMs), identifies the potential to protect tens of thousands of hectares in the GGH and contribute to Target 1. To make this happen, many of these lands – Provincial Wildlife Areas (PWAs), Areas of Natural and Scientific Interest (ANSIs), and Provincially Significant Wetlands (PSWs), require greater evaluation, management and protection. Many are located on provincial unceded (Crown) land and municipal and Conservation Authority lands. There are seven PWAs in the GGH totalling 5,800 hectares, an estimated 1,066 candidate and confirmed ANSIs totalling 432,629 hectares, and 203,000 hectares of PSWs, with an additional 229,000 hectares of unevaluated wetlands in the GGH (28,000 on unceded [Crown] land).

With support and leadership from Indigenous Peoples and Communities, some of these features could be eligible to become IPCAs, a designation that would provide long-term protection through Indigenous laws, governance, and Knowledge Systems.

Important connections between the Greenbelt, Lake Ontario, and broader external landscapes need to be mapped in finer detail to identify key local ecological corridors. As part of this report, the Cootes to Escarpment EcoPark System, located in the cities of Hamilton and Burlington, mapped wildlife corridors. These locally refined efforts need to be applied across the GGH and include identification of significant wildlife corridors extending into the region from the US.

Capacity to assess protection opportunities and map corridors critical to preserving biodiversity is needed. Land-use planning tools are also needed to increase protection of corridors and reduce the negative impacts of roads on wildlife. Efforts being trialed in the GGH are needed at a larger scale.

Restoration and Natural Infrastructure

Actions to protect and restore biodiversity in Canada's urban areas can address multiple community priorities and drive change. Nearly 15,000 hectares of new parkland is needed by 2041 to maintain current per capita levels in the GGH. A regional greenspace plan is needed for the GGH. Where opportunities for large parks may be limited, investments in linear parks along major corridors such as river valleys or The Meadoway hydro corridor in Toronto, are unique opportunities.

Nature-based solutions hold significant potential in this region for climate change adaptation. Federal and provincial infrastructure programs must recognize these benefits. Research shows that tree planting schemes have the highest returns in near-urban areas (e.g., 3:1 return in Forest Ontario's 50 Million Tree Program). Strategic tree planting can build climate resilience and provide public health co-benefits. Increasing tree cover from 18 per cent to 33 per cent in a near-urban neighbourhood in the GGH could reduce the number of very hot days (> 30° C) in 2080 from 62 to 34. There is space and need for 54 million trees in the GGH that could store carbon and provide climate change adaptation benefits. Large-scale restoration efforts will require a seed strategy and an expanded native plant industry in the GGH and across Canada. Investments can provide local jobs and revenues for governments.

Municipal forests and private woodlots are extensive across the GGH and could be more consistently managed for biodiversity, cultural, and/or social benefits. Support for private and agricultural landowner stewardship including land trust programs is also needed. Re-investments in local stewardship programs and new technologies can increase participation and biodiversity outcomes. Carolinian Canada's "In the Zone" remotely assists 3,500 landowners to manage healthy landscapes across 37,000 hectares.

Regional Collaboration

In the GGH, the continued success of the Greenbelt, ecological connections to the broader geography, and natural infrastructure investments are critical to the region and biodiversity in Canada. The Near-Urban Nature Network sets out a pathway to achieve this nature-centred vision and will require regional-scale collaboration, including key partnerships with governments, Conservation Authorities, the meaningful participation of Indigenous Peoples and Communities, and wider-community engagement activities.

Developing a shared vision for the region among these groups holds potential for scaling up efforts to create a more resilient Near-Urban Nature Network in the GGH. The importance of knowledge-sharing, coalition-building, education, and outreach came up throughout the work of the SONC partnership.

Regional coordination can help the larger community in developing the vision, building capacity, mobilizing action, and establishing opportunities for knowledge sharing. The creation and funding of the Oak Ridges Moraine Foundation and the Greenbelt Foundation has advanced public and political understanding of the importance of the GGH's special landscapes and waterscapes. This work has increased support by the public, landowners, and the agricultural sector. In 2021, more than 90 per cent of polled Ontarians strongly support the Greenbelt initiative.

15k ha

Approximate area of new parkland needed by 2041 to maintain current per capita levels

SONC outlines an immediate path forward for the region.

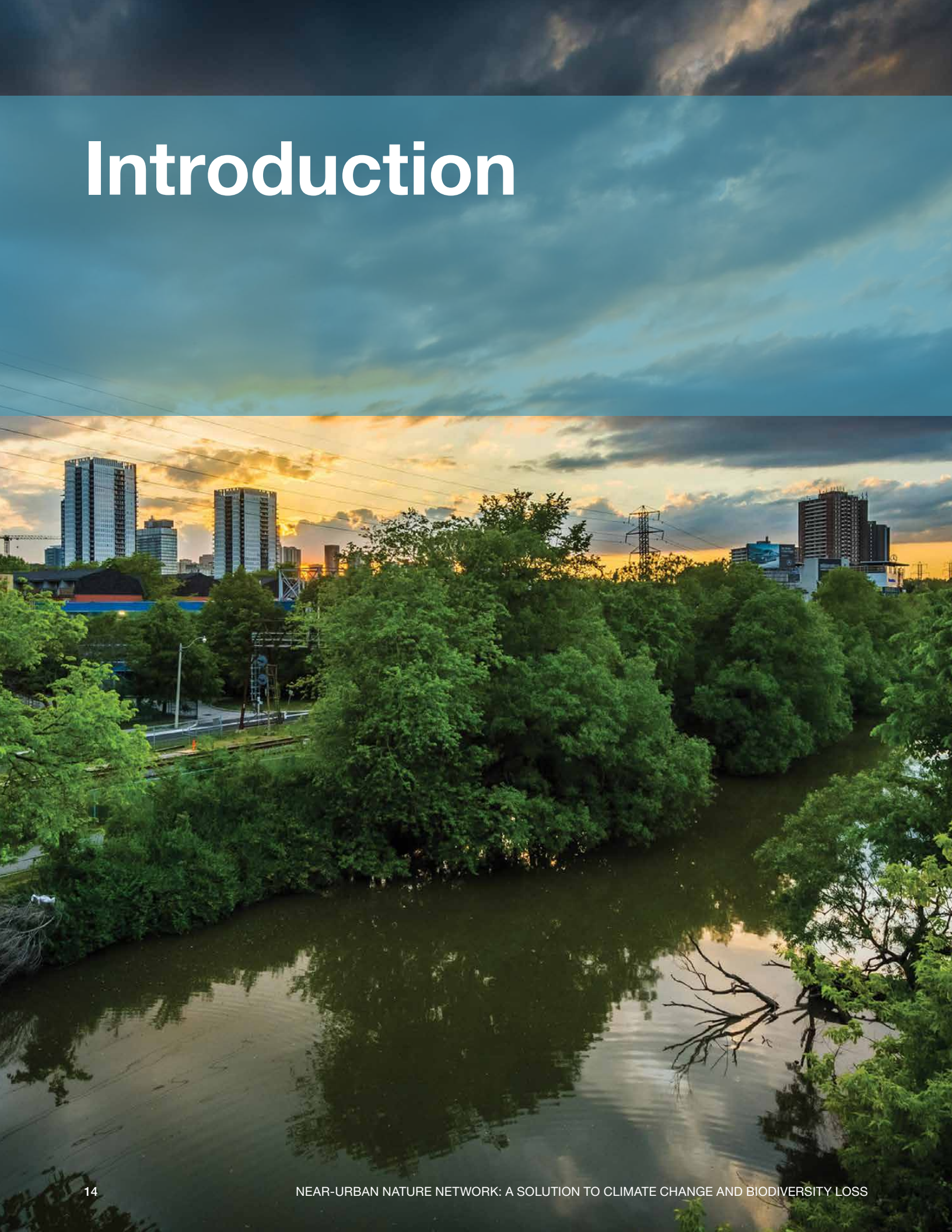
Resources needed to undertake this work are estimated at $10 million over 2 years:

- Continue to **engage interested local Indigenous Communities** in accordance with community protocols and the use of Ethical Space.
- Communicate the vision and importance of the Near-Urban Nature Network for Canada and southern Ontario; build on the model of the Greenbelt and findings of this project, including continuing in-depth **assessment of areas of importance for protecting**, connecting, and restoring land for:
  - Ecology: Key Biodiversity Areas and areas of local significance; areas integral to regional connectivity;
  - Culture: Indigenous biocultural mapping; and
  - Society: communities vulnerable to climate change impacts.
- Support outreach and engagement activities, and the development of tools and resources to **accelerate opportunities to establish protected and conserved areas** in the GGH, including Other Environmental Conservation Measures (OECMs) and Indigenous Protected and Conserved Areas (IPCAs).
- Identify opportunities for regional planning to **improve access to greenspace** for all residents.
- Lead significant **ecosystem restoration actions** in the region and investments in natural infrastructure by:
  - Partnering with the Government of Canada in implementing the two billion tree commitment, including strategic planning and collaboration to identify priorities and monitoring needs; and
  - Developing tools and resources to increase biodiversity and climate resilience stewardship outcomes among agricultural and private landowners, including Forest Stewardship Council (FSC) Certification and promoting woodlot economies.
- Launch a **Native Plant Seed Strategy Pilot** for seed zones associated with the GGH, and in collaboration with Indigenous Communities.
- Continue **pan-Canadian conversations** to advance the protection of nature and people's connection to nature in urban areas.

54m

Number of trees for which there is space and a need in the GGH

Introduction



What is Near-Urban Nature and why must we protect it?

Near-urban nature is comprised of the forests, river valleys, wetlands, savannahs, and other ecological features that surround and intersect our communities. This nature is critical to the health and well-being of all life in Ontario's Greater Golden Horseshoe (GGH), and is one of our greatest resources for adapting to climate change. While we often look to protect wilderness areas farther afield, southern Ontario is one of the most biodiverse regions in Canada—providing direct and irreplaceable 'ecosystem services' – like flood protection, clean water, air filtration and local food – to the country's largest concentration of communities and people.

This proximity puts near-urban nature at high risk of being degraded and lost, making increased conservation critical.

This report outlines actions needed to create a Near-Urban Nature Network in the GGH, one of the most biodiverse areas in Canada. The network reflects opportunities based on local geography for multiple protected cores of natural areas connected by ecological and hydrological corridors, including river valleys that extend directly into urban centres.

Protecting near-urban nature in the GGH is a challenge given multiple jurisdictions, competing visions for the use of lands, and highly fragmented ownership. Meeting this challenge begins with awareness of nature's benefits. Indigenous histories and Knowledge Systems can advance management of the lands, water and wildlife in the region.

There is considerable opportunity to increase protected and conserved areas in the region due in part to newly recognized tools, such as *Other Environmental Conservation Measures* (OECMs) and *Indigenous Protected and Conserved Areas* (IPCAs).[1] These tools provide needed flexibility to enable more urban areas and Indigenous Peoples and Communities to contribute to Canada's Target 1. New tools are also needed to identify ecological corridors significant to preserving biodiversity and protect connectivity across near-urban landscapes.

Canada Target 1 **refers to Canada's area-based conservation target as set out in Canada's Biodiversity Strategy and updated in the Pathway to Target 1 initiatives One with Nature, Canada's Conservation Vision, and We Rise Together reports. With new Federal commitments, this target has been updated to conserve 25 per cent of Canada's lands, freshwater, and oceans by 2025, working toward 30 per cent by 2030.**

1 See *One with Nature* Report of Canada's Federal, Provincial and Territorial Departments Responsible for Parks, Protected Areas, Conservation, Wildlife and Biodiversity. https://www.conservation2020canada.ca/home

Building on the Ontario Greenbelt which stretches across the centre of the GGH, and addressing the need for multi-faceted outcomes in urban areas, the Southern Ontario Nature Coalition (SONC) identified the following opportunities:

1. Opportunities for Increasing Protection of Natural Cores and Corridors
2. Opportunities Restoring Natural Infrastructure for Climate Resilience, and Greenspace
3. Opportunities for Stewardship and Public Engagement
4. Opportunities for Meaningful Indigenous Collaboration and Leadership

Figure 1 *Connections among biodiversity, ecosystem health, and climate change*

A regional and collaborative approach is needed with the meaningful engagement of local Indigenous Peoples and Communities through the use of Ethical Space.[2]

There is tremendous leadership, expertise and community innovation in the region that can support a Near-Urban Nature Network. Key partners include Ontario's Conservation Authorities, Federal and Provincial parks network, Indigenous Peoples and Communities, municipalities, land trusts, universities and institutes, and hundreds of community organizations, trail associations, and stewardship partnerships.

The Network recognizes and builds on past collective action in the region including integrated watershed management, the creation of the Greenbelt, Niagara Escarpment and Oak Ridges Moraine, Cootes to Escarpment EcoPark System, The Meadoway hydro corridor project, Bruce and Oak Ridges Trail systems and other much-loved landscapes that protect nature, provide greenspace and build climate resilience.

The report builds on progress in protecting near-urban nature in this region to date and comes at a time when Canada and other countries are meeting to set global environmental targets over the coming decade, as the dual crisis of biodiversity and climate change demand accelerated and concerted action.

The vision supports the interests of other Canadian cities to establish national urban parks, connect people with nature, and contribute to significant national programs to manage biodiversity and protect ecological corridors.

2 See description, as shared through Dr. Crowshoe's teachings, and the insights of the Indigenous Circle of Experts (ICE) Co-chair Danika Littlechild as described in the *One with Nature* Report of Canada's Federal, Provincial and Territorial Departments Responsible for Parks, Protected Areas, Conservation, Wildlife and Biodiversity. Retrieved from https://www.conservation2020canada.ca/home

Photo: Bill McDonald

Who we are: The Southern Ontario Nature Coalition

The Southern Ontario Nature Coalition brought together the following organizations:

Cambium Indigenous Professional Services, Indigenous professional and technical consultants with experience in engaging Indigenous Peoples and Communities.

Carolinian Canada, a network of leaders growing a green future with healthy landscapes in the spirit and practice of reconciliation.

Cootes to the Escarpment EcoPark System, a voluntary park alliance of nine local government and non-profit organizations in the Burlington-Hamilton area, at the southwest end of Lake Ontario.

The **Greenbelt Foundation**, a non-profit organization dedicated to ensuring that Ontario's Greenbelt remains permanent, protected, and prosperous.

The **Ontario Farmland Trust**, which protects and defends Ontario's best farmlands and associated ecological lands, through direct land securement, policy development, and education.

The **Ontario Land Trust Alliance**, which builds and supports highly effective, well-governed land trusts that engage their communities in the conservation of important natural and managed landscapes.

Ontario Nature, a charitable organization that protects wild species and wild spaces through conservation, education, and public engagement across Ontario.

The **Wildlands League**, which protects wilderness in collaboration with communities, governments, First Nations, scientists, and progressive industry.

What we did

Through capacity funding from Environment and Climate Change Canada and support from the Province of Ontario through the Greenbelt Foundation, the SONC identified opportunities for a Near-Urban Nature Network in the 3.2 million-hectare Greater Golden Horseshoe in Southern Ontario, a key terrestrial link between ecoregions and freshwater bodies in Ontario and Great Lakes Basin.

Key Elements of a Near-Urban Nature Network

Figure 2 sums up important elements of our vision for Near-Urban Nature Networks

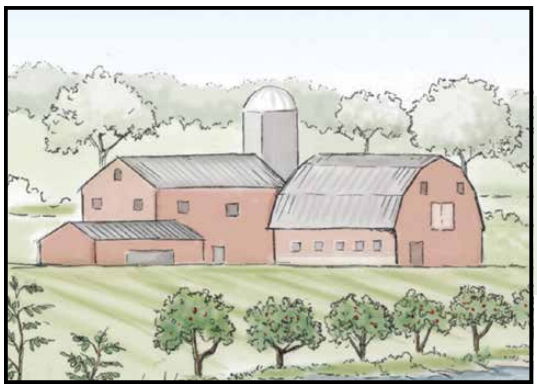
Figure 2a *Elements of a Near-Urban Nature Network*

Identify priority areas for protection, restoration, and connectivity, taking into account their ecological, cultural, social, and economic significance and galvanize public support for conservation, stewardship and access to greenspace.

Draw on multiple knowledge systems and science to inform and **advance protection, co-governance, and co-management** of the lands, waters and wildlife under consideration.

Engage Indigenous Communities, in accordance with Community protocols, and create an Ethical Space for Indigenous and non-Indigenous peoples to **contribute equally and meaningfully in decision-making processes**.

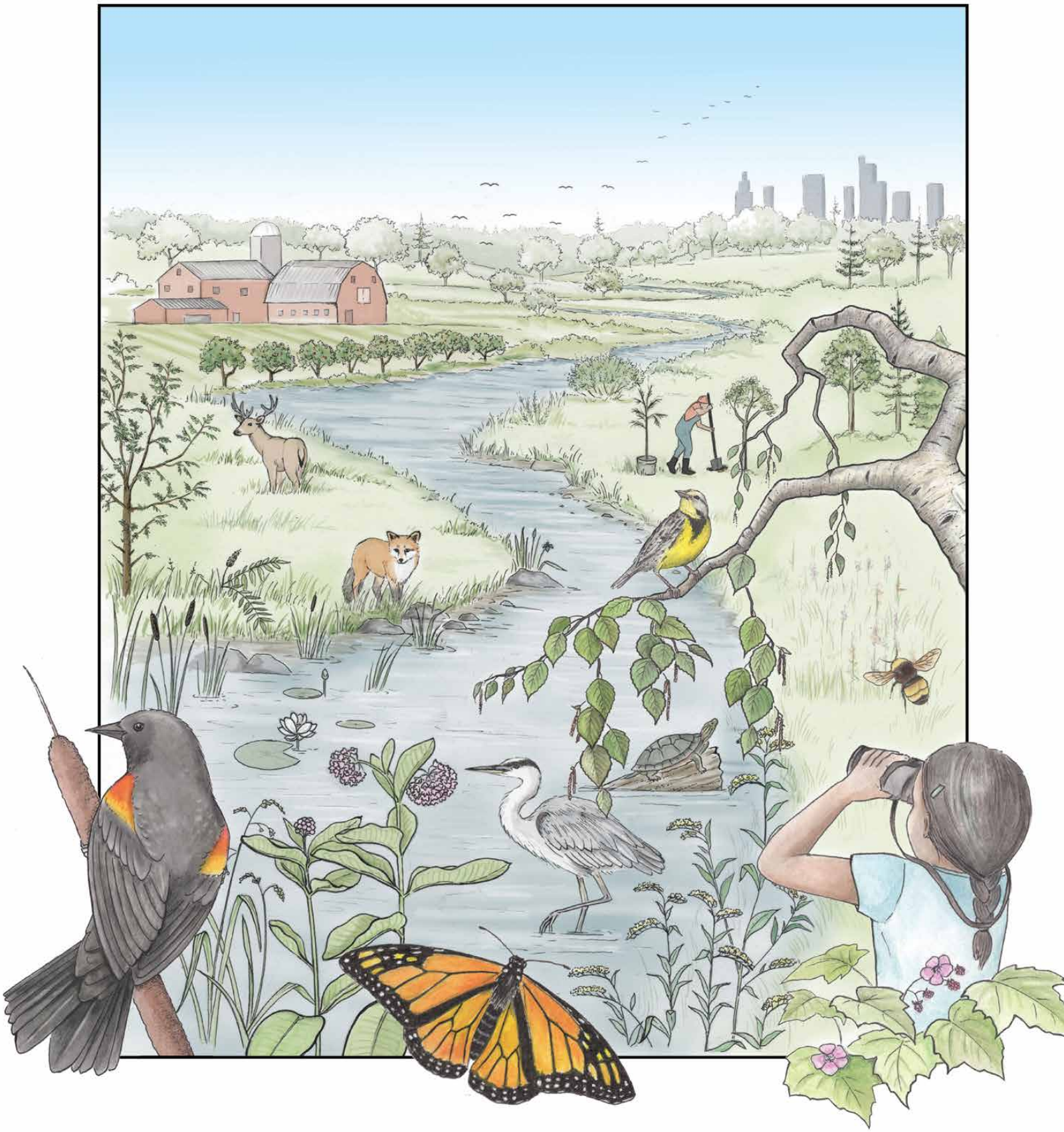
Develop cross-cultural understanding and actively engage everyone protecting the lands and waters upon which our health and well-being, and that of all life in the area, ultimately depend.



Support all landowners, including farmers and other agricultural landowners who are showing leadership, by enabling and supporting the protection of farmland and conservation action in their communities and on their lands.

Illustrations: Ann Sanderson

Figure 2b *A vision for the GGH's Near-Urban Nature Network*

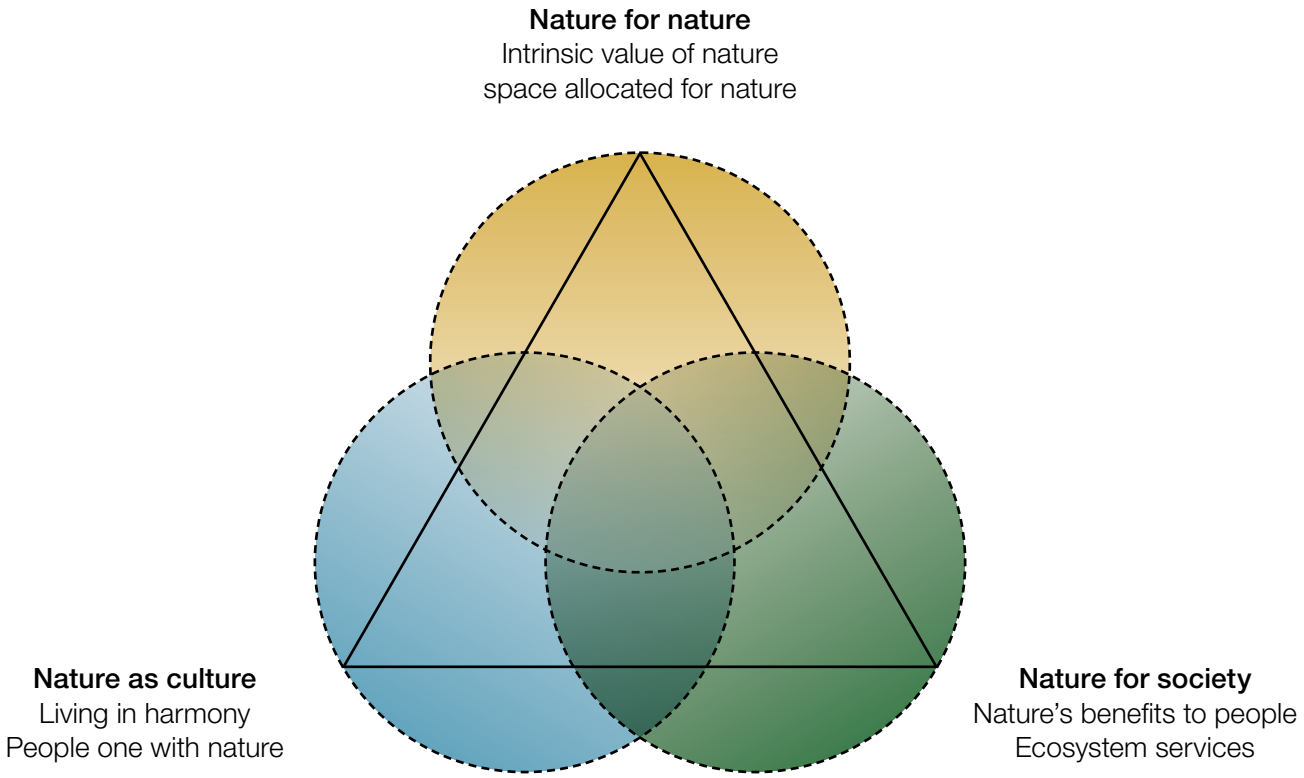


Diverse approaches

This report identifies new approaches and opportunities to change our relationship with nature. Taking a plural approach to valuing nature is being increasingly seen as critical for this shift in our approach to biodiversity. Despite some progress on Canada's Biodiversity Targets in specific provinces (such as Quebec), traditional biodiversity conservation approaches have encountered many barriers and many targets remain unmet. Across Canada and globally we are moving farther from the Convention on Biological Diversity's Vision of "Living in harmony with nature" by 2050, as progress on biodiversity targets is offset by ever-increasing consumption of land and resources.

Pluralistic approaches (see Figure 3) can help break down silos of related but separate efforts in biodiversity, agriculture, climate, health, sustainable communities, and other areas. Staff at a conservation organization may have a different reason to support a Near-Urban Nature Network compared with someone working in public health, but both have good reasons to contribute. In urbanized regions acknowledging the many ways people relate to nature can help us collaborate, build coalitions, and empower a diversity of perspectives that might otherwise be excluded from ecological conservation and "land use" discussions.

Figure 3 *Nature Futures Framework*[3]



3 Pereira, L. M., Davies, K. K., den Belder, E., Ferrier, S., Karlsson-Vinkhuyzen, S., Kim, H.,... and Lundquist, C. J. (2020). Developing multiscale and integrative nature–people scenarios using the Nature Futures Framework. *People and Nature*, 2(4), 1172-1195.

Indigenous Ways of Knowing and Indigenous Engagement

Nature is important to Canadians and for many, part of our identity. Still, nature is rarely considered as culture in policy and practice in non-Indigenous conservation efforts to date, despite growing recognition of the importance of relational values to nature. Indigenous Peoples have long understood these values. Their leadership and teachings will be critical to the success of a Near-Urban Nature Network.

Alderville Elder Rick Beaver shared the following description and an image (see Figure 4) for the vision of the Near-Urban Nature Network:

As parents (or grandparents) are engaging their children or grandchildren about G'chi Manidoo (the Great Spirit) and the many mysteries of life, the young ones always need to know why. "What are relations/connections? Why are they important? Are we connected to plants and animals too? Always "Why?" or "How?"

The Near-Urban Nature Project presents an opportunity to examine the connections. An Indigenous person always ends their ceremony by giving thanks with this phrase "All my relations"...a reminder to keep connected with the gifts of Creation...with balance, respectful acknowledgement, love, bravery, honesty, truth, humility and the achievement of wisdom. Those teachings were called grandfathers as that is how they were originally transmitted. The first law for humanity is to always care for the Earth. The Grandfather teachings remind us of that duty and how to accomplish it. I have personified that in this image with the inclusion of brother (and sister) hood, teaching, elements of nature and the circle binding all life together in our shared travels and destiny. Water, important for all life flows across the red blanket. Symbols of growing things are represented by the short and tall green grasses. The Near-Urban Nature Project is referenced both by the symbols of living things (bear paw, deer) and the urban landscape (cityscapes).

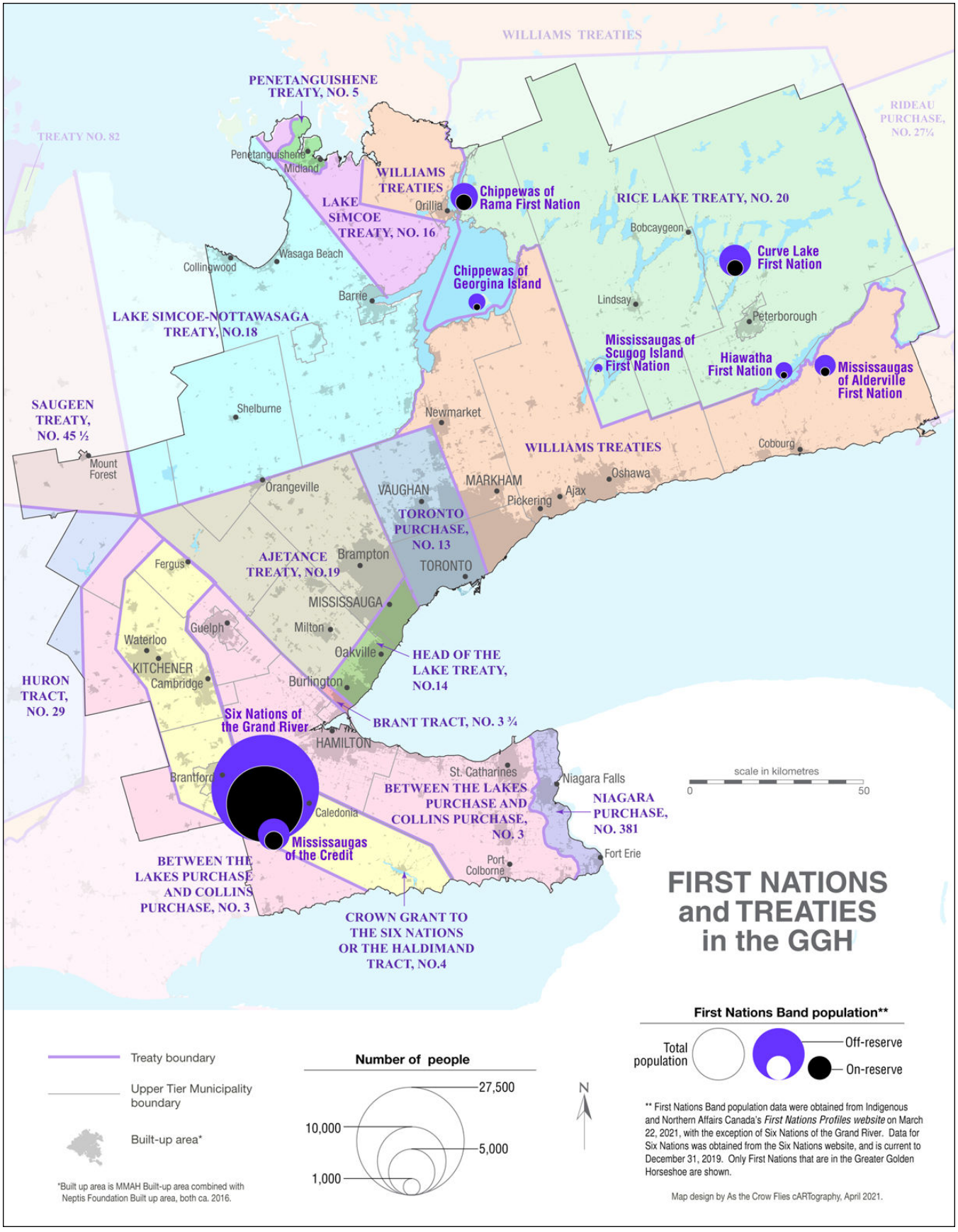
The attempt I share now is called "Tell us about Relations".

Rick Beaver
June 2021

Figure 4 *Original art by Rick Beaver for the Near-Urban Nature Network project: "Tell Us About Relations"*

Cambium Indigenous Professional Services led the engagement process with three of the seven First Nations in the Williams Treaties Territory (see Figure 5). Initial presentations and conversations were held with Curve Lake First Nation, Hiawatha First Nation, and Scugog Island First Nation. SONC intends to ensure that time and support is given to continue these conversations and engage the other four Communities of Alderville First Nation, Beausoleil First Nation, Chippewas of Georgina Island, Chippewas of Rama First Nation Communities as well as the other First Nations Communities in the GGH including the Mississaugas of the Credit First Nation, the Haudenosaunee and the Urban Indigenous populations to build strategies for the Near-Urban Nature Network.

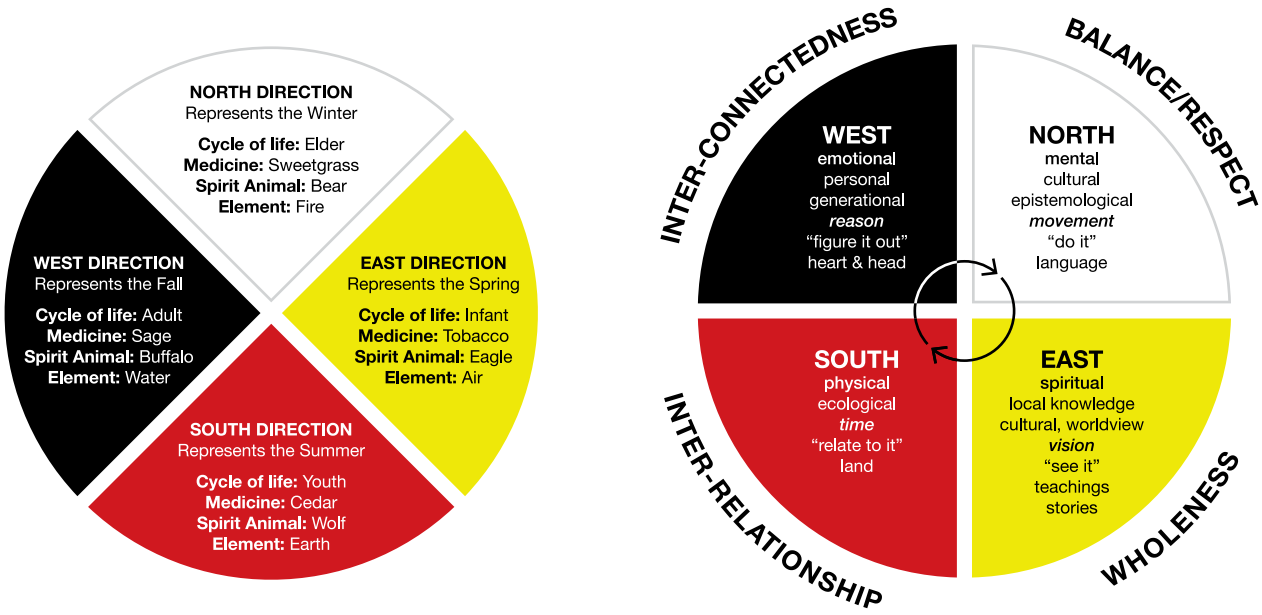
Figure 5 *First Nations and Treaty Lands in the Greater Golden Horseshoe. Note Beausoleil First Nation, within the Williams Treaties, sits just north of this boundary on an island in Lake Huron.*



Representatives from Curve Lake and Hiawatha and First Nations suggested guidance in the form of the Seven Grandfather Teachings (also listed at the back of this publication) and the medicine wheel. Both have various iterations in Anishinaabe cultures, but the concepts and values are usually similar from one Nation to another.

The Medicine Wheel (Figure 6) has several teachings encompassed within it, as well as variations of those teachings. Each is meant to assist in understanding the interconnectedness of life and ways of overcoming life challenges.

Figure 6 *Examples of the medicine wheel*



Reflecting on these teachings can help us in this initiative, such as using the quadrants to clarify areas of focus and understand how this work connects in a holistic way to other initiatives (biodiversity, climate change, equity and diversity, as well as mental, emotional, physical, and spiritual health, and overall well-being).

Teachings vary from place to place and community to community. If the teachings are used as a guide, they must be used appropriately. Those knowledgeable from both Indigenous Communities and urban Indigenous populations should determine which elements to apply.

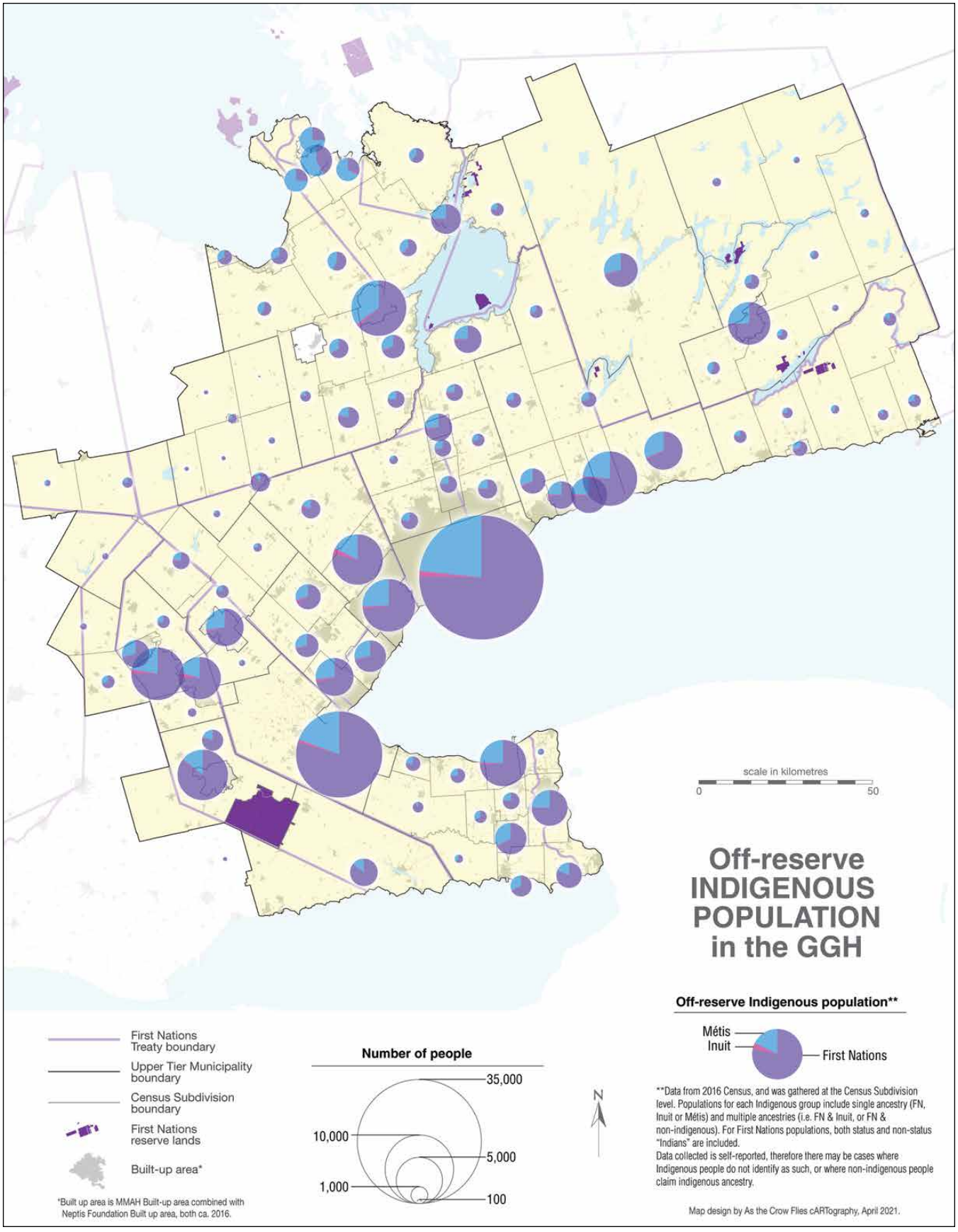
In continuing to build the Near-Urban Nature Network, needs identified through discussions with Hiawatha and Curve Lake First Nations can help to guide ongoing engagements. These include:

- Engage urban Indigenous groups
- Remember: We are all treaty people, we are all ancestors for the future generations
- Work on restoration, the connectivity of lands/areas, coldwater streams, protection of wetlands
- Protect harvesting rights and consider the impact of new land protections on access for harvesting
- Strategies to have more weight to environmental considerations compared to economic ones
- Conduct a Williams Treaties Traditional Ecological Knowledge mapping study
- Monitor and maintain areas in addition to protecting the areas
- Complete cumulative effects study
- Include restoration and maintenance in the strategy; planting that takes place after a project is completed should use native species
- Involve more Community members for large future projects
- Be mindful that although the Williams Treaties First Nations settled the claim, the First Nations are still in the implementation phase and probably will be for years to come
- Approach the leadership of the Williams Treaties First Nations and perhaps Community members to sit at engagement tables
- Develop an inventory of individuals who have expertise in education, knowledge holders, etc.

Near-Urban Nature Networks are an opportunity to commit to Indigenous-led conservation. Part of this commitment is acknowledging that most previous non-Indigenous–led conservation efforts have not meaningfully engaged with Indigenous Communities. At the same time, partnerships and relationships may create additional workloads for Indigenous participants. Care and effort are needed to ensure that those with the needed knowledge are able to participate meaningfully.

There are many ways to engage urban Indigenous Peoples (see Figure 7), as several Indigenous organizations provide services specifically for Indigenous Peoples, such as Friendship Centres, health organizations and employment and training organizations. Strategic planning and adequate funding must also be in place to support participation by both the partner Indigenous organizations as well as for participating Indigenous Peoples.

Figure 7 *Off-reserve Indigenous populations in the Greater Golden Horseshoe*



Research methods

The research, which took place over 18 months in 2020 and 2021, included literature and policy reviews, mapping, as well as guidance from Indigenous Peoples and representatives from First Nation Communities, local government staff, federal agency and provincial staff, Conservation Authority staff, representatives from conservation and agricultural organizations, and the greater public.

The SONC partners, with ReConnect consulting, held four workshops, tailored to different groups: (1) a general audience of environmental organizations, (2) municipality staff, (3) Conservation Authority staff, and (4) land stewards (landowners, agricultural organizations and land managers).

We also administered two surveys. One was completed by conservation organizations and experts and the other survey by land stewards (including municipal staff, Conservation Authority staff, land trusts staff, and private landowners).

Finally, we conducted more than a dozen interviews to gather in-depth information on topics of special interest. Interviewees represented the following organizations:

Conservation Ontario

Forests Ontario

Intact Centre on Climate Adaptation

Municipal Natural Assets Initiative

Ontario Soil and Crop Improvement Association

Smart Prosperity Institute

Ducks Unlimited (Ontario)

Insurance Bureau of Canada

ICLEI Canada

Nature Conservancy of Canada

Parks Canada

The Trans Canada Trail

Photo: David Watkins

Where we focused: The Greater Golden Horseshoe

The following land acknowledgement is not just a preface to our work, but an integral part of the work itself. So, we are putting the acknowledgement here, inside the report, and not at the beginning:

We the Southern Ontario Nature Coalition (SONC) acknowledge that the land we meet on and strive to protect is the territory of the Anishinaabe and the Haudenosaunee Peoples which is now home to many diverse First Nations, Métis, and Inuit. While honouring these traditional territories, we offer gratitude to the First Peoples for their care of and teachings about our collective Mother and our relationship with her.

Through this work, we have come to understand that since time immemorial the Indigenous Peoples have been practicing conservation and have lived in harmony with the balance of nature. This time on the land has allowed for a deeper understanding of the natural processes that occur throughout each year and from this perspective Indigenous Peoples share a deep connection to the land, one of kinship as all living things are seen as equals, relatives, whom we All have a reciprocal relationship with. In the eyes of the First Peoples, land and people are interconnected – not mutually exclusive.

For millennia Indigenous Peoples were self-reliant and well provided for by the land through ceremony and gratitude as well as their own ingenuity as they have been gifted with the knowledge of how to responsibly and sustainably harvest and care for the offerings of the land in which they have continued to seek to protect, preserve as well as share this knowledge in the face of many challenges.

Many events have occurred since European contact that have and continue to have detrimental impacts on the lives of the Indigenous Peoples including treaties that were fabricated and/or not upheld, Residential Schools, the Sixties Scoop, and the Indian Act that is still very much prevalent in controlling the lives of the Indigenous Peoples today.

At present, due to the attempted genocide, assimilation and colonization much of southern Ontario no longer reflects the thriving landscape that once was abundant with trade routes, harvesting, and Community, both human and non-human. This vibrant way of life has nearly been wiped out with only remnants of the natural beauty and little visibility of the Peoples who have protected, preserved, and sustained it for millennia and who continue to face challenges to uphold that responsibility to this day.

As the Southern Ontario Nature Coalition undertakes this important work, we have come to recognize that not only all of Ontario but the whole of Canada is to this day, the homelands of Indigenous Peoples and all others are guests of this land. With this knowledge we also recognize that looking at the land through an Indigenous lens allows us to better understand that we have common values and goals as well as a lot we can learn. We must come together in all efforts to support those who have demonstrated time and time again the importance of protecting that in which sustains us All.

With this realization, we are committed to ensuring that others know these Truths and that the areas in which we seek to protect, preserve, and restore are not only reflective of the knowledge of the Indigenous Peoples and their rich history, we will also ensure that their knowledge is sought out, supported, and leads the work being undertaken as this is their inherent right as the original caretakers of this land.

An immediate priority from the Missing and Murdered Indigenous Women and Girls National Action Plan is access to urban land-based activities for healing, ceremonies, socials, and positive community interactions. Access to land is a central element of the well-being of Indigenous Peoples.

A profile of the region

The GGH is Canada's most densely populated and rapidly urbanizing region, with a current population of 10 million, expected to rise to 15 million by 2051.

This region has some of the province's most fertile soils, contributing to a healthy local food system that also faces threats from climate change and urban development. The GGH's natural and cultural heritage assets include the Oak Ridges Moraine, the Niagara Escarpment World Biosphere Reserve, major river valleys, coastal wetlands, and connections to three of the Great Lakes: Ontario, Erie, and Huron.

The GGH falls within an ecological area known as the Mixedwood Plains Ecozone, which has a moderate climate and an abundance of water supporting a diversity of ecosystems and species. It is Canada's smallest and least protected ecozone.

About 30 per cent of the land consists of natural cover, including forests, wetlands, and savannahs.[4] The GGH is an important migratory bird corridor and a route for terrestrial movement around the Great Lakes for wildlife which might be migrating as the climate changes. The loss of remaining connectivity will obstruct wildlife movement across southern Ontario and migrations north from the US.

Habitat fragmentation and loss due to urban development and high use of greenspaces by a growing population are the leading causes of biodiversity loss in the region. With limited opportunities to establish new large Protected Areas, a network of smaller natural cores connected by ecological corridors can conserve biodiversity in important near-urban natural landscapes.

In 2005, the Ontario government created a Greenbelt to conserve more than 7,000 square kilometres surrounding the main urban areas on Lake Ontario. This is one of the largest greenbelts in the world. Its provincial land use policies protect significant ecological and hydrological features and connectivity of major agriculture, natural and water resource systems across public and private lands. Urbanization is not permitted though some resource activities and linear infrastructure projects that support urban development are allowed. The Greenbelt and its distinct landscapes which include the Niagara Escarpment, Oak Ridges Moraine, Protected Countryside and 21 Urban River Valleys provide a framework to protect and maintain ecological connectivity across the GGH and similar near-urban areas.

10m

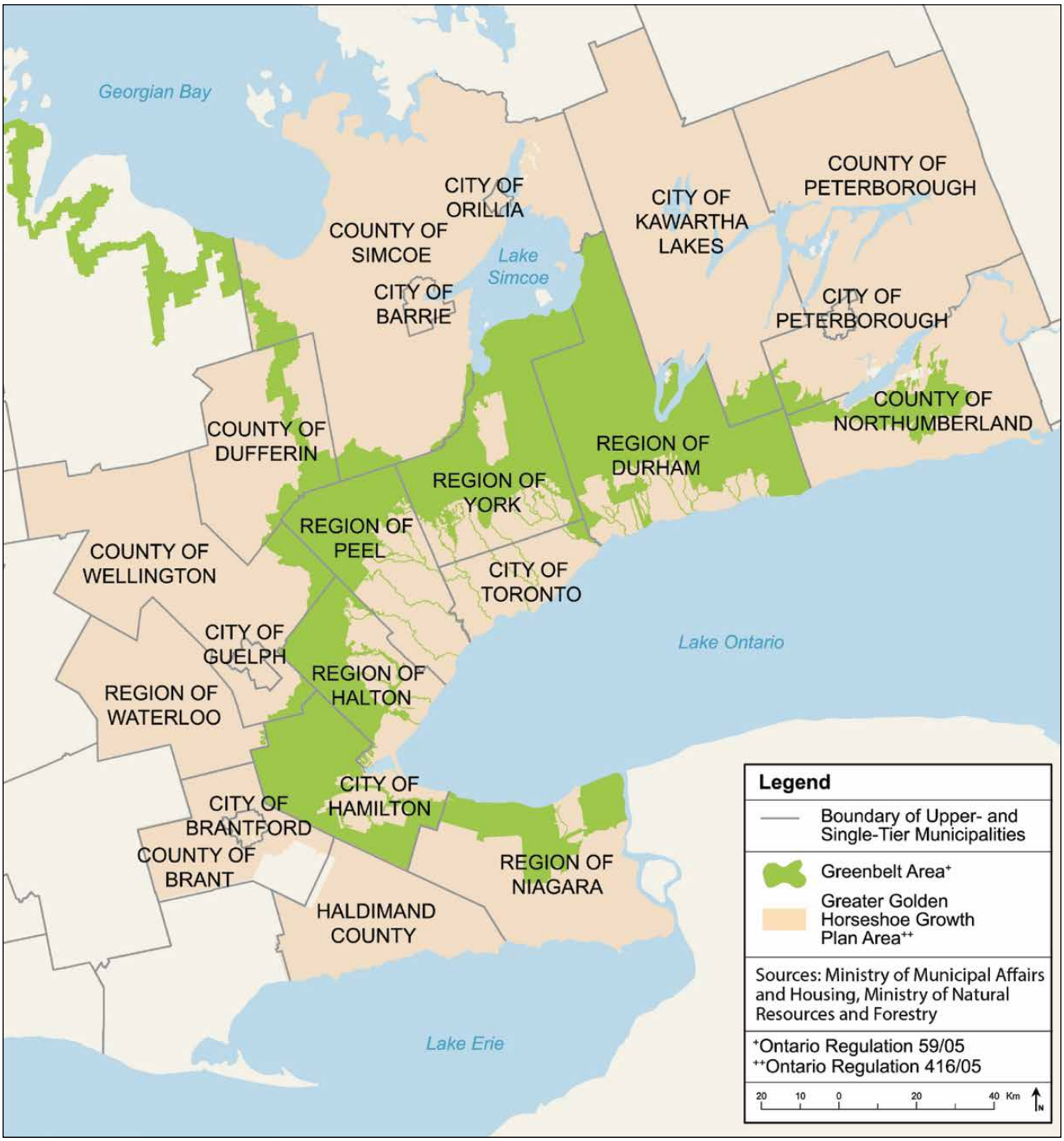
Current population of GGH

15m

Expected population of GGH by 2051

4 Based on our analysis of Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry's Southern Ontario Land Resource Information System v.3

Figure 8 *Greater Golden Horseshoe and the Greenbelt*



What areas are protected?

Canada has committed to conserving 25 per cent of its lands, freshwater, and oceans by 2025, working toward 30 per cent by 2030

Although 30 per cent of the GGH is natural cover, only 94,687 hectares were recognized Protected Areas through Canada Target 1 accounting at the end of 2020, or about 2.6 per cent of the GGH (see Figure 9).

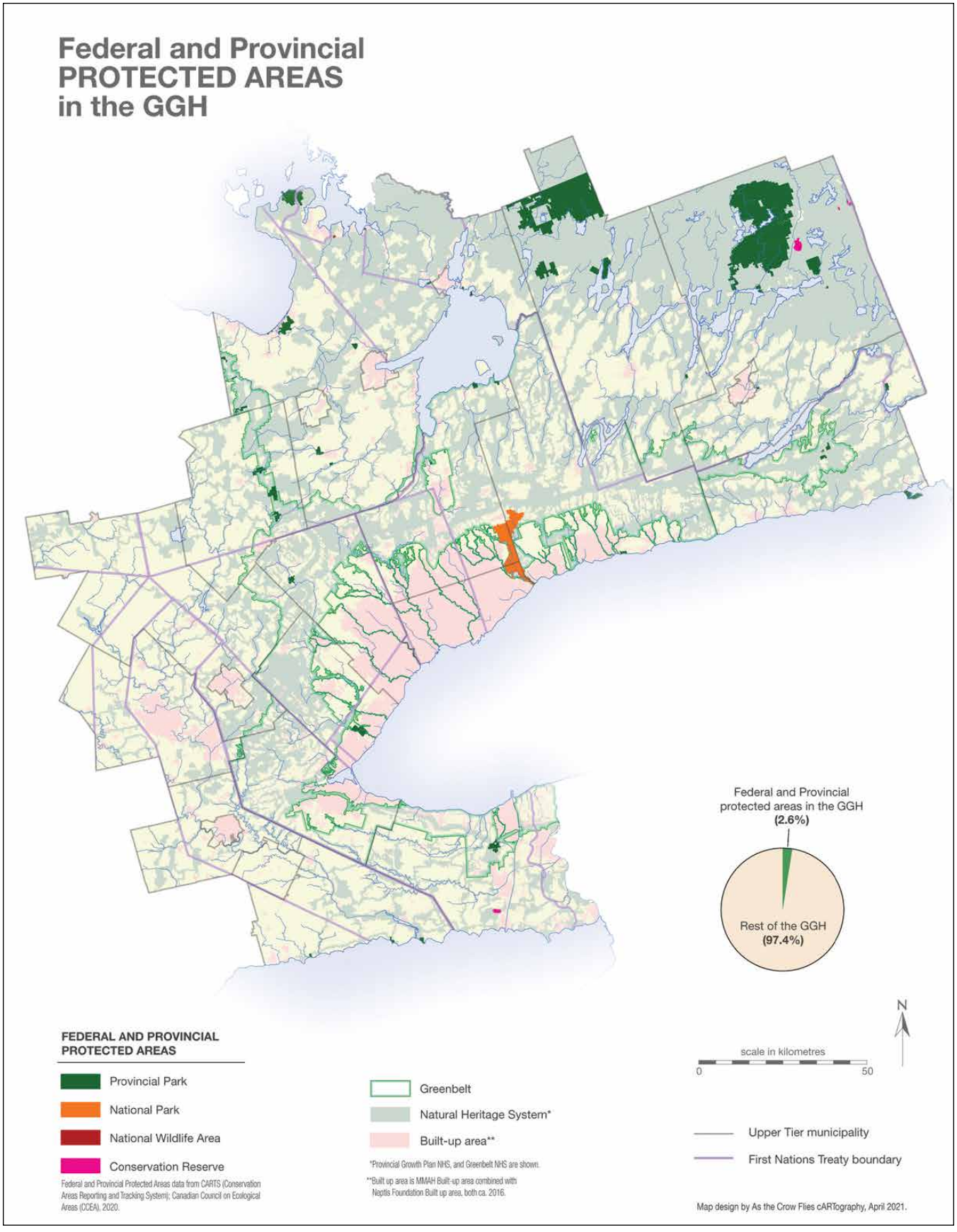
This 2.6 per cent is broken into 44 dispersed areas, with most protected land in the northeast of the GGH like Queen Elizabeth II Wildlands Provincial Park as well as Rouge National Urban Park.

Protected Area:

"A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values."

INTERNATIONAL UNION FOR CONSERVATION OF NATURE

Figure 9 *Protected areas in the GGH already counting toward Canada's Target 1*



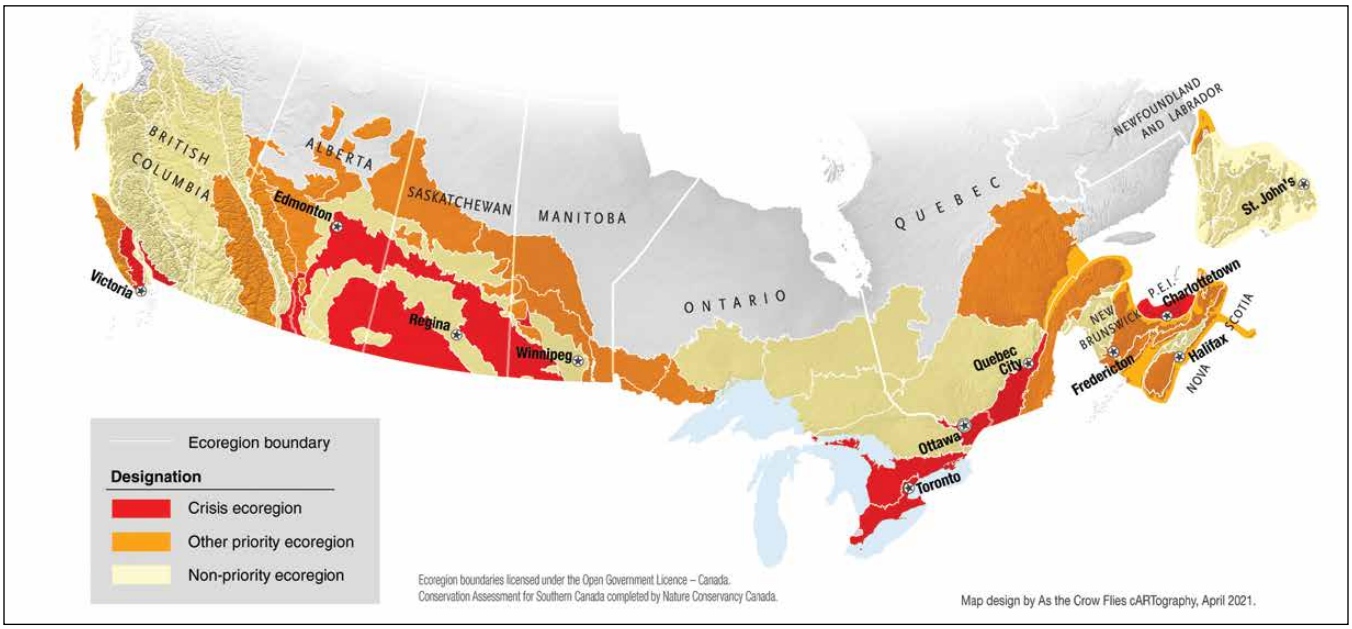
A region in crisis: biodiversity, greenspace and climate change

The Nature Conservancy of Canada has identified biodiversity priority areas for urgent action across southern Canada, areas in which "nature needs us most."[5] The GGH is situated within two of these priority areas: the Lake Erie Lowland and the Manitoulin-Lake Simcoe ecoregions, both of which have been classified as "crisis ecoregions" (see Figure 10). That is, these regions combine a high diversity of species and ecosystems with a high threat level compared with other ecoregions in southern Canada.

> Crisis ecoregions across Canada coincide with heavily settled landscapes which have the "longest history of colonization, agricultural, urban and industrial land uses, and where most Canadians live."[6]

Urbanization is a particular threat, as low-density housing, highways, and associated aggregate extraction continue despite the strong land use planning framework. Prime agricultural and natural areas are rapidly being converted to residential and other uses, with associated habitat loss, fragmentation, declines in the populations of species at risk, and the rise of invasive species. Even within the Greenbelt, the natural system continues to become more fragmented, mainly because of permitted uses within linkage areas, particularly aggregate extraction and road construction. Recreational pressures on near-urban nature have also increased during the COVID-19 pandemic; the effects include habitat damage from off-trail hiking and littering. The demand for recreational access to greenspace is already higher in this region than anywhere across Canada and there is a gap between this demand and the amount of land available to meet it. This gap is expected to grow as the population does.

Figure 10 *Conservation assessment for southern Canada showing crisis ecoregions in the GGH*

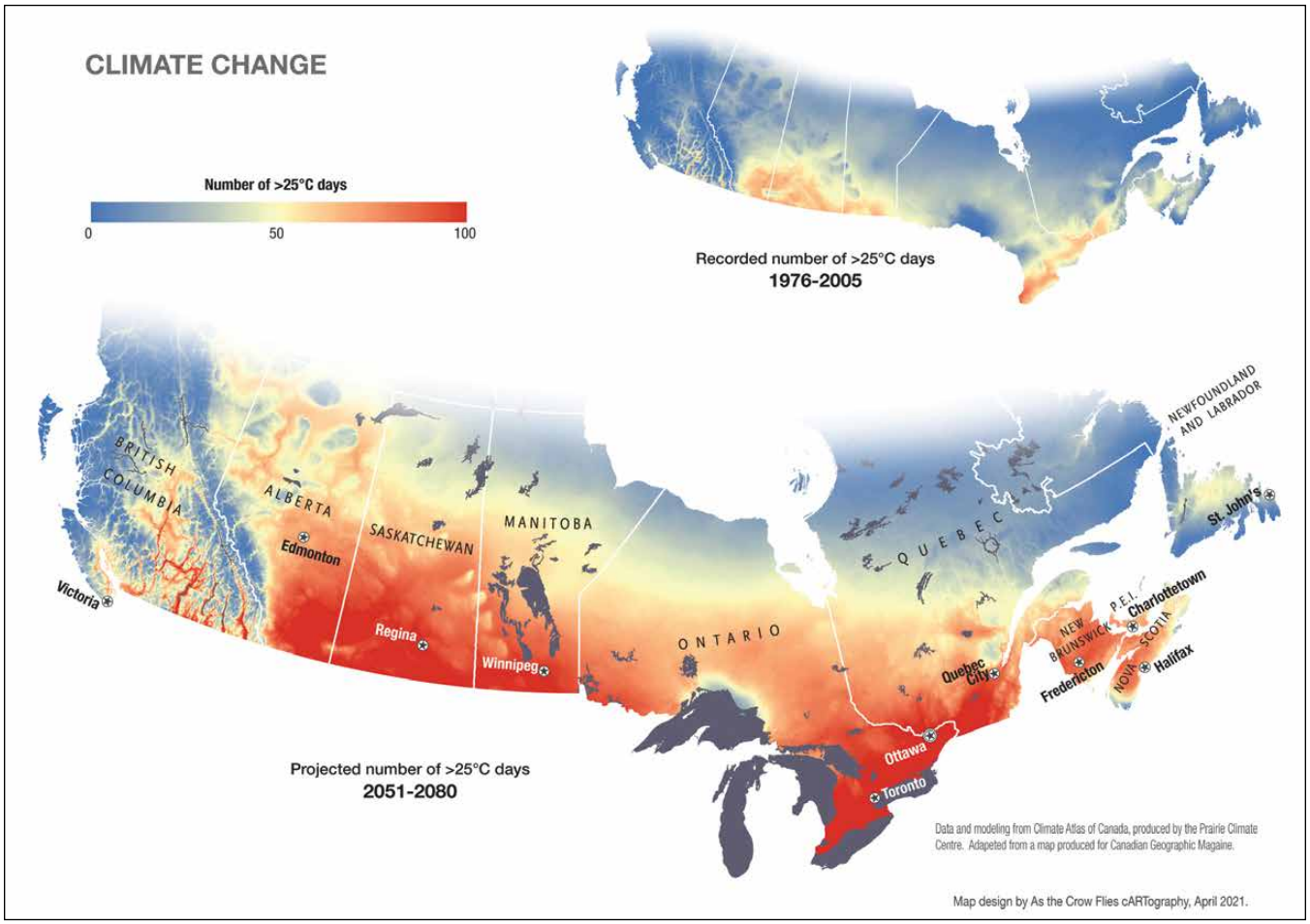


5 Nature Conservancy website, news release about study: https://www.natureconservancy.ca/en/who-we-are/news-room/in-the-news/unique-study-pinpoints-key.html

6 Daniel Kraus and Andrea Hebb, Southern Canada's crisis ecoregions: identifying the most significant and threatened places for biodiversity conservation, *Biodiversity and Conservation*, 2020-08-27, Vol.29 (13), 3573–90.

As the climate changes, the benefits that nature provides like reducing flood risk and making neighbourhoods cooler will be needed more than ever. This region is already one of the hottest across Canada and the number of heat waves we experience here are expected to double by the 2050s. The anticipated change in days over 25°C across Canada is shown in Figure 11.

Figure 11 *Current average (top) and estimated future (bottom) number of days over 25°C across Canada*



Gaps in policy affecting the Greater Golden Horseshoe and biodiversity

Provincial land use plans in the GGH include the Greenbelt Plan, the Niagara Escarpment Plan, the Oak Ridges Moraine Plan and the Growth Plan for the GGH. These contain regional-scale legally binding maps and policies for protecting agriculture, water resources, and natural heritage features and systems. At present, these systems are not monitored for biodiversity outcomes by the Provincial Government and the management for biodiversity is not explicitly regulated.

Major differences also remain in the level of protection of natural features in the region due to shifting values at all three levels of government. Policy exemptions weaken protection and proposed land use changes may result in the loss of natural cover or ecological connectivity without consideration on the impact to biodiversity. Incomplete data and information to monitor land use change impede understanding and action. These challenges make it more difficult to understand gaps and coordinate action at a regional scale.

The greatest threats are on land outside the Greenbelt, where many natural features have not been evaluated for protection and development pressures are high. Species legislation has also been weakened, to the point at which it can be difficult to know what is protected.

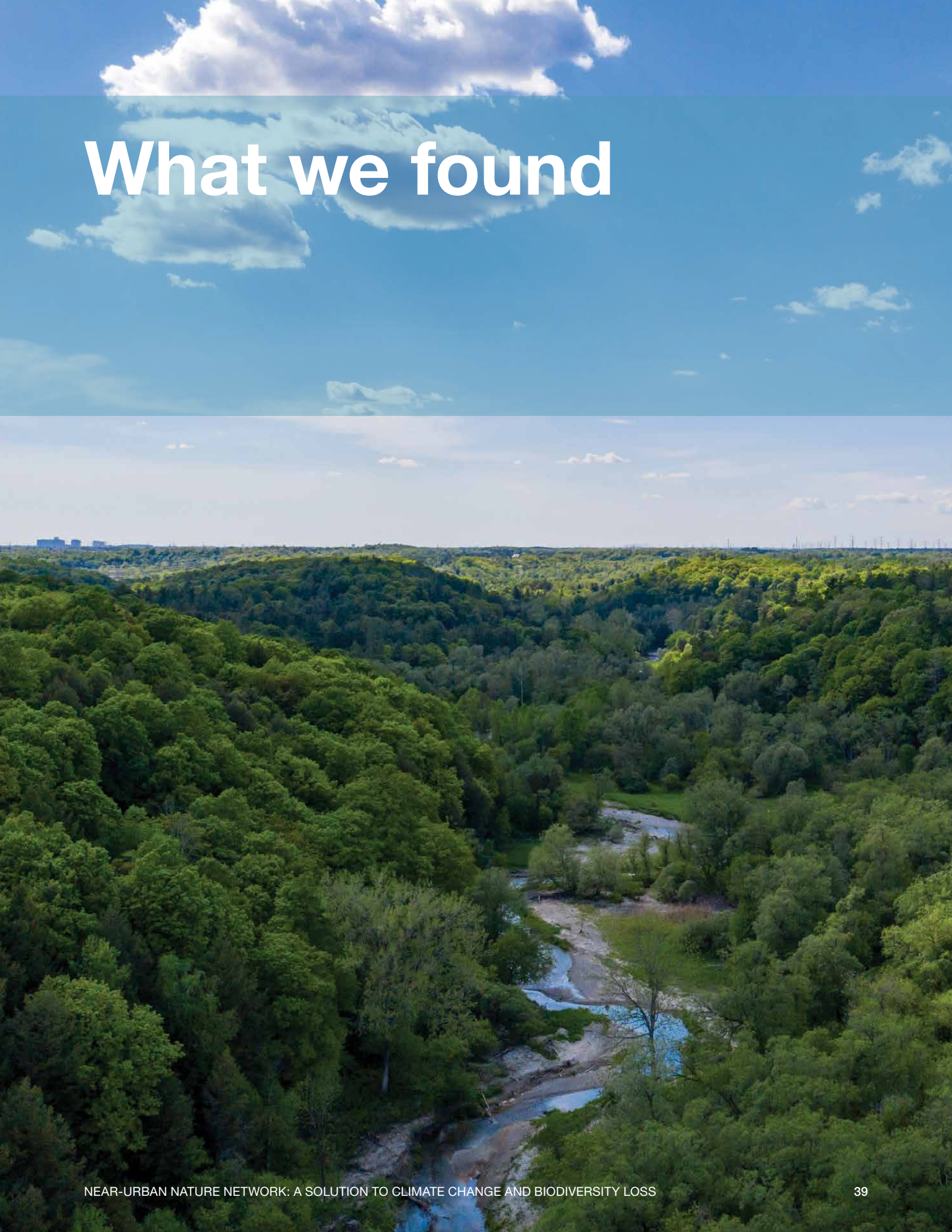
Wetlands are at particular risk. In the Greenbelt and Lake Simcoe watershed, wetlands of 0.5 hectares or more are automatically protected. However, wetlands under this size are known to provide critical ecological roles including as habitat for species at risk. In many parts of agricultural southern Ontario the majority of wetlands on the landscape are under 0.5 ha in size and support habitat for provincially, regionally or locally significant flora and fauna. These small wetlands often contain vegetation communities that are uncommon on the local landscape or support ecological connectivity by providing intervening habitat (stepping stones) between larger wetlands. There is even less protection for wetlands outside of the Greenbelt and Lake Simcoe watersheds, where protection is premised on “provincial significance”.

About half of all wetlands in the GGH have not been evaluated.[7] Since the determination of provincial significance affects the level of wetland protection, the failure to evaluate wetlands undermines the achievement of policy objectives. Similar issues exist with the evaluation of woodlands. Even through the evaluation process, criteria for significance does not reflect Indigenous Ways of Knowing and values.

Natural habitat on private land has varying degrees of protection. Conversion from natural features to other forms of land use is limited by land use planning policies and processes, but long-term management planning and support for private lands is largely voluntary and may not be coordinated.

7 See Section 4.3 of the Technical Background Report for details

What we found



Protecting land

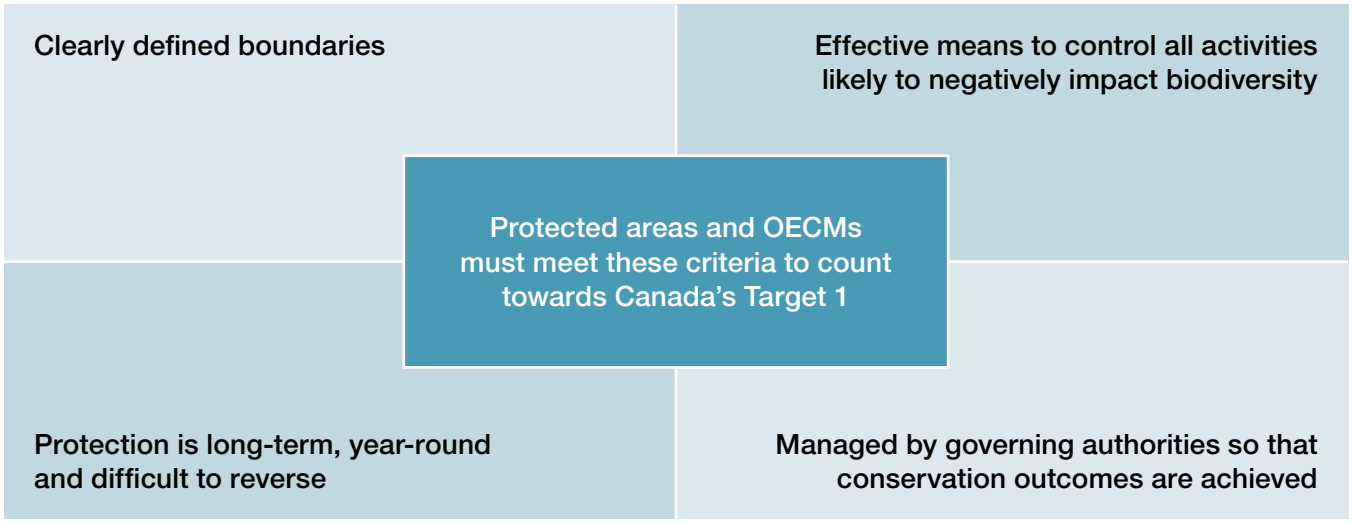
Making a meaningful contribution to Canada's Target 1 commitment to protecting land while improving climate change resilience in the GGH is feasible. There remain some opportunities for increasing Protected Areas on federal lands that could be explored, including areas near Rouge National Urban Park.

Many areas in Ontario are already recognized by the province for their important biodiversity values. However, in many cases, such as PWAs, ANSIs and PSWs, they do not meet a high enough standard of protection to count towards Canada's Target 1. In other cases, however, assessments of some Conservation Authority and municipal lands have shown that they are well enough protected to count.

New types of conservation measures can count towards conserving 25 per cent of lands, freshwater, and oceans by 2025, including those which meet the criteria to qualify as "Other Effective Area-based Conservation Measures" (OECMs). This newly coined term applies to sites that are not managed first and foremost for conservation, but that "still contribute to the effective and sustained conservation of biodiversity."

The key difference between Protected Areas and OECMs is that biodiversity conservation must be the primary objective of a Protected Area, whereas OECMs ensure conservation of biodiversity but may have other primary objectives. Figure 12 identifies the criteria for Protected Areas and OECMs as part of Canada's commitment to meeting Target 1. OECMs can be a particularly helpful tool in near-urban areas where lands serve multiple functions like recreational areas.

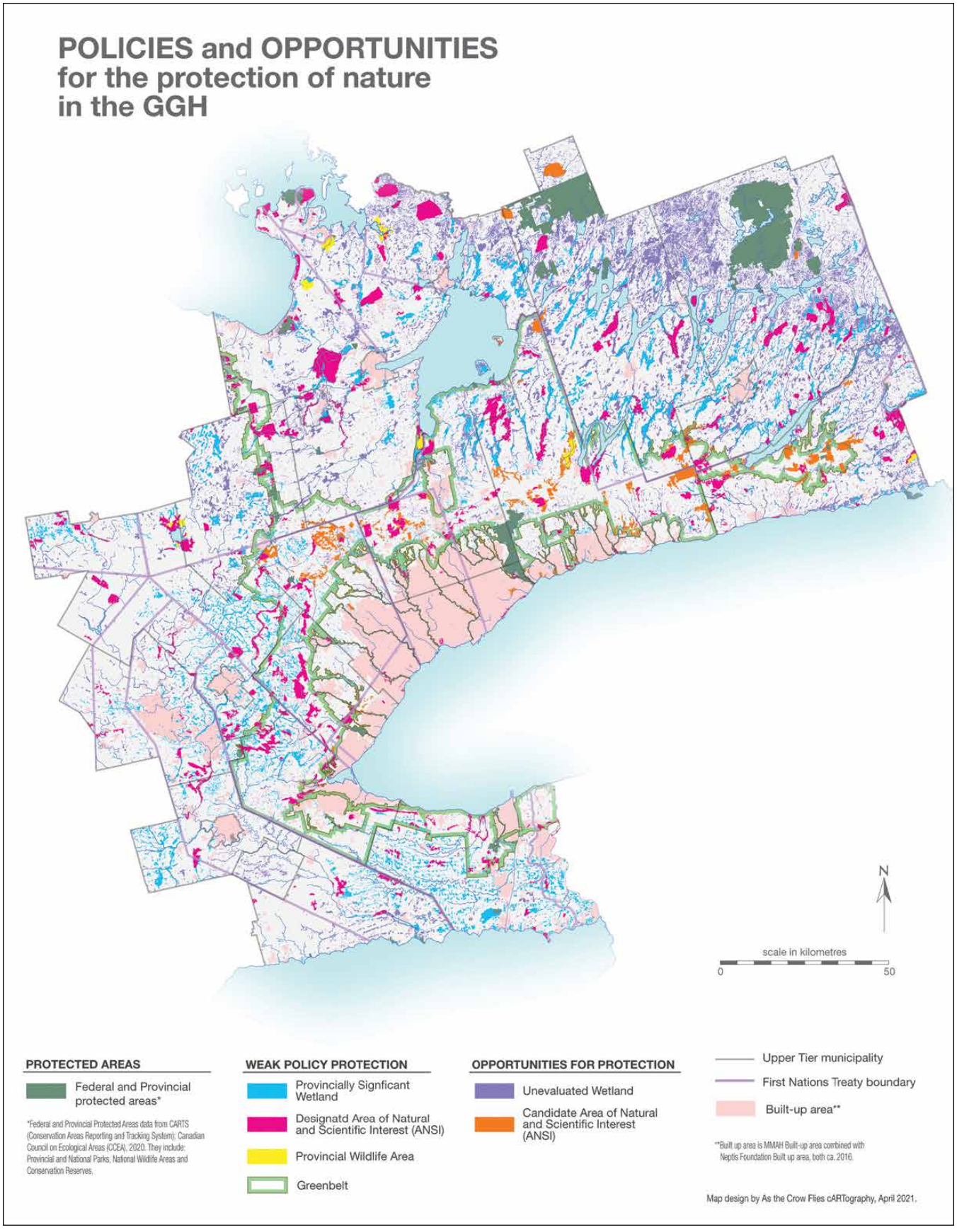
Figure 12 *Criteria for establishing Protected Areas and OECMs*



As part of our research, we examined the three types of areas listed above and considered how they meet or could meet the Target 1 criteria. These opportunities, along with unevaluated wetlands and candidate ANSIs, are highlighted in Figure 13.

8 Canada (2018). *One with Nature: A Renewed Approach to Land and Freshwater Conservation in Canada*, p. 18. https://static1.squarespace.com/static/57e007452e69cf9a7af0a033/t/5c9cd18671c10bc304619547/1553781159734/Pathway-Report-Final-EN.pdf. This report was endorsed by Ontario and all provincial, territorial and federal governments in Canada, except Quebec.

Figure 13 *Protected areas in the GGH that do or could meet Target 1 criteria*



Provincial Wildlife Areas (PWAs)

Provincial Wildlife Areas (PWAs) are unceded (Crown)[9] land sites managed for wildlife and outdoor recreation, particularly for hunting or viewing wildlife. The seven PWAs in the GGH cover more than 5,800 hectares of high-quality conservation lands:

- Holland Marsh PWA (573 hectares) at the south end of Lake Simcoe
- Brighton PWA (392 hectares) north of Presqu'ile Provincial Park in Northumberland County
- Nonquon PWA (1,120 hectares) along the Nonquon River, connecting to Lake Scugog
- Tiny Marsh PWA (976 hectares) part of a natural corridor connecting forest habitat to Georgian Bay
- Wye Marsh PWA (1,110 hectares) on a headland south of Georgian Bay
- Matchedash Bay PWA (1,046 hectares), adjacent to Sturgeon Bay at the south end of Georgian Bay
- Luther Marsh (616 hectares), in the headwaters of the Grand River watershed

Areas of Natural and Scientific Interest (ANSIs)

Areas of Natural and Scientific Interest (ANSIs) are publicly or privately owned areas of land and water designated for significant life science (biodiversity) or earth science (geological) values. In southern Ontario, 1,066 candidate and confirmed ANSIs (401 earth science, 665 life science) have been mapped, totalling 432,629 hectares (99,275 hectares earth science and 333,354 hectares life science).[10]

Provincially Significant Wetlands (PSWs)

Provincially Significant Wetlands (PSWs) are identified by the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry based on assessments using the Ontario Wetland Evaluation System. Evaluation criteria include the importance of the wetlands for:

- groundwater storage and release
- provision of habitat for wildlife species, including species at risk
- ecosystem productivity and biological diversity
- flood damage prevention
- harvestable product provision
- improved water quality
- recreational opportunities

There are more than 203,000 hectares of PSWs and over 229,000 hectares of unevaluated wetlands in the GGH. Of the PSWs, more than 28,000 hectares are on unceded (Crown) land.

9 **Unceded (Crown) lands:** lands that fall under Ontario's *Public Lands Act* or that are federally administered lands. We recognize that this term is contested and use this combination to reflect that lands commonly referred to as Crown lands, by most interpretations, should really be First Nations lands. The term unceded includes lands meant to be shared, not surrendered through treaties.

10 Gray, P et al. (2009). *Ontario's Natural Heritage Areas: Their Description and Relationship to the IUCN Protected Areas Classification System*, Ontario Ministry of Natural Resources, Peterborough, p. 211.

Do PWAs, ANSIs, and PSWs meet the criteria for Protected Areas?

The following table summarizes whether and how PWAs, ANSIs, and PSWs could be designated as Protected Areas to help meet the criteria for Canada's Target 1 shown in Figure 13.

	Clearly defined boundaries?	Effective means to control all activities likely to negatively impact biodiversity?	Long-term and year-round protection?	Managed by governing authorities in ways that deliver conservation outcomes, regardless of objectives?
PWAs	Yes	Many but not all PWAs have management plans in place. Their effectiveness in preventing negative impacts (for example, from allowable activities such as commercial bait fish harvesting, trapping, agriculture, and road development) would need to be evaluated on a site-by-site basis. The ability to prohibit potentially harmful recreational activities, such as off-road vehicle use, would also need to be assessed.	No. PWAs are not permanently protected, though management policies apply year-round.	PWAs would need to be assessed on a site-by-site basis to determine whether management approaches result in positive conservation outcomes.
ANSIs	Yes	No. The policies have too many loopholes.	No.	Only in some cases.
PSWs	Yes	No. There are exceptions for infrastructure.	Yes, although Minister's Zoning Order (MZOs) can override the protection.	No. Active management of PSWs is not required, though in some cases, (e.g., Conservation Authority lands or land trust properties), there is active management to protect biodiversity.

With support and leadership from Indigenous Peoples and Communities, some PWAs, ANSIs, or PSWs could be eligible to become Indigenous Protected and Conserved Areas (IPCAs), a designation that would provide long-term protection through Indigenous laws, governance, and knowledge systems. We hope this information may also be useful to Communities interested in establishing IPCAs.

Bridging the gaps

For **PWAs** to meet the Protected Area or OECM standard and count towards Canada Target 1, the Government of Ontario, in partnership with local managing agencies, would need to:

- provide permanent protection
- prevent harmful impacts from resource use and recreational activities
- assess the effectiveness of management approaches to conservation

Such measures could include permanently designating all PWAs through regulation and setting standards through policies that permit only sustainable uses compatible with biodiversity conservation. The Public Lands Act provides means for designation and management.

Other measures could include investments to enable local planning authorities to create or update management plans and conduct baseline inventories of biodiversity (species, habitats) for assessing conservation outcomes and managing sites to prevent harm to biodiversity.

Because **ANSIs** and **PSWs** are found on unceded (Crown) and private lands, a variety of strategies could be used to enable them to count towards Canada Target 1. On unceded (Crown) lands, measures could include:

- assessing whether overlapping protections (regional land use plans, municipal policies) are sufficient to ensure protection
- where overlapping protections are not sufficient, taking steps to enhance protections for ANSIs and PSWs under the PPS, the Greenbelt Plan, or other land use plans
- regulating specific ANSIs as provincial parks or conservation reserves, which are permanently protected under the Ontario's Provincial Parks and Conservation Reserves Act, 2006
- incorporating ANSIs and PSWs into nearby existing provincial parks or conservation reserves
- identifying ANSIs and PSWs on unceded (Crown) land for protection through regulation under the Public Lands Act
- proposing an initiative under the Great Lakes Protection Act to enhance protection for PSWs, which could include regulating PSWs under the act
- determining, in consultation with affected Indigenous Communities, whether the site should be designated as an IPCA

On private lands, measures could include:

- acquisition by land trusts or Conservation Authorities
- easements under the Conservation Land Act and Ontario Heritage Act

Protection of municipal and Conservation Authority lands

Municipal lands

Municipalities are landowners with large tracts of land. County and regional forests, Environmentally Significant Areas (ESAs), and parklands could become Protected Areas, OECMs, or Indigenous Protected and Conserved Areas, but would first need to be assessed to determine if they meet the Target 1 standard. Some assessments are currently ongoing in the GGH.

Biodiversity objectives can and should also be integrated into other municipal policies related to stormwater, green infrastructure, urban forests, park plans, and climate change adaptation. Now that 498 municipal governments across Canada have declared a climate emergency, nature-based solutions for protection, restoration, and stewardship of natural areas should be central to these efforts to protect carbon stored in natural areas and the adaptation benefits that natural areas provide.

Municipalities can also do much to protect and create urban green space. In very dense areas with little public space, these efforts could include de-paving efforts like Green Community Canada's "Depave Paradise" program for sites such as playgrounds. Recently a "3-30-300" rule has been promoted for moving toward more resilient cities in which every resident has a view of 3 trees from home, every city has 30 per cent tree cover, and everyone lives within 300 metres of a park.[11] These efforts are key to climate resilient cities, and they can also support ecological connectivity and improved habitat quality.

During our research, we identified a need for publicly accessible and standardized data and mapping across GGH Conservation Authorities and municipalities. Some municipalities and CAs have open data policies and portals, but much of the GGH still does not make information about their land easily available to researchers or the public.

County and regional forests

The many well-managed county and regional forests in the GGH reflect efforts to conserve and restore biodiversity. Some are certified by the Forest Stewardship Council, indicating a high level of attention to conservation, as well as social and economic values. County and Regional forests in the GGH include:

- Simcoe County Forest (about 13,300 hectares)
- Kawartha Lakes (3,792 hectares)
- York Regional Forests (2,379 hectares in 23 tracts)
- Northumberland County Forest (2,225 hectares)
- Peterborough County Forest (2,108 hectares)
- Dufferin County Forest (1,066 hectares)
- Halton Regional Forests (703 hectares)
- Wellington County (486 hectares)
- Durham Regional Forest (245 hectares)

These forests are managed to meet many objectives, including conservation, recreation, and in some cases timber harvesting. Some forests within a county might meet the OECM criteria, while others might not. Similarly, parts of a forest might be recognized – for example, with restrictions on activities, ecological restoration, invasive species control, plantation thinning, or other conservation measures – whereas others might not.

11 Konijnendijk van den Bosch, C. (2021). Promoting health and well-being through urban forests – Introducing the 3-30-300 rule. https://iucnurbanalliance.org/promoting-health-and-wellbeing-through-urban-forests-introducing-the-3-30-300-rule/

Conservation Authority lands

Across Ontario, Conservation Authorities are responsible for managing more than 150,000 hectares of land. There are 14 Conservation Authorities in the GGH:

- Kawartha Conservation
- Otonabee Conservation
- Ganaraska Region Conservation Authority
- Nottawasaga Valley Conservation Authority
- Lake Simcoe Region Conservation Authority
- Central Lake Ontario Conservation Authority
- Toronto and Region Conservation Authority
- Credit Valley Conservation
- Grand River Conservation Authority
- Conservation Halton
- Hamilton Conservation Authority
- Niagara Peninsula Conservation Authority
- Long Point Region Conservation Authority
- Lower Trent Conservation Authority

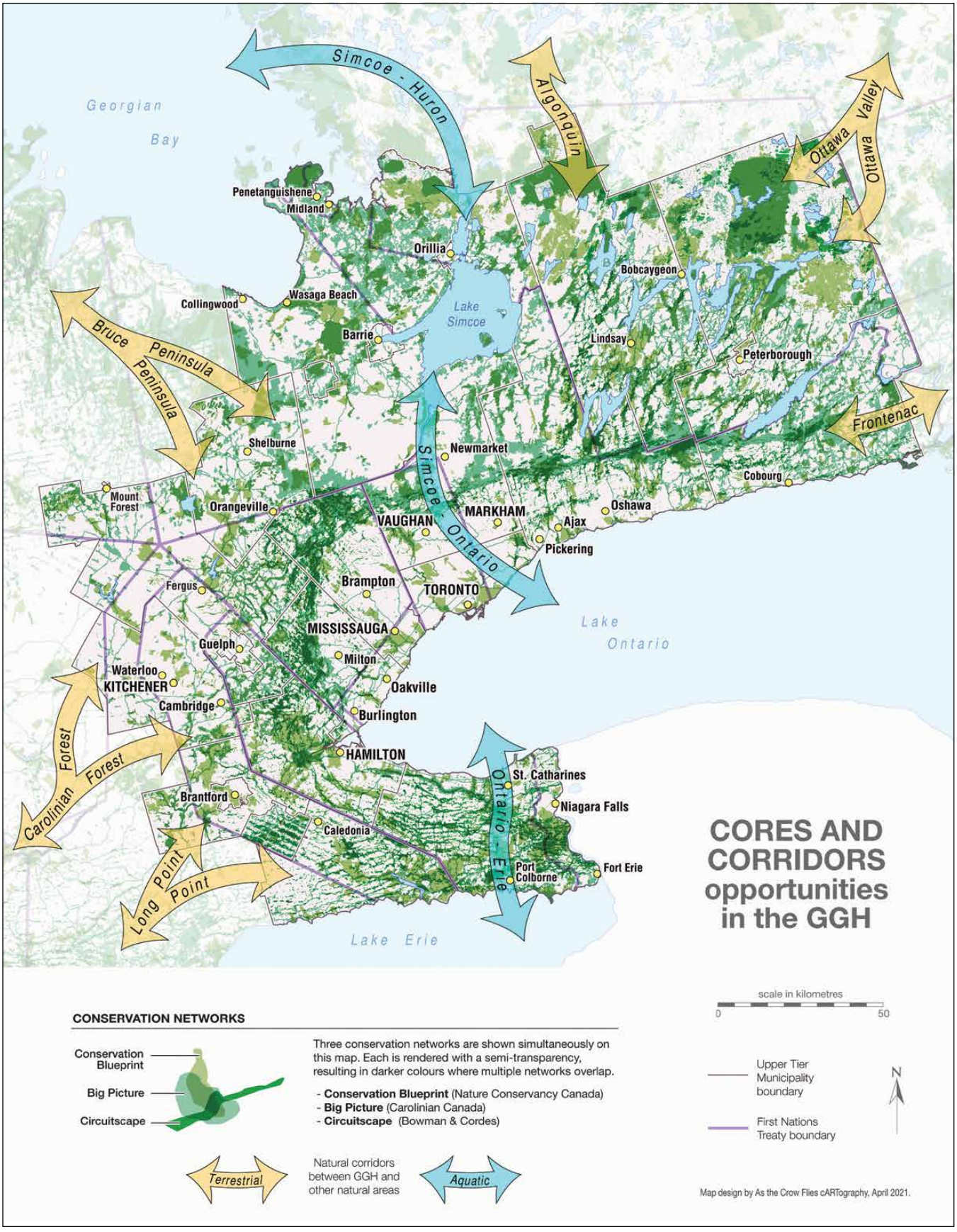
The level of protection of some Conservation Authority lands is currently being assessed to determine whether they meet the Protected Area or OECM criteria. Screenings over the past years have identified that most Conservation Authority lands selected for assessment qualify as Protected Areas. Conservation Authority properties that are expected be added to Canada's Protected and Conserved Areas Database as OECMs this year include:

- Scanlon Creek Conservation Area, owned by Lake Simcoe and Region Conservation Authority.
- Warsaw Caves, owned by Otonabee Region Conservation Authority.

Connectivity makes a network

The Greenbelt is an important connector in the region, linking areas of federal significance and playing a role in cross-border connectivity (both on land and in water). Efforts to identify nationally significant areas of connectivity should include Ontario's Greenbelt. East to west, the Oak Ridges Moraine connects the Carolinian Zone to central Ontario and other corridors like that from Algonquin Park to the Adirondacks. The north-to-south connection along the Niagara Escarpment provides important pathways for species migrating with the changing climate (see Figure 14). Important connectors between the Greenbelt and Lake Ontario include Rouge National Urban Park and the lands between Cootes Paradise and the Niagara Escarpment. Information about important areas for local connectivity and specific solutions are still needed.

Figure 14 *Corridors in the Greater Golden Horseshoe and beyond*



The Canadian Council on Ecological Areas (CCEA)'s 2021 report Implementing Connectivity Conservation in Canada notes that Conservation Authorities are well positioned to support these mapping efforts, as they have the broad mandate and expertise to approach corridor mapping in-house.[12] Coordination across watersheds is needed. Academic partnerships and other public institutions are also supporting connectivity efforts at various scales.

Once areas of importance to connectivity have been identified, this information should be incorporated into decision making, including municipal Official Plans to inform and guide land use planning. The CCEA's report also suggests that the Strategic Environmental Assessment process could help identify, restore, and protect connectivity. The process would be helpful in the GGH, where connectivity could be improved across infrastructure corridors. This recommendation could apply to provincial environmental assessments as well.

Local connectivity mapping in the Cootes to Escarpment EcoPark System

The Cootes to Escarpment EcoPark System is a collaboration among government and not-for-profit agencies that collectively protects nearly 2,200 hectares of open space and nature sanctuary between Cootes Paradise Marsh, Hamilton Harbour, and the Niagara Escarpment (see Figure 15). Since 2007 the collaboration has evolved as a voluntary park alliance in which the participating agencies own and manage their lands individually but collaborate on areas of mutual interest.

Participating agencies (as of March 2021) include the Bruce Trail Conservancy, the City of Burlington, Conservation Halton, Halton Region, the City of Hamilton, the Hamilton Conservation Authority, the Hamilton Naturalists' Club, McMaster University, and Royal Botanical Gardens. In support of the Near-Urban Nature Network, this alliance of local agencies undertook high-resolution connectivity mapping to understand and support biodiversity conservation and management activities in the EcoPark System by identifying habitat patches and movement corridors that promote landscape connectivity.

12 Canadian Council on Ecological Areas (2021). Implementing Connectivity Conservation in Canada. Retrieved from https://ccea-ccae.org/implementing-connectivity-conservation-in-canada/

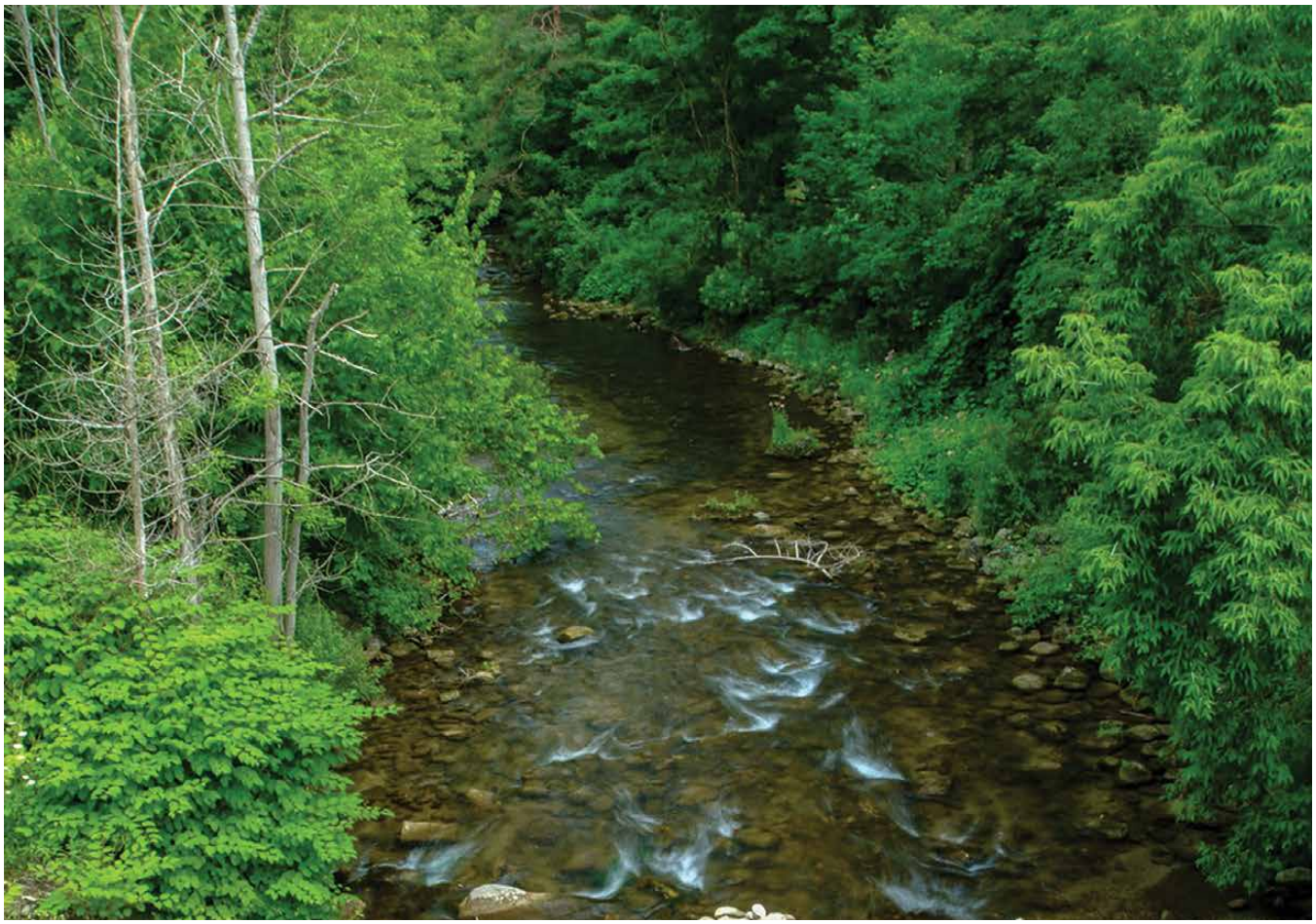
Figure 15 *Cootes to Escarpment EcoPark System connectivity mapping*

The analysis assessed connectivity among natural areas both within and between EcoPark System partner–owned properties and the surrounding landscape. The focal species analyses investigated connectivity for different scales of movement and different habitat types within the EcoPark System. Together, these analyses illustrate current connectivity hotspots, connectivity breaks, and conservation priorities – suggesting an integrated, broad-scale perspective to help to assess the cumulative impacts associated with many small projects on overall landscape connectivity and biodiversity conservation.

Restoring connectivity throughout the GGH

Urban areas can benefit from more native plants, increased tree cover, and aquatic restoration. For example, rivers that have been channelized can be restored to improve connectivity. Although ecological values are not the same in developed areas compared with nearby natural areas, even within urban or suburban developed areas there are opportunities to improve permeability and ecological functions.

Permeability is the "degree to which regional landscapes, encompassing a variety of natural, semi-natural and developed land cover types, are conducive to wildlife movement and sustain ecological processes."[13]



13 Meiklejohn, K., Ament, R., and Taylor, G. (2009). *Habitat Corridors and Landscape Connectivity: Clarifying the Terminology*. Retrieved from https://32jw1j4fryz1fjb8y2h9mig3-wpengine.netdna-ssl.com/wp-content/uploads/2019/06/Habitat-corridors-and-landscape-connectivity1.pdf

The following table summarizes approaches to maintaining and enhancing connectivity for biodiversity in the GGH, with examples.

Approach	Details	Example
Retain and manage existing connectivity	Establish designations for important ecological corridors following the IUCN guidance, starting with unceded (Crown) lands, municipal, and Conservation Authority lands.	The Big Chute Rocklands, Matchedash Crown Land, and Matchedash Lake ANSIs, which fall within the Matchedash Wildlands on unceded (Crown) land are an important wildlife corridor stretching from just east of the southern tip of Georgian Bay to Swift Rapids, north of Orillia.
Engage and coordinate with landowners and stewards	Explore opportunities for voluntary landowner programs and coalitions that help protect ecological corridors. This may include outreach and support for establishing seasonal corridors across agricultural lands.	The Cootes to Escarpment EcoPark System supports landowners interested in restoration and stewardship on their properties through partner-led initiatives like Conservation Halton's "Design Your Native Landscape Workshops" or the Bruce Trail Conservancy's Landowner Outreach.
Restore connectivity in urban and agricultural areas	Habitat restoration efforts to enhance the ecological role of urban and agricultural lands are already under way by municipal, Conservation Authority, and not-for-profit restoration programs.	The Meadoway project by the Toronto and Region Conservation Authority in Scarborough will provide social benefits and could improve habitat for pollinators through native plant restoration. Dufferin County's Living Snow Fence Program is an example of a program that can help support connectivity on agricultural lands while also meeting community objectives of improving road visibility.
Mitigate impacts	In all linear infrastructure projects, try to mitigate fragmentation with, for example, effective wildlife crossings or directional fencing.	Toronto and Region Conservation Authority's Crossings Guideline for Valley and Stream Corridors.
Temporal connectivity	Many species move more or are more sensitive during certain periods of the year. By taking these species-specific dynamics into account, conservation organizations can improve connectivity at the local level by temporarily supporting functional connectivity through land use practices.	Ontario Soil and Crop Improvement Association operates programs for species at risk on agricultural lands with Environment and Climate Change Canada and the Ontario Ministry of Environment, Conservation and Parks. Its Grassland Stewardship Program and Badger Way include best management practices that support species at risk in certain critical time windows.
Research and monitoring	Research to understand the impact of roads and other barriers should inform priorities for restoration and mitigation efforts, along with community science to build eco-literacy and "nature watch" networks and neighbourhoods.	Collaborative groups working on applied research like the Ontario Road Ecology Group (OREG) and Eco-Kare.

Greenspace

Meeting the high demand for greenspace and outdoor recreation in the region can help leverage community dollars, public support, and volunteers to protect and manage natural areas. It can also unite more people with nature, providing physical and mental health benefits and employment for youth. Connecting people with the GGH's distinct and much-loved natural landscapes is an important part of a Near-Urban Nature Network.

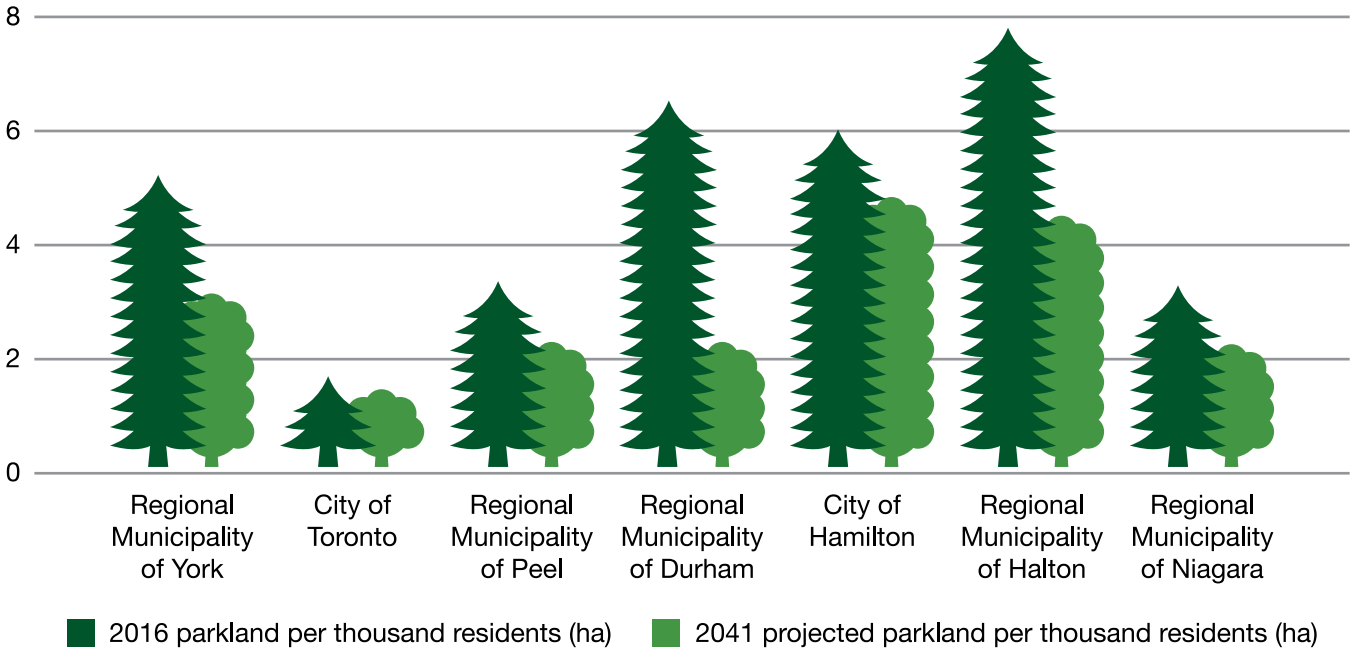
Large and accessible protected areas, such as Rouge National Urban Park, can be protected and/or expanded to anchor connectivity and provide an avenue for public education programs on the importance of biodiversity, nature's benefits and Indigenous culture and Ways of Knowing.

Across Canada, greenspace use has increased by 50% during the COVID-19 pandemic including the GGH's major trail systems such as the Bruce Trail, Oak Ridges Trail, and the Trans Canada Trail and cycling routes through the Greenbelt and Great Lakes Waterfront Trail. Local research on access to large parks in the GGH indicates that nearly 15,000 hectares of large parkland is needed by 2041 to maintain the current level of per capita supply in the Golden Horseshoe. These realities put pressure on ecological and social dynamics, as residents from urban areas drive to more rural and agricultural ones to visit natural areas.[14] Enhancing and/or expanding existing parks, trails and other greenspaces can limit negative impacts on surrounding farms and communities, and done strategically, can increase Protected or Conserved Areas and provide needed enhancements in restoring and managing biodiversity.

14 Green Infrastructure Ontario, Greenbelt Foundation, Toronto and Region Conservation Authority and Credit Valley Conservation Authority (2019). State of Large Parks in Ontario's Golden Horseshoe. https://www.greenbelt.ca/large_parks

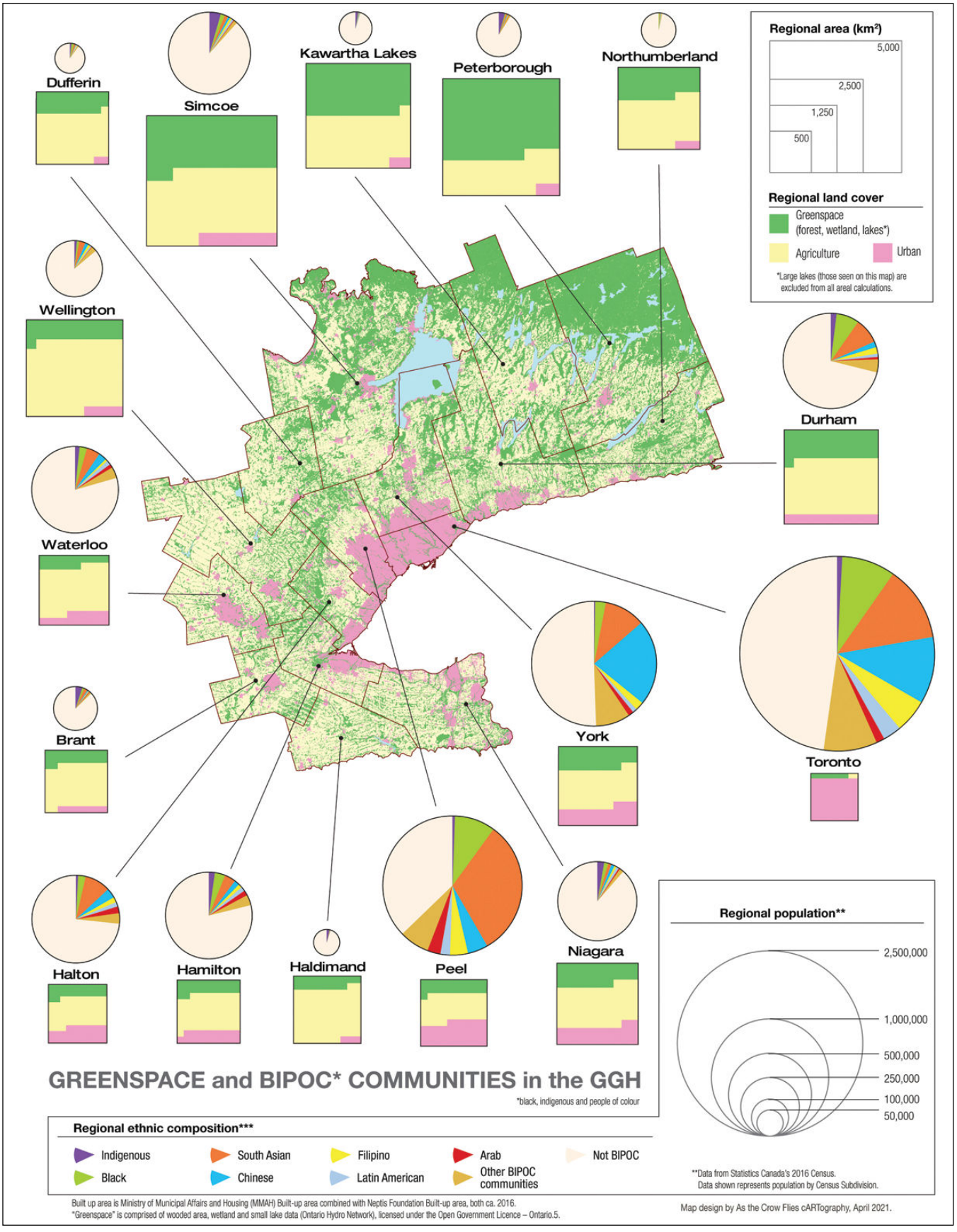
Figure 16 highlights the anticipated shift in parkland per capita in the Golden Horseshoe from 2016 to 2041. This figure demonstrates how the amount of parkland per person is expected to change as the population grows between 2016 and 2041.

Figure 16 *Parkland per thousand residents, Greater Toronto and Hamilton Area and Niagara, 2016 and 2041 (projected)*



We also found that there was a strong connection between ethnic diversity and the amount of natural cover in census subdivisions across the GGH (see Figure 17). In dense urban areas, where opportunities for large new natural areas can be limited, linear parks offer a unique opportunity to connect human and wildlife communities and invest in biodiversity where greenspace is also needed most. The region's extensive urban river valleys and critical biodiversity corridors extend from the Greenbelt and serve as models in dense areas including the City of Brampton's River Walk. The Meadoway project in Scarborough, Toronto utilizes a hydro corridor and restores lands across multiple urban river valleys.

Figure 17 *Comparison of greenspace and communities of Black, Indigenous, and People of Colour (BIPOC) in the Greater Golden Horseshoe*



Accessible, well-maintained, and safe natural areas in and close to urban cores where more people live may offer the triple benefit of making access to nature more equitable, reducing some of the pressures on peri-urban natural areas and protecting and enhancing critical ecological corridors.

Restoring lands for climate resilience and culture

Despite the 30 per cent natural cover that remains in the region, in many areas land has been degraded by human activities. Restored for biodiversity and as natural infrastructure, near-urban nature can increase resilience to flooding, extreme heat, drought, and the erosion of water quality. Restoring rare and vulnerable habitats, areas that improve ecological connectivity and features that help reduce climate risks and make cities more sustainable should be a priority. Managed for biodiversity and as natural infrastructure, the ecological cores and corridors of a Near-Urban Nature Network can provide immense benefits to the region and residents.

Many Conservation Authorities in the GGH have protocols, strategies, and tools to identify priorities for restoring natural areas, primarily for natural heritage or water quantity (such as flood attenuation or stormwater management). These tools and methods could support the creation of a regional Near-Urban Nature Network. Conservation Authorities also have the expertise and tools to monitor and report on biodiversity outcomes across the GGH. The Greenbelt Foundation partnered with Conservation Authorities to value the annual ecosystem service to biodiversity, flood mitigation, recreation and tourism, carbon sequestration, water quality provisions and other services provided by restoration or natural infrastructure projects and found that restoration projects can provide millions of dollars worth of services related to reduced flood risk and recreation annually.

Fortunately, many organizations are already working on projects. Lake Ontario once had a bounty of coastal wetlands providing habitat and protecting shoreline communities. These have all but disappeared until relatively recent restoration efforts started. Protecting and restoring coastal wetlands should be a priority. In addition to biodiversity, restoration projects can help reduce flood risk and provide much-needed green space. Efforts to restore areas along urban river valleys that flow into the Great Lakes offer similar benefits.

Projects to restore culturally rare significant habitats are also underway. The Alderville Black Oak Savannah is the largest intact tract of native grassland in Central Ontario. Located in Alderville First Nation, this landscape reflects a restoration of Indigenous Knowledge and cultural practice in controlled burning to maintain these grasslands, a practice long suppressed by European settlers. With the support of Alderville First Nation, this site has been protected from development and restored over the last two decades. It is now an important source of native plant seed for other tallgrass prairie and black oak savannah restorations in the GGH.[15] The Alderville Black Oak Savannah is an example of Indigenous-led efforts to protect and restore rare habitats that has provided many community benefits including opportunities for land-based learning, ecotourism, and a new native plant nursery.

Research by EcoHealth Ontario has demonstrated that new tree cover in a neighbourhood in Peel Region could help counteract urban heat island–related health impacts and would bring many other mental and physical health benefits with annual returns on investment in the millions of dollars based on health values alone.[16] These new trees would also add to the existing natural heritage system and support biodiversity along an urban river valley.

15 Alderville Black Oak Savannah. (2021). https://aldervillesavanna.ca/index.php/our-history/

16 EcoHealth Ontario, authored by Wilson, J on behalf of Green Analytics. (2021). *EcoHealth Economic Valuation Framework Quantifying the Health Return on Investments in Greenspace Case Study: Increasing Tree Canopy in Brampton*. https://static1.squarespace.com/static/5c3cebfd45776eee4408f72d/t/603b1d6a73d375051e0b4d6f/1614486893019/GB_Ecohealth_BRAMPTON_casestudy_E-ver.pdf

Regional opportunity with federal two billion trees commitment

Tree planting as part of the federal government's commitment to plant two billion trees could benefit huge numbers of residents of the region. However, it is not enough simply to put trees into the ground; planting must be planned to fit with biodiversity, climate change, and cultural goals. For example, in certain areas of the GGH afforestation and succession has reduced the amount of meadow habitats known to be used by some species at risk.

Tending and managing new trees is also critical to increasing forest cover. Forest stewardship should be supported, including education programs.

To reach 30 per cent forest cover in the Greater Golden Horseshoe, about 54,000 hectares (just under 2 per cent of the land) would need to be planted with trees (based on an analysis of land cover data from the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry). At a low planting density of 1,000 trees per hectare, this represents 54 million trees.

There is plenty of room for these trees in this region, since more than 850,000 hectares (or 27 per cent) of the land in the GGH is not tilled, forest, wetland, rare habitat, or urban. In fact, there is enough unforested green space within urban areas alone to fit in all 54 million trees. Because the existing 28 per cent forest cover is not equally distributed across the landscape, some watersheds need even more trees.

All afforestation or reforestation efforts should centre Indigenous cultural uses and values of forests, including important cultural species and maintenance practices that are also culturally appropriate.

Increasing the supply of native plants

Rising awareness and demand for native plants from local governments, Conservation Authorities, and individuals represents an opportunity for Indigenous and non-Indigenous partners and businesses to support healthy landscapes. Increasing the supply of locally sourced native plants can help achieve multiple benefits including: climate resilience, biodiversity, soil health, and supports a green economy. Indigenous partners have shared the critical need to take a holistic and integrated approach to this work. Ensuring that this work is Indigenous-led and supports the reconciliation of people and ecosystems will also supports its success and sustainability.

We conducted a survey to assess the market for native plants and seeds, identify barriers to scaling up production and distribution of plants and seeds, and develop a strategy to overcome those barriers.

Market for native plants and seeds

Survey participants confirmed that the demand for native plants is growing every year, despite a slight downturn for some producers during the pandemic. We learned that 54 per cent of participants cannot meet the current demand for native plants and seeds in their work. Participants suggested that there are three main reasons for the growth in demand:

- consumer awareness and education
- NGO-led community-level programs
- ecological restoration by large landowners

Barriers to meeting demand

Survey participants identified the challenges they face in meeting demand, including:

- inconsistency and uncertainty of demand that result in supply shortages
- lack of coordination in the production of the right species and formats at the appropriate time to avoid wasting seed and potted plant material
- unsynchronized timelines for funding and planting windows
- competition with non-native plants on the market and low-cost, low-quality options
- constraints on expansion in the GGH due to low numbers of native plant suppliers and challenges for growth due to land costs in the region

Strategies for growth

Ontario once had a system of tree seed collection and distribution managed by the Ministry of Northern Development, Mines, Natural Resources and Forestry, operated by the tree seed plant in Angus, Ontario. Since the closure of the plant in 2018, Forests Ontario, with nursery partners, has maintained the system to support seed and cone collectors and maintain a viable seed bank with millions of seeds. Survey participants identified a need to continue and expand this work with a seed strategy.

In a model proposed by the Ontario Plant Restoration Alliance, seed forecasting, monitoring, and collection would be coordinated with input from end users (restoration agencies, landowners, and other partners), with costs borne through a separate investment model that qualifies this phase of the process as a “social/environment good” – that is, as an investment in ecosystem services.

A seed strategy would increase the supply of ecologically appropriate plants for habitat creation, while supporting local growers. It could also address specific plant or wildlife species conservation goals, support climate adaptation, and reduce ecological restoration costs over time. Seed conservation orchards for some species could be scaled up to produce bulk wildflower and grass seed for large restoration projects.

Features of a seed strategy would include:

- a network of seed conservation orchards across the Greater Golden Horseshoe to prevent common species from becoming rare, to augment and reconnect fragmented populations, and to bolster genetic diversity and adaptability for climate change
- a Native Plant Hub, a collaborative process among interested people, to coordinate guidelines and forecasting to support GGH-wide planting targets, connect supply and demand of seeds and plants, and track seed sources
- training and certification programs that focus on the propagation of native species as well as build job skills and sector capacity for all aspects of native plant economy
- collaborative voluntary standards and labelling program for native plants and sites to assist consumers in choosing plants for healthy landscapes

The development of an inclusive and collaborative seed conservation strategy will engage native plant growers, Indigenous Communities, farmers, municipalities, conservation biologists, public and private landowners, NGOs and community groups, landscape architects and designers, land-use planners, gardeners, community scientists, and more in creating a long-term sustainable system to grow plants for a healthy resilient landscape through long term visioning and consideration of assisted migration of plants – ensuring that what we are planting today is sustainable for the next seven generations.

Voluntary measures: private lands for public benefit

Most lands in the GGH are in private ownership. The cost of land in this region makes purchasing outright to protect them challenging or prohibitive and land securement and acquisition strategies, though important, are insufficient to protect an ecological network to conserve biodiversity. Public policy plays an important role in protecting natural features on private lands as shown by the Greenbelt; but governments need to prioritize monitoring, enforcement and budget for this work.

Many landowners including farmers want to steward and protect their lands. In landscapes with fragmented ownership and jurisdictions, voluntary programs can encourage land stewardship across parcels of land to meet consistent, regional-scale objectives. These programs can be particularly helpful where regulatory approaches might be ineffective.

In general, voluntary conservation programs require ongoing outreach to build and maintain relationships among program sponsors and landowners. Incentives (ranging from awards to networking opportunities to economic incentives such as tax breaks) keep participants engaged and draw in new participants. Many successful programs could be expanded and with increased capacity can better monitor and manage lands for biodiversity and climate resilience and greenspace such as trails. Some promising examples are presented here. Innovative new measures are increasing possibilities.

Conservation easements and tax incentives

Long-standing voluntary measures such as conservation easements and tax incentive programs remain vital to protecting and managing critical natural cores and corridors linkages in the region. These measures leverage significant private donations.

For conservation easements, streamlining the processes and keeping costs down could increase uptake. Supported by governments, Conservation Authorities and land trusts, conservation easements enable private landowners to protect their land without giving up ownership. An easement supersedes municipal planning and gives power to individuals to protect their lands (enabled by the Conservation Land Act). The easement is permanent and cannot be removed, even if the land changes ownership. Landowners work with a qualified easement-holding organization to register the legal agreement on the title of their property such as land trusts. Programs can ensure protection, conservation, education, and stewardship on private lands including greater protections through OECMs or IPCAs as well as support for connectivity and restoration.

Ontario Land Trust Alliance members in the GGH jointly conserve over 54,000 acres of lands:

- Couchiching Conservancy (9,346 acres)
- Escarpment Biosphere Conservancy (14,475 acres)
- Kawartha Land Trust (6,944 acres)
- Oak Ridges Moraine Land Trust (3,585 acres)
- Northumberland Land Trust (481 acres)
- Lone Pine Land Trust (674 acres)
- Thickson's Woods Land Trust (25 acres)
- Huronia Land Conservancy (43 acres)
- Bruce Trail Conservancy (16,624 acres)
- rare Charitable Research Reserve (902 acres)
- Brant Land Trust (N/A)
- Lower Grand River Land Trust (1595 acres)
- Niagara Land Trust (58 acres)

Provincial land trusts also operate in the region including Ontario Nature, Ontario Farmland Trust and Nature Conservancy of Canada – Ontario Region.

Indigenous land trusts, such as Walpole Island Land Trust, near Sarnia (outside the GGH), are relatively new in Ontario, but are playing an increasing role in private land and cultural conservation.

Municipally administered policies can provide incentives for landowners to protect habitat and may also encourage the enhancement, restoration, or creation of habitat. These incentives include tax reduction, fee credits, or development rights.

The Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry's Conservation Land Tax Incentive Program and Managed Forest Tax Incentive Program are examples of indirect incentive programs. The Conservation Land Tax Incentive Program recognizes, encourages, and supports the long-term private stewardship of Ontario's provincially important natural areas. Portions of a property that have eligible natural heritage features may qualify for a 100 per cent property tax exemption. Eligible natural heritage features are identified by the province, but a landowner can make a case for the inclusion of a specific feature in the program. The Managed Forest Tax Incentive Program is similarly meant to ensure private woodlots are managed in a sustainable manner. One advantage of this program is that it requires long-term management planning and inclusion of education opportunities for participants.

The application process can be cumbersome and may differ from program to program. Landowners may have areas eligible for one or more of these programs. Indigenous land trusts and practices should also qualify for these programs.

Market-based certification

Market-based certification programs encourage stewardship by offering formal recognition through certification. Typically, certification is conducted by a non-governmental, third-party organization, responsible for developing the necessary standards and credit structures for certification and handling the overall administration of the program.

For a project to be certified, it must demonstrate compliance with habitat-based design construction or specified management standards or both. These programs may also require projects to undergo monitoring or reporting following certification. Private landowners, municipalities, Indigenous Communities, and Conservation Authorities participate in these initiatives.

The Forest Stewardship Council (FSC) is a promising example of a market-based certification program. Based on good forestry practices it is supported by major environmental organizations. Standards provide consistency in implementing good forest practices, including consultation with and consent from Indigenous Peoples and management to ensure the protection of species at risk and conserved areas. There are already more than 20,000 hectares of certified forest in the GGH, but can be expanded to include more private, municipal, and Conservation Authority forests.

Canada has two forestry standards:

- a national standard for industrial and large-scale forestry
- a "small holders" standard for small-scale, low-intensity, and community forests.

The latter is not yet in effect, but is being approved by FSC International to be implemented in 2021.

In the Greater Golden Horseshoe, several forests are certified by FSC:

- Halton Region, the Town of Oakville, the Northumberland portion of the Long Point and Region Conservation Authority, and several private woodlots (all certified under the coordination of the Eastern Ontario Forest Group, the certificate holder)
- Peterborough County Forests and several small and private woodlots (certified under Silv-Econ Ltd Forest Consultants)
- Simcoe and York municipal forests (holding their own certificates).

FSC certification provides tools, incentives, and priorities for conservation, but it requires intensive commitment to get good results.

Payments for ecosystem services

These incentive-based voluntary programs compensate landowners who implement practices with positive impacts on an ecosystem, while safeguarding the associated ecosystem benefits for the future. These programs create a market for ecosystem services, exchanging them for payments, such as cash, in-kind contributions, or a combination of the two. In-kind payments include loan waivers, access to finance, or the provision of key inputs or services. Biodiversity and climate resilience goals can be monitored and managed through these programs.

One example is Alternative Land Use Services (ALUS), which works closely with farmers and ranchers across Canada to create green infrastructure and generate ecosystem services alongside productive, working landscapes. Nationally, ALUS has worked with 800 participants who collectively own more than 25,000 acres of land, by restoring and enhancing wetlands, establishing and maintaining wildlife habitat, creating riparian areas, creating pollinator hedgerows, supporting reforestation, planting native trees and shrubs, erecting wildlife-friendly fencing, establishing native grass prairies and meadows, and building nesting structures. ALUS shares the initial cost of the work with landowners, and provides an annual payment to the farmers, recognizing their contribution to the ecosystem and community.

ALUS sources payments from partners with similar goals including corporations pursing sustainability objectives, or municipal grant programs to improve water quality.

Payment for ecosystem services is a growing area of interest and a potential avenue for incentivizing stewardship practices on private land that provide public benefit. These programs support land managers in going above and beyond minimum environmental standards established through regulation.[17] These programs can be particularly transformative when they provide new opportunities for peer-to-peer learning which can prove helpful in shifting toward more sustainable land management practices. These programs are not common in Ontario and experiences from Europe and the US can be drawn from for identifying successes and pitfalls.

17 Equiterre and Greenbelt Foundation. (2021). The Power of Soil https://www.greenbelt.ca/the_power_of_soil

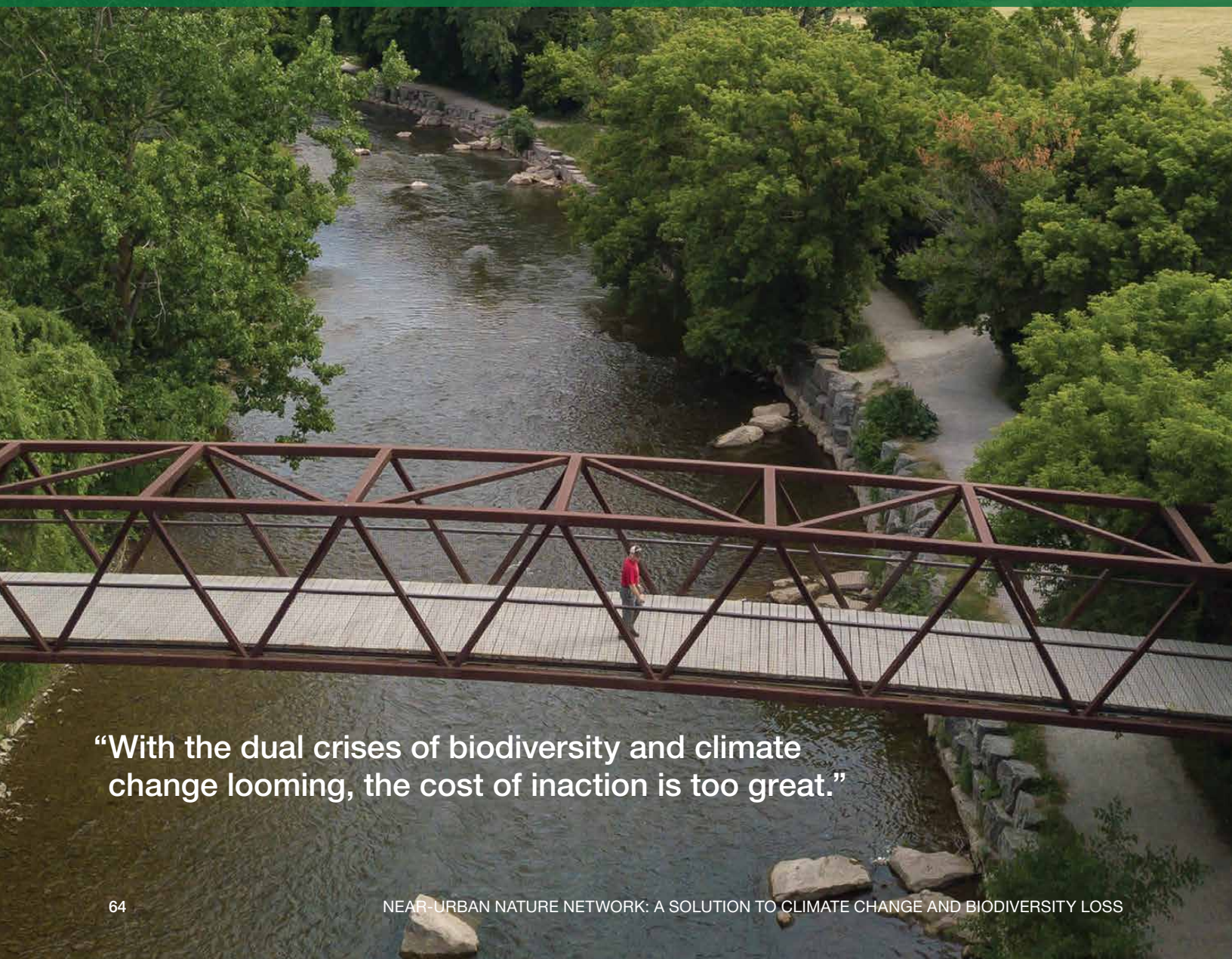
Community-based Initiatives

Innovative voluntary partnerships like the Cootes to Escarpment EcoPark System and Carolinian Canada's "In the Zone" represent models that could be deployed elsewhere in the GGH. Community-based initiatives recruit landowners for conservation and environmental enhancement in a specific geographic location. These initiatives may provide ongoing technical and implementation assistance and organizational tools, as well as long-term monitoring and adaptive management. New technology platforms with remote assistance offer opportunities to support more landowners more equitably and efficiently across many communities and engage in partnerships with consistent standards.

The EcoPark System supports stewardship efforts with the cooperation of neighbouring landowners, the private sector, and stakeholders. Private landowners, including businesses, can apply for free one-on-one consultation to identify habitat enhancement and water-quality projects. The EcoPark System also supports local groups (NGOs, schools, special interest groups etc.) by leading and assisting events that align with EcoPark System goals. The "Friends of the EcoPark System" group, which consists of third-party volunteer groups engages in stewardship and related activities, meets twice a year to update each other on current stewardship activities.

"In the Zone" is a multi-partner, web-based platform that guides and supports landowners who want to grow native plants. The app helps the landowners measure and improve the health of their property in terms of biodiversity, climate-smart habitat, and socio-economic benefits of nature. Participation for individuals and partners is free. Community data reports are available for a service fee. The program was developed by World Wildlife Fund Canada, Carolinian Canada, and partners. About 5,000 people are engaged in the program and growing native plants across the Carolinian Zone as of May 2020.

Why this is important: The benefits of a near-urban nature network



"With the dual crises of biodiversity and climate change looming, the cost of inaction is too great."

Beyond supporting biodiversity, near-urban nature networks provide multiple community benefits and provide the impetus to act responding to:

- Climate change and need to increase resilience to flooding, extreme heat and drought
- Increased demands on greenspace and trails
- Reconciliation with both Indigenous Peoples and the land
- Public health
- Social inequities

Climate resilience

While urgent action is needed to mitigate the impacts of climate change by reducing greenhouse gas emissions, there is also a pressing need to adapt to inevitable changes in weather and climate. These changes, along with continued changes from urbanization and population growth, will have complex and interconnected ecological, cultural, social, and economic impacts. A 2021 report co-authored by the Intergovernmental Panel on Climate Change and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services stresses that "narrowly-focused actions to combat climate change can directly and indirectly harm nature and vice-versa, but many measures exist that can make significant positive contributions in both areas."[18]

Of all the natural hazards in the GGH, flooding is the most frequent and costly (in terms of private property and public infrastructure damage) and a top concern among municipalities and others. Less visible or talked about, extreme heat is the deadliest threat, made worse by conventional urban development which produces hotter climates in cities. Drought, intense storms, and poor water quality are also growing concerns.

In responding to climate change, some decision makers respect, value, and trust technical fixes more than the restoring of relationships between ecological and social systems.[19] Investment into grey (that is, human-made) engineered solutions to climate change adaptation (such as stormwater ponds) far exceeds that into community-led restoration efforts. In many cases, nature-based solutions and infrastructure can perform better under future climate scenarios.

Relying strictly on built or engineered solutions to deal with climate change can harm biodiversity, increase pollution, and ultimately reduce human well-being and quality of life – now and for future generations. We need more decision making that honours reciprocal relationships between people and nature that leads to solutions that tend to be less expensive and more resilient.

Both established and emerging approaches can reduce flood risks through natural infrastructure. For example, one of the primary mandates of Conservation Authorities is to manage riverine flood risks through natural system and watershed planning and hazard land management. Many municipalities in the GGH have strategies and plans that mention the role of natural infrastructure in reducing flooding and other climate risks. However, incorporating multiple aspects of climate change adaptation and biodiversity into these policies and decision making is still in its early stages. Land use planning decisions need to consider the full climate adaptation value of natural areas. Stronger policy wording from higher levels of government can help local governments implement these changes.

18 Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) https://www.ipbes.net/sites/default/files/2021-06/20210606%20Media%20Release%20EMBARGO%203pm%20CEST%2010%20June.pdf

19 Andrea Joslyn Nightingale, Siri Eriksen, Marcus Taylor, Timothy Forsyth, Mark Pelling, Andrew Newsham, Emily Boyd, Katrina Brown, Blane Harvey, Lindsey Jones, Rachel Bezner Kerr, Lyla Mehta, Lars Otto Naess, David Ockwell, Ian Scoones, Thomas Tanner & Stephen Whitfield (2020). Beyond Technical Fixes: climate solutions and the great derangement, Climate and Development, 12:4, 343-352.

Some opportunities for natural infrastructure include:

- Preserving existing wetlands, grasslands and forests that store carbon
- Restoring waterways to reduce flood risk and manage stormwater
- Planting trees in urban river valley corridors to reduce the urban heat island effect and enhance greenspace

In many cases, natural infrastructure projects can achieve more than one of these goals.

A project in York Region will focus on planting more than 400,000 trees and shrubs over eight years with a total project cost of $25 million. One component of the project is to acquire 100 hectares of land and plant more than 200,000 trees. This will help offset the urban heat island effect, and mitigate downstream flooding by intercepting, storing, and slowing the flow of water.

Health benefits

Peoples' exposure and access to near-urban nature can increase their physical activity, lower personal stress levels, improve social connections, reduce exposure to pollutants, and enhance personal resilience to climate change.

Efforts that focus on nature-based solutions to climate change can also have positive outcomes for human health and wellbeing.

Cultural benefits

The nature we have lost and need to restore is part of the heritage of the Indigenous Peoples. Action towards creating a Near-Urban Nature Network fits with the spirit and practice of reconciliation with Indigenous Peoples and Communities. Indigenous cultures are strongly tied to the land and Indigenous-led conservation brings cultural benefits to these Communities as well as opportunities for everyone to continue learning about our responsibilities to care for the land.

At the same time, a Near-Urban Nature Network offers cultural benefits to other groups. The GGH is not just diverse in terms of species and ecosystems, but also human ethnicities, religions, languages, and cultures. Toronto is often described as one of the most multicultural cities in the world and other cities in the GGH have large populations of immigrants and first-generation Canadians. Yet many conservation programs seem to focus on the cultures of western, white, urban, educated, English-speaking settlers.

A few programs already offer programs for diverse cultural backgrounds and languages to learn about the land. They can serve as a model for programming in multiple languages and chances to learn from a range of perspectives about connections to the land, and its plants and animals, and importantly from the First Peoples perspectives.

Economic benefits

There are substantial opportunities to enhance biodiversity and local economies. Near-urban natural areas contribute an estimated 8,700 jobs and $509 million in direct GDP impact in southern Ontario through horticulture, natural heritage, and parks, urban forestry and green stormwater management, with a future economic growth potential of 22-73 per cent by 2030.[20] This value does not account for the economic value of ecosystem services.

20 Green Infrastructure Ontario Coalition, 2020

Collecting wood in a sustainable manner from woodlots can offer supplementary income or a source of home heating to farmers and rural residents. Municipalities and Conservation Authorities often harvest from forests as well. Local forest products from sustainably managed forests can also reduce pressure on lands elsewhere and reduce the need for transportation of those products. Timber, firewood, non-timber forest products, hunting, and non-extractive activities (e.g., ecotourism, event use) are all providing revenues in the GGH that could be enhanced by increased forest cover and education.

Non-timber forest products include conifer boughs, wild berries, mushrooms, medicinal and other herbs, and maple syrup and other sap-based products.

Particularly from an Indigenous perspective, these gifts from the land are needed and beneficial, and when undertaken in a respectful, sustainable way, will improve the natural space.

Not all economic activity involves harvesting gifts or products from nature. Natural areas in and around cities in southern Ontario also support the work of teachers, artists, therapists, recreational outfitters, and others. The economic value of recreational activities in the Greenbelt are valued at $2.1B per year.[21] Additionally, tens of thousands of people in the GGH volunteer for tasks involved in nature conservation.

Education benefits

Near-urban nature provides an opportunity for cross-cultural land-based learning and building understanding between Indigenous and non-Indigenous Communities, an important step when practised within a framework of Ethical Space.

At the elementary school level, natural areas provide opportunity for outdoor education and field trips. In 2015, more than 3,000 schools and 421,000 students participated in environmental education programs run by Conservation Authorities, many in local conservation areas. Demand is also growing, partly spurred by the pandemic, for specialized forest schools, which provide enhanced outdoor learning.

Several postsecondary schools in Ontario offer programs in the management of forests and trees. Algonquin College, Fleming College, Niagara College, and Humber College offer forest technician or arboricultural programs. University of Toronto and Lakehead University have forestry degree programs. The University of Guelph offers an Indigenous Environmental Science and Practice bachelor degree that involves land-based learning.

Universities in the GGH also steward lands, including the Koffler Scientific Reserve at Joker's Hill in King City, which was donated to the University of Toronto in 1995 and allows for field-based observation and experimentation in ecology, hydrology, and other sciences in addition to offering a setting for arts (such as film-making) and other courses that benefit from a natural setting.

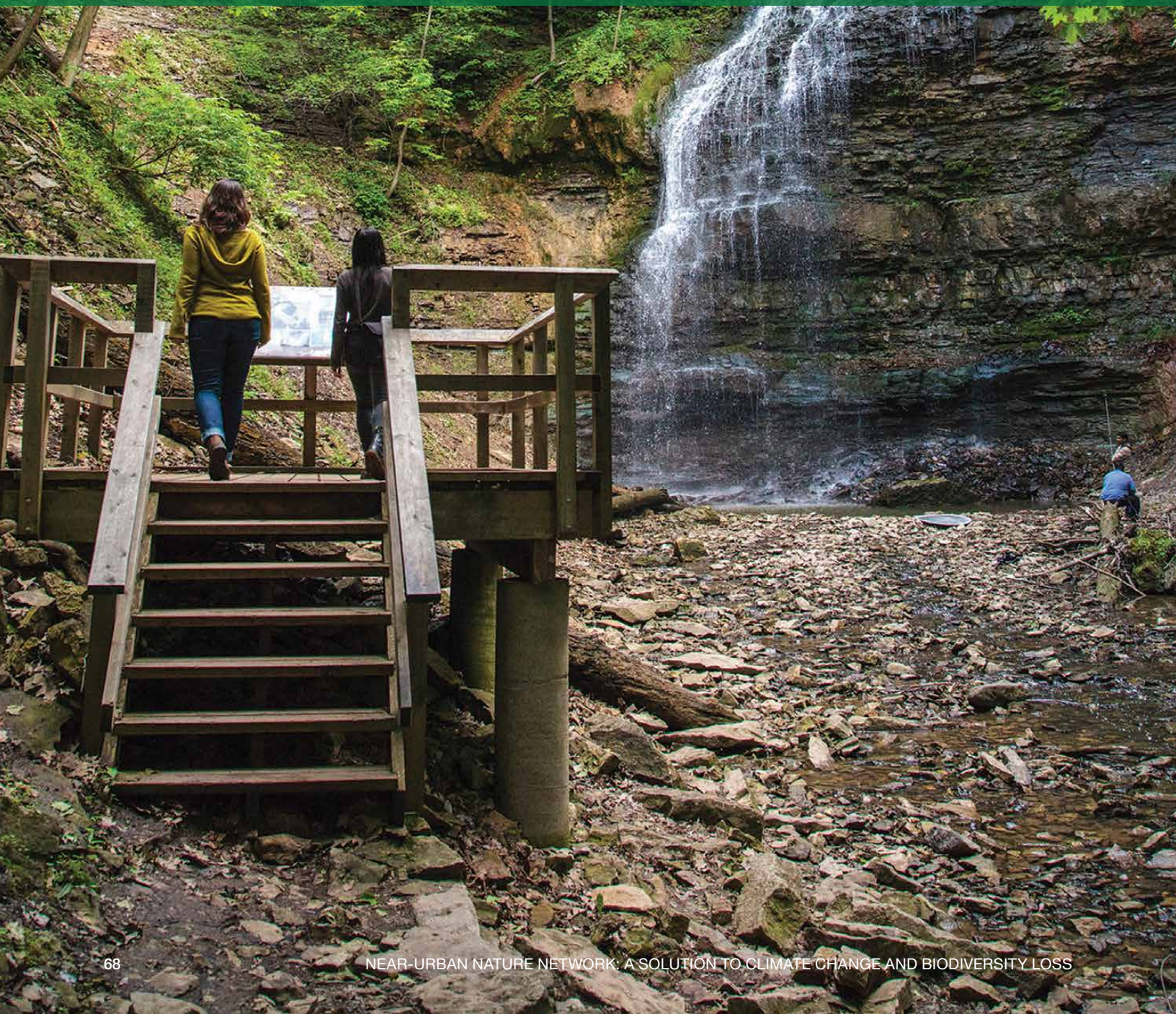
Postsecondary institutions also work in partnership on many research projects related to near-urban forests and offer potential partners for forest conservation-based economies.

Finally, agricultural extension programs can support forest conservation while contributing to other agricultural objectives. For example, woodlots adjacent to fields, and windbreaks or hedgerows between fields are best management practices that reduce soil erosion and aquatic health while providing economic returns.[22]

21 Greenbelt Foundation. (2016). Ontario's Good Fortune: Appreciating the Greenbelt's Natural Capital

22 Nottawasaga Valley Conservation Authority. (2012). Multi-functional Windbreaks: Design Options and Economic Evaluation. Retrieved from https://www.nvca.on.ca/Shared%20Documents/Multi-functional%20Windbreaks%20Design%20Options%20and%20Economic%20Evaluation.pdf

How to make lasting change



Pan-Canadian approach to protecting nature in near-urban and urban areas

Urban and near-urban nature objectives need to be integrated into all new national biodiversity and climate adaptation related policies and programs, and any new biodiversity policy coming out of the Convention on Biological Diversity (COP15) scheduled for fall 2021. Biodiversity and ecological connectivity considerations must also be incorporated into Federal funding programs for climate resilience.

Cities in Canada such as Halifax, Gatineau, Saskatoon, Vancouver and Windsor support establishing or expanding national urban parks and connecting people with natural, and significant national programs to manage biodiversity and protect ecological corridors.

In the GGH, the continued success of the Greenbelt, ecological connections to the broader geography and natural infrastructure investments are critical to the region and biodiversity in Canada. The Near-Urban Nature Network sets out a pathway to achieve this nature-centred vision and will require regional-scale collaboration including key partnerships with governments, Conservation Authorities, the meaningful participation of Indigenous Peoples and Communities and wider-community engagement activities.

The creation and funding of the Oak Ridges Moraine Foundation and the Greenbelt Foundation has advanced public and political understanding of the importance of these special landscapes and waterscapes. Their work has increased support by the public, landowners, and the agricultural sector.

For example …

>90%

of Ontarians polled in 2021 strongly supported the Greenbelt initiative.[23]

Developing a shared vision for the region among these groups holds potential for scaling up efforts to create a more resilient Near-Urban Nature Network in the GGH. The importance of knowledge-sharing, coalition-building, education, and outreach came up throughout the work of the SONC partnership.

Regional coordination from a group like the Southern Ontario Nature Coalition could help coordinate the larger community in developing the vision, building capacity, mobilizing action, and establishing opportunities for knowledge sharing.

23 Canadian Council on Ecological Areas (2021). Implementing Connectivity Conservation in Canada. Retrieved from https://ccea-ccae.org/implementing-connectivity-conservation-in-canada

Advance Indigenous engagement

Indigenous Communities and the large population of Indigenous Peoples living in urban areas need to be engaged in near-urban nature networks or similar collaborations. Funding for capacity building for Indigenous Peoples is needed to access and use Indigenous Knowledge Systems, science and Ways of Knowing and enable Indigenous Peoples to exercise their responsibility to care for the land and waters and continue cultural traditions and ways of life.

Natural asset management

Integrating nature into municipal infrastructure or asset plans and climate adaptation plans enables municipalities to make land-use planning decisions with nature's full benefits in mind.

Municipalities in Ontario are now required to include natural or green infrastructure assets in their municipal asset management policies and plans. This provision can increase awareness of the value of near-urban nature and help municipalities better plan for it over the long term. Other land stewards should be taking a similar long-term budgeting and management approach (e.g., Conservation Authorities), but they will need financial support to do so.

York Region was the first municipality in Ontario to include green infrastructure assets in its asset management plan. The asset management plan includes inventory, current condition, identified risk, levels of service, and long-term financial planning for trees and woodlands on municipal lands. This process helped secure a budget for forest stewardship. Several municipal governments in the GGH are now completing natural asset inventories, a first step towards natural asset management.

Financing

Funding investments in nature infrastructure are needed to establish and maintain a Near-Urban Nature Network in the GGH. Investments can support actions on biodiversity, reconciliation and climate change while also delivering community co-benefits and core services. Public funding from all levels of government can demonstrate the value of ecosystem services provided by nature and enable communities to:

- Maintain and enhance the underlying ecosystem health, connectivity and biodiversity of a Near-Urban Nature Network
- Increase access to nature
- Manage natural infrastructure projects for long-term ecosystem health
- Monitor biodiversity and ecosystem services
- Create jobs and support job training in rural and urban areas

The benefits of a Near-Urban Nature Network are far-reaching and provide immense public amenity value and economic benefit in the form of goods and services that save governments costs related to health care and natural hazards. Furthermore, governments at all levels have made commitments to protect biodiversity, restore natural systems, adapt to climate change, and ensure good land use planning at all levels of government.

According to a report by the Canadian Institute for Climate Choices, since 2010, the costs of weather-related disasters and catastrophic events have amounted to about 5 to 6 per cent of Canada's annual GDP growth, up from an average of 1 per cent in previous decades. These costs affect all levels of government, organizations, and people across Canada. The need for nature-based climate solutions to mitigate and adapt to climate change is only going to grow with time and all sectors must start increasing investments in these solutions.

A Natural Infrastructure Fund of $200 million over three-years was announced by the Federal Government in the Spring 2021 Budget, *A Recovery Plan for Jobs, Growth and Resilience*. The Fund will increase awareness about the value of natural infrastructure and hopefully lead to longer-term, stable investments. Existing Federal funding programs can also support a Near-Urban Nature Network including the two billion trees program, Indigenous Guardian Programs, Canada Healthy Communities Initiative, Climate Action and Awareness Fund and the Canada Nature Fund which supports the government's commitment to conserve 25 per cent of its lands, freshwater, and oceans by 2025, working toward 30 per cent by 2030.

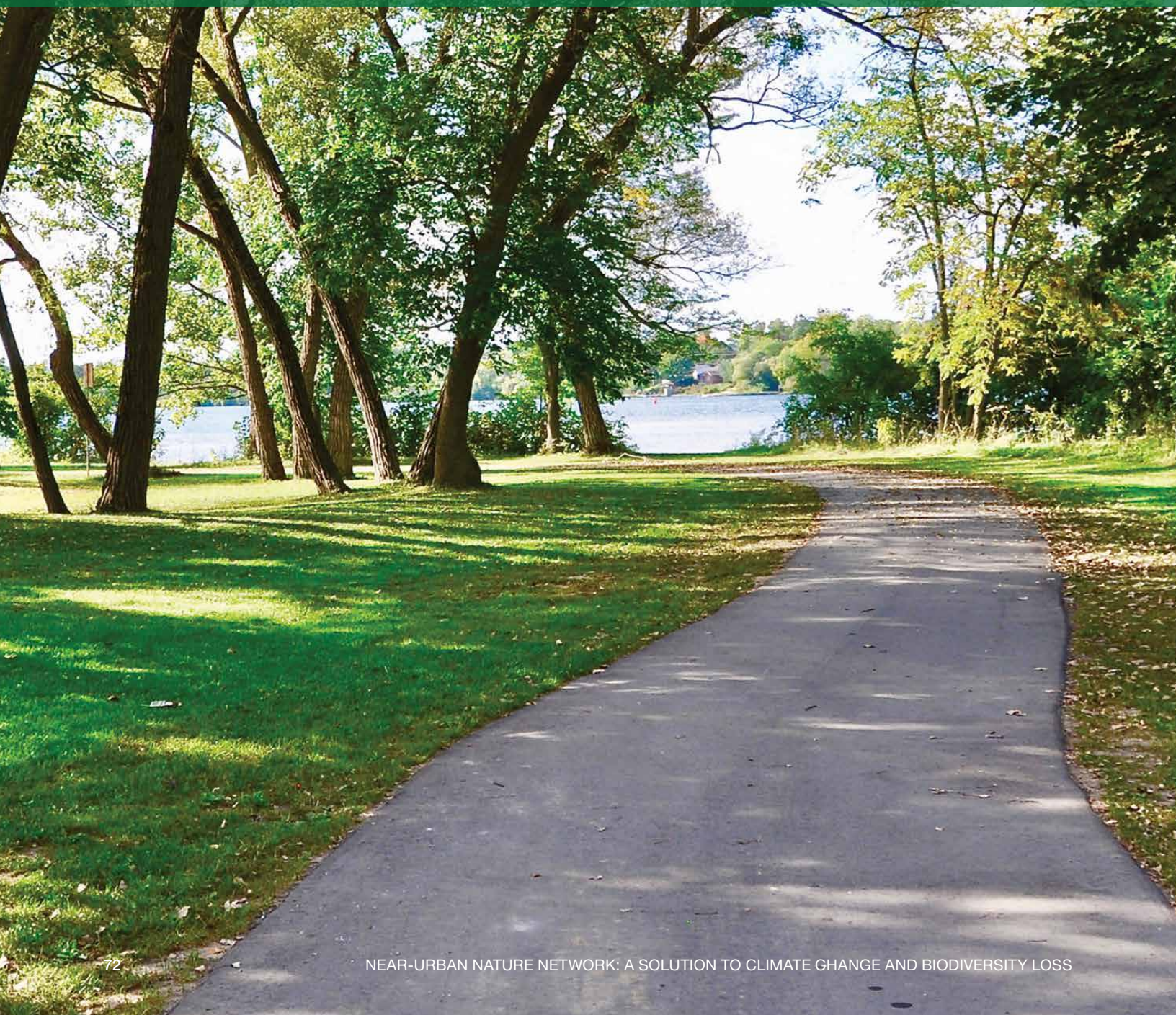
Public funding is critical as natural systems require long-term commitment and investment that the private and philanthropic sectors do not provide. Targets set to halt biodiversity loss and adapt to the impacts of climate change cannot be achieved without significant public-sector funding. Funding for conservation from federal and provincial sources can include:

- **Institutional budget allocations** to the public agencies and authorities responsible for implementing near-urban nature projects or managing the land, resources, and services upon which they depend (for example, Environment and Climate Change Canada projects related to tools and resources, land managers, or the direct management of national parks).
- **Direct investment** in near-urban nature protection (e.g., land securement) or restoration (e.g. natural infrastructure funding).
- **Environmental fiscal reforms** as part of crisis recovery plans, including COVID-19 economic recovery plans, to realign incentives with sustainable practices (similar to the European Green Deal).
- **Subsidies** to reduce costs to private near-urban nature projects (such as tax incentives).

Other sectors have a responsibility to shift toward a Near-Urban Nature Network for the social, economic and ecological benefits it can provide.

- **Philanthropic and private investments** can help with testing of new ideas, approaches, demonstrations, and creating norms and best practices, ranging from large corporate sponsorships to private donations and crowdfunding.
- **Market-based instruments**, such as payments for ecosystem services, are paid by local authorities or businesses that rely on large-scale availability of ecosystem services like water use.
- **Insurance products** can support upstream restoration
- **Conservation bonds** include the Deshkan Ziibi Conservation Impact Bond (DZCIB), launched in March 2020 to boost climate-smart natural capital, save wildlife, and grow healthy landscapes in the traditional territories of Chippewas of the Thames First Nation. Lead partners include Carolinian Canada, VERGE Capital, Thames Talbot Land Trust, Ivey Business School, 3M, ALUS, Lower Thames Conservation Authority, Pollinator Partnership and ReForest London connecting 6+ communities, 20 partners and 45 landowners. The model connects five sectors for a healthy landscape portfolio, including protection, stewardship, restoration, and leadership for healthy habitat. Early results show that the approach can leverage collaboration, understanding, investment, innovation, and funding.

What to do next: Recommendations



Path Forward for Southern Ontario Nature Coalition

SONC outlines an immediate path forward for the region.

Resources needed to undertake this work are estimated at $10 million over 2 years:

- Continue to **engage interested local Indigenous Communities** in accordance with Community protocols and the use of Ethical Space.
- Communicate the vision and importance of the Near-Urban Nature Network for Canada and southern Ontario; build on the model of the Greenbelt and findings of this project, including continuing in-depth **assessment of areas of importance for protecting**, connecting, and restoring land for:
  - Ecology: Key Biodiversity Areas and areas of local significance; areas integral to regional connectivity;
  - Culture: Indigenous biocultural mapping; and
  - Society: communities vulnerable to climate change impacts.
- Support outreach and engagement activities, and the development of tools and resources to **accelerate opportunities to establish protected and conserved areas** in Ontario's Greater Golden Horseshoe, including Other Environmental Conservation Measures and Indigenous Protected and Conserved Areas; contribute toward Canada achieving its targets of conserving 25 per cent of its lands, freshwater, and oceans by 2025, working toward 30 per cent by 2030.
- Identify opportunities for regional planning to **improve access to greenspace** for all residents.
- Lead significant **ecosystem restoration actions** in the region and investments in natural infrastructure by:
  - Partnering with the Government of Canada in implementing the two billion tree commitment, including strategic planning and collaboration to identify priorities and monitoring needs; and
  - Developing tools and resources to increase biodiversity and climate resilience stewardship outcomes among agricultural and private landowners, including Forest Stewardship Council Certification and promoting woodlot economies.
- Launch a **Native Plant Seed Strategy Pilot** for seed zones associated with the Greater Golden Horseshoe, and in collaboration with Indigenous Communities.
- Continue **pan-Canadian conversations** to advance the protection of nature and people's connection to nature in urban areas.

Engaging Indigenous Peoples

Engagement may include creating opportunities for **Communities to apply collectively for funding** if they choose, supporting jobs in Communities through Canada Jobs, and providing grants and funding for engagement. In addition to federal programs, other governments and community organizations can fund engagement and support economic development related to the restoration economy, such as growing and selling native plants from Indigenous-led initiatives and creating opportunities for Indigenous Communities to provide capacity building within the greater public in regards to Natural Law and conservation from an Indigenous lens.

Activities that are currently happening and could be scaled up in the region include:

- First Nation Communities may choose to identify Community members who should be involved and **coordinate knowledge documentation and sharing** according to protocols.
- Indigenous **Knowledge Holders and Elders may be encouraged to participate** in engagements and share their knowledge and time.
- Indigenous Communities/Peoples may wish to contribute to **biocultural mapping** of values and uses in the Greater Golden Horseshoe.

Recommendations for governments

All governments

Centre nature-based solutions in all climate adaptation planning at all levels of government including the federal government's upcoming Climate Change Adaptation Plan and any adaptation planning resulting from Ontario's current Climate Change Impact Assessment.

Build **internal understanding of Treaty rights and obligations** and uphold these rights in all near-urban nature activities.

Work towards **participatory methods of planning, monitoring, and managing Near-Urban Nature Networks** to improve conservation outcomes, build a sense of ownership, and achieve more equitable outcomes.

Work together to develop a **seed strategy** for the region that will support local green jobs, trade, and economies

Continue to undertake and support **assessments of potential protected and conserved** areas including OECMs and Indigenous Protected and Conserved Areas. Use interim protection mechanisms and report on interim or candidate areas.

Coordinate efforts toward achieving a target of at least 30 per cent forest cover across the Greater Golden Horseshoe and in all watersheds. There is need and room for at least 54 million more native trees to achieve 30 per cent forest cover in the Greater Golden Horseshoe.

Federal government

Provide funding to Indigenous Peoples so that they have greater capacity to participate in near-urban nature protection and exercise their responsibility to care for the land and waters and continue cultural traditions and ways of life.

Recognize the rights, leadership, and knowledge of Indigenous Communities and Peoples by working within the framework of **Ethical Space** to develop biodiversity and climate change adaptation related policies that support action on the Truth and Reconciliation Calls to Action and the United Nations Declaration on the Rights of Indigenous Peoples.

Work toward recommendation 21 of the We Rise Together report to **"undertake a whole-of-government approach and break down silos to increase transparency"** in conserving nature.

Integrate urban and near-urban nature network objectives into national biodiversity, climate change adaptation, and agriculture-related policies and programs.

Assess opportunities to **expand Rouge National Urban Park** and expand the National Urban Parks model by assessing lands in near-urban regions, including other federal lands that could contribute to ecological cores and corridors across Near-Urban landscapes and the greater park ecosystems.

Develop national **guidance and standards** to designate important ecological corridors and priority regions based on the International Union for Conservation of Nature's guidelines for conserving connectivity through ecological networks and corridors and the Canadian Council for Ecological Areas' recommendations in Implementing Connectivity Conservation in Canada.

Work with the United States on ecological connectivity and continue efforts through the **Great Lakes Water Quality Agreement** to improve terrestrial and aquatic habitats and water quality.

Form a **working group** to assess if and how to establish designations for important ecological corridors following the International Union for Conservation of Nature's guidance, starting with municipal, Conservation Authority, and unceded (Crown) lands.

Provide funding to support the development of a **national native seed strategy** similar to the U.S. National Seed Strategy.

Support, with the help of Parks Canada, International Union for Conservation of Nature's #Nature for All and other programs to **connect people with nature in Canada**, while promoting greater focus on urban and near-urban nature through these programs.

Demonstrate and support **leadership in conservation finance** to model and scale up Resilience and/or Conservation Bonds to finance restoration and reduce climate vulnerabilities through natural infrastructure.

Provide dedicated funding and support for near-urban tree planting through the two billion trees commitment, including support for building capacity to grow more native trees.

Provincial government

Strengthen **regulatory and policy protections for** all Provincial Wildlife Areas, Areas of Natural and Scientific Interest and Provincially Significant Wetlands on unceded (Crown) land, for example through designation under the Public Lands Act so that these areas to meet Canada's Target 1 criteria.

As part of its review of laws, regulations, and policies to strengthen wetland protection, the Ontario government should consider:

- Amending the Provincial Policy Statement to require that **wetland evaluation occur before development approvals are granted** and all wetlands are deemed to be significant until an evaluation demonstrates otherwise.
- Repealing amendments to the Planning Act enacted in 2020 so that the power to deny development approvals on Provincially Significant Wetlands is fully restored to Conservation Authorities.

Re-establish the original vision for **Areas of Natural or Scientific Interest** which were intended to complement the Provincial Parks program and protect areas of provincial, regional or local significance.

Continue to **create protected and conserved areas** where lands meet the criteria, starting with unceded (Crown) land and lands in close proximity to existing protected and conserved areas.

Explore opportunity under the Great Lakes Protection Act to **enhance protection for Provincially Significant Wetlands**, which could include regulating Provincially Significant Wetlands under the Act.

Protect agricultural land from development by encouraging and funding the use of easements, soil health, and strategic restoration on agricultural lands.

Invest in **local stewardship programs** with objectives that support connected and restored landscapes in near-urban areas.

Improve **property tax incentives** by streamlining administration and reducing costs in the operation of the Conservation Land Tax Incentive Program and the Managed Forest Tax Incentive Program that support land trusts' protected areas.

Municipalities and Conservation Authorities

Continue to identify risks to the natural functions of ecosystems associated with climate change impacts and ensure that near-urban nature network planning incorporates climate modelling.

Strengthen **protection for natural areas** including all cores and corridors with a long-term vision of increasing protected and conserved areas to contribute to Canada's Target 1 through strategic restoration and protection of connectivity and ecological, social, and cultural values.

Incorporate **biodiversity** considerations throughout municipal policy.

Continue to engage with Indigenous Peoples and Communities to explore opportunities for community science, voluntary landowner programs, and coalitions to protect ecological corridors.

Expand outreach approaches to continue to incorporate a **broader spectrum of cultures, worldviews and languages** in environmental and conservation programs.

For those municipalities that do not have **tree protection bylaws**, assess the potential benefit of forest and tree protection bylaws, with consideration of future climate adaptation needs as well as social and cultural values.

Make **Conservation Authority property information** – including property extents and boundaries – publicly available; expedite and streamline property information use for stewardship and securement programs and avoid time-consuming and costly research on land parcels to deliver government programs related to private land protected areas.

Identify important **movement corridors** at local and watershed scales by functional group and solutions at appropriate scales to improve connectivity and protect key corridors.

Undertake **research on the impact of roads and other barriers** on ecological connectivity to inform restoration and mitigation efforts.

Build **eco-literacy** and "nature watch" networks and neighbourhoods with community science.

Incorporate **health and wellbeing benefits** and access to green space into conservation and park planning at all scales.

Work with Indigenous Peoples and Communities to support land-based and **cross-cultural learning**.

Others

Land Trusts

Develop **shared impact frameworks and metrics** and share resources to build nature norms and best practices for greater long-term resilience and efficiency in managing land trusts.

Infrastructure Planners

Mitigate and reduce fragmentation impacts to the greatest extent possible from roads, rail or hydro corridors.

Improve permeability and connectivity of all land uses (i.e., not just existing natural heritage system boundaries) by increasing the wildlife and ecosystem service considerations across the landscape.

Photo: Laura Komadina

Seven Grandfather Teachings

The Seven Grandfather Teachings encompass the morals, values, structures, ceremonial practices, and spiritual beliefs of the Anishinaabe People. These teachings ensured the survival of the People and reflect what we all strive for in life, which is to live a good life or *Mno Bmaadzawin*. If all strive to live life following these seven principles a good life is obtainable for all.

1

Humility is represented by the **wolf**

For the wolf, life is lived for the pack and the ultimate shame is to be outcast. Humility is to know that you are a sacred part of creation. Live life selflessly and not selfishly. Respect your place and carry your pride with your people and praise the accomplishments of all. Do not become arrogant and self-important. Find balance in within yourself and all living things.

2

Courage is represented by the **bear**

The mother bear has the courage and strength to face her fears and challenges while protecting her young. The bear also shows us how to live a balanced life with rest, survival, and play. To face life with bravery is to know courage. Find your inner strength to face the difficulties of life and the courage to be yourself. Defend what you believe in and what is right for your community, family, and self. Make positive choices and have conviction in your decisions. Face your fears to allow yourself to live your life.

3

Honesty is represented by the **Sasquatch**

He understands who he is and how to walk in his life. He reminds us to be ourselves and not someone we are not. An honest person is said to walk tall like the Sasquatch who accepts himself and knows how to use his gifts. He does not seek the power, speed, or beauty of others. He uses what he has been given to survive and thrive. To walk through life with integrity is to know honesty. Be honest with yourself. Recognize and accept who you are. Accept and use the gifts you have been given. Do not seek to deceive yourself or others.

Wisdom is represented by the **beaver**

… who uses natural gifts wisely for survival. The beaver also alters the environment in an environmentally friendly and sustainable way for the benefit of his family. To cherish knowledge is to know wisdom. Use your inherent gifts wisely and live your life by them. Recognize your differences and those of others in a kind and respectful way. Continuously observe the life of all things around you. Listen with clarity and a sound mind. Respect your own limitations and those of your surroundings. Allow yourself to learn and live by your wisdom.

Truth is represented by the **turtle**

The turtle was here during the creation of Earth and carries the teachings of life on his back. The turtle lives life in a slow and meticulous manner because he understands the importance of both the journey and the destination. Truth is to know all of these things. Apply faith and trust in your teachings. Show honour and sincerity in all that you say and do. Understand your place in this life and apply that understanding in the way that you walk. Be true to yourself and all other things.

Respect is represented by the **Buffalo**

The buffalo gives every part of his being to sustain the human way of living, not because he is of less value, but because he respects the balance and needs of others. To honour all creation is to have respect. Live honourably in teachings and in your actions towards all things. Do not waste and be mindful of the balance of all living things. Share and give away what you do not need. Treat others the way you would like to be treated. Do not be hurtful to yourself or others.

Love is represented by the **Eagle**

… because he has the strength to carry all the teachings. The eagle has the ability to fly highest and closest to the creator and also has the sight to see all the ways of being from great distances. The Eagle's teaching of love can be found in the core of all teachings, therefore an eagle feather is considered the highest honour and a sacred gift. To know love is to know peace. View your inner self from the perspective of all teachings. This is to know love and to love yourself truly. Then you will be at peace with yourself, the balance of life, all things and also with the creator.

Southern Ontario Nature Coalition

SONC is a partnership of experienced provincial, regional, Indigenous, agricultural, community-based organizations, and land-based policy experts and is committed to engaging Indigenous Peoples and Communities in accordance with community protocols and the development of ethical space for all to contribute meaningfully.

For more information, please contact: **near_urban_nature@greenbelt.ca**

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