

Frontenac Arch Biosphere



Frontenac Arch Biosphere Network

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Alto High-Speed Rail Project - Public Consultation Brief

Monday, April 13, 2026

Who is the Frontenac Arch Biosphere Network?

The [Frontenac Arch Biosphere Network](#) (FABN) is a not-for-profit organization that administers the region's UNESCO-designation as a [World Biosphere Reserve](#). Our goals are to enhance relationships between people and the environment, contribute to the sustainability of our communities and conserve the globally significant ecosystems of the Frontenac Arch. We are engaging in this consultation process to provide information that requires serious consideration in the Impact Assessment for the [High-Speed Rail \(HSR\) Project](#) in Eastern Ontario.

What is our Interest in Alto's High-Speed Rail Study Area?

The HSR study area overlaps with the [Frontenac Arch Biosphere Region](#) (FABR), an area internationally recognized for its distinctive geology and uniquely rich biodiversity, as well as the community's long-standing efforts to protect the natural environment. Located at the narrowest point in the [Algonquin-to-Adirondack](#) (A2A) corridor (see Map 1), the Frontenac Arch is vitally important for North-South wildlife movement, gene flow, and the ability of local species to adapt to climate change. Identified by Parks Canada as a National Priority Area for ecological connectivity in Canada and North America,¹ this region provides critical habitat for over 54 designated species at risk and contains four National [Key Biodiversity Areas](#).²

¹ Parks Canada. (2025). *National priority areas for ecological corridors*. Retrieved October 29, 2025, from <https://parks.canada.ca/nature/science/conservation/corridors-ecologiques-ecological-corridors/prioritaire-s-priorities#section-4>

² WCS Canada, Raudsepp-Hearne, C., Debyser, C., Fraser, D., & Ray, J. C. (2021). *A National Standard for the Identification of Key Biodiversity Areas in Canada*. Wildlife Conservation Society. <https://doi.org/10.19121/2021.Report.39502>

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As an organization with a mandate that includes promoting action on climate change, FABN is generally supportive of federal investment in sustainable transportation options that would have a positive impact on communities and ecosystems in Canada. However, to maintain a strong and robust standard for sustainable development, an infrastructure project of the scale of the Alto HSR must go beyond quantifying carbon emissions. Rather, it must incorporate a full accounting of the costs and benefits associated with all its stages and aspects. The reduction in greenhouse gas emissions gained by the Alto HSR cannot be won at the expense of intact and connected wetlands and forests, the survival of species at risk of extinction or extirpation, international recognition for Canada's responsible stewardship of globally significant ecosystems and the long-term well-being of rural communities.

FABN's Main Concern

A HSR line between Ottawa and Toronto threatens to sever a critical ecological connection, one of the last intact natural landscapes of eastern North America. Such a HSR line would fragment irreplaceable habitat, reduce our resilience to climate change and drive species-at-risk closer to extinction or extirpation. Its impact on wildlife and ecosystems would be felt on a continental scale and could result in the withdrawal by UNESCO of the region's biosphere designation.

Impacts that Must Be Avoided

The following comments draw on the 25 years our organization has invested in enriching our understanding of people and nature, with contributions from scientists, government agencies, community members and Indigenous organizations. They are focused on impacts that would be impossible to offset within the HSR area of study where it overlaps with the Frontenac Arch Biosphere Region. This limited geographical scope should not be interpreted in any way to diminish the value of other places within the study area. We share the following to ensure this information is carefully considered in a full and complete assessment of the potential impacts of a HSR line in the proposed study area.

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Loss of Two International UNESCO Designations

The Frontenac Arch Region has the rare honour of two overlapping UNESCO designations, both of which contribute to Canada’s international reputation as a responsible steward of globally significant ecosystems and cultural heritage. In addition to its designation as a World Biosphere Reserve (or Region), the Frontenac Arch intersects with the [Rideau Canal, a UNESCO World Heritage Site](#) recognized for the preservation of this exceptional 19th-century infrastructure.

Both these designated sites bring international prestige and economic opportunity to the area, and they must meet strict criteria to maintain their UNESCO status. A HSR cutting through these sites could trigger the withdrawal of both UNESCO designations. Its impact on both these sites must be carefully considered to ensure UNESCO’s designation requirements can be maintained.

To maintain the UNESCO Biosphere Region designation, FABN undergoes a [rigorous periodic review](#) every 10 years, with the next review set for 2029³. Among other considerations, there are two important requirements for the designation that relate to the HSR discussion:

1. The region must include ‘Core Areas,’ which are parcels of land that are legally protected in order to conserve biodiversity; and
2. It must include ‘Buffer Areas,’ where only activities compatible with conservation, such as ecological research, are allowed to occur (see Map 2 below).

If properties within the Region’s core or buffer areas are damaged or expropriated for HSR, the UNESCO Biosphere Region designation would be at risk.

With respect to the Rideau Canal World Heritage Site, its “outstanding universal value” is regularly monitored by UNESCO. A major infrastructure project that impacts the canal or its surrounding area may trigger the site being considered “in danger” and may eventually lead to de-listing. Such situations lead to negative and broad

³ *Designating new biosphere reserves and review process of existing.* (n.d.). Retrieved April 6, 2026, from <https://www.unesco.org/en/mab/wnbr/designation>

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media coverage, which could significantly impact the tourism economy of the region.

Irrevocable Harm to Protected and Conserved Areas

Map 3 below shows the Protected and Conserved areas where the HSR study area overlaps with the Frontenac Arch Biosphere Region. Each area represents years of investment, relationship building, volunteerism, research and ongoing stewardship, all of which are required to meet the high bar set by the *Pan-Canadian Standards for Protected Areas and Other Effective Area-based Conservation Measures (OECMS) for Terrestrial and Inland Waters*⁴. If these areas were expropriated to accommodate the HSR line, it would cause irrevocable damage, not only to biodiversity, but also to the organizations who have invested resources to protect them and to the landowners who have invested generational wealth to ensure these areas are protected in perpetuity.

Expropriating protected lands held by the land trusts, universities and charities within the study area would send a message to the public that the federal government does not and will not honour lands held in trust nor respect the intended legacy of the Canadians who donated to them. This would significantly undermine the future willingness of communities to place additional lands in trust and further weaken Canada's ability to reach its international commitment to conserve 30% of its lands and waters by 2030⁵ (currently reported at 14%).

Notably, in the Prime Minister's recently released federal initiative (March 31, 2026), "[Force of Nature: Canada's Strategy to Protect Nature](#)", one of the critical areas comprising the FABR's core protected areas is highlighted under Pillar One: *Protecting Nature in Canada*, concerning OECMs: "The Queen's University Biological Station is a globally unique research and teaching facility located in southeastern Ontario. The station occupies more than 34 km² and is home to a wide variety of habitats and supports over 30 species at risk. The efforts to support education and

⁴ Canada Conservation. (2024). *A Pan-Canadian Pathway Initiative*.

<https://canadaconservation.ca/home/participate/evaluate-your-site/>

⁵ Government of Canada. (2026, March 31). *A Force of Nature: Canada's Strategy to Protect Nature*.

<https://www.canada.ca/en/services/environment/nature/nature-strategy.html>

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research programs ensure that the property is managed in ways consistent with biodiversity conservation.”

Fragmentation and Direct Loss of Sensitive Habitat for Threatened and Rare Species

The HSR study area directly intersects two of the four National Key Biodiversity Areas (KBA) within the Frontenac Arch Biosphere Region (see Map 4). These areas are scientifically confirmed as irreplaceable sites that are critical for:

- the survival of threatened and rare species,
- the ecological integrity of broader ecosystems; and
- biologically necessary processes such as migration, breeding, and hibernation.

In the Frontenac Arch, these areas provide critical habitat for threatened and rare species including the Blanding’s turtle, Pitch pine, Gray ratsnake, Cerulean warbler and Eastern loggerhead shrike. The construction and operation of a HSR line through these sensitive ecosystems would fragment and damage critical habitat, pushing these species even closer to extinction or extirpation.

Severed Wildlife Corridors and Diminished Ecological Connectivity

The Frontenac Arch serves as a critical pinch point for continental wildlife movement. The HSR study area directly overlaps with ecological corridors mapped by the [Algonquin to Adirondack \(A2A\) Collaborative](#) (see Map 5). Any disruption to these wildlife pathways would accelerate species loss by weakening the ability of all species to relocate in response to climate change and resulting in disruptions to their habitat. We would like to reinforce the message that regardless of the alignment chosen between Ottawa and Toronto, comprehensive mitigation strategies *must* be incorporated from the outset to ensure the landscape continues to provide the ecosystem functions on which both wildlife and human communities depend.

Degradation of Natural Areas that Underpin Rural Economies

The economy of the Frontenac Arch Biosphere Region, as in many rural areas, is heavily dependent on a thriving natural landscape. The unique geological features and abundant forests and lakes attract hundreds of thousands of visitors to this area every year for the exemplary recreational opportunities they provide. A HSR line in close proximity to these recreational activities and areas, and the associated impacts

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on wildlife and biodiversity, will reduce the area's attractiveness to tourists and cottagers seeking quiet getaways, fishing trips, wildlife viewing opportunities or, simply a chance to be immersed in a beautiful, healthy natural environment.

Further, the region is rich with wetlands and forests that result in a wide range of benefits to human communities. These ecosystems provide vital services including water purification, flood prevention, carbon sequestration and air purification. The expense of replacing these necessary services with human-built infrastructure would be prohibitive. Therefore, these ecosystems should be treated as invaluable natural assets⁶.

The study area also contains prime agricultural land which, at less than 10% of Canada's land mass, is a shrinking and limited resource. The Township of South Frontenac has recently taken steps to conserve and support value-added agricultural production in Prime Agricultural Areas including the area between Hartington and Harrowsmith⁷. Should the HSR line conflict with agricultural land, not only will this undermine the local economy and the Township's efforts, but it will contribute to Canada's dependence on imported food.

Failure to Uphold Indigenous Rights

One of the most important reasons to avoid impacts noted above is related to the fact that the Frontenac Arch Biosphere Region overlaps with the unceded territories of the Algonquin and Kanien'kehá:ka Peoples, including areas within the [Algonquins of Ontario land claim](#). It is incumbent upon us to underline the importance of upholding the [United Nations Declaration of the Rights of Indigenous Peoples](#) (UNDRIP). The UNDRIP asserts the Indigenous Right to maintain and strengthen their distinctive relationships with their traditional lands and resources and to uphold their responsibilities to future generations in this regard. Fully functioning ecosystems and the continuity of diverse and abundant wildlife are inseparable from

⁶ Barbier, E. B. (2011). Wetlands as natural assets. *Hydrological Sciences Journal*, 56(8), 1360–1373. <https://doi.org/10.1080/02626667.2011.629787>

⁷ Township of South Frontenac. (2025, November 19). *Township of South Frontenac official plan: Our community, our vision, our official plan*. <https://www.southfrontenac.net/media/5zrlx2ho/south-frontenac-official-plan-county-approval-2025-11-19-1.pdf>

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these rights and responsibilities. Under the federal [UNDRIP Act](#), Canada is required to obtain the free, prior and informed consent of Indigenous Peoples before adopting and implementing any decision that may affect them. To achieve this, it is imperative that the full results of all field studies and a full and complete analysis of the potential impacts on wildlife and ecosystems be made publicly available before any further decisions are made and construction begins.

Beyond Mitigating Harm

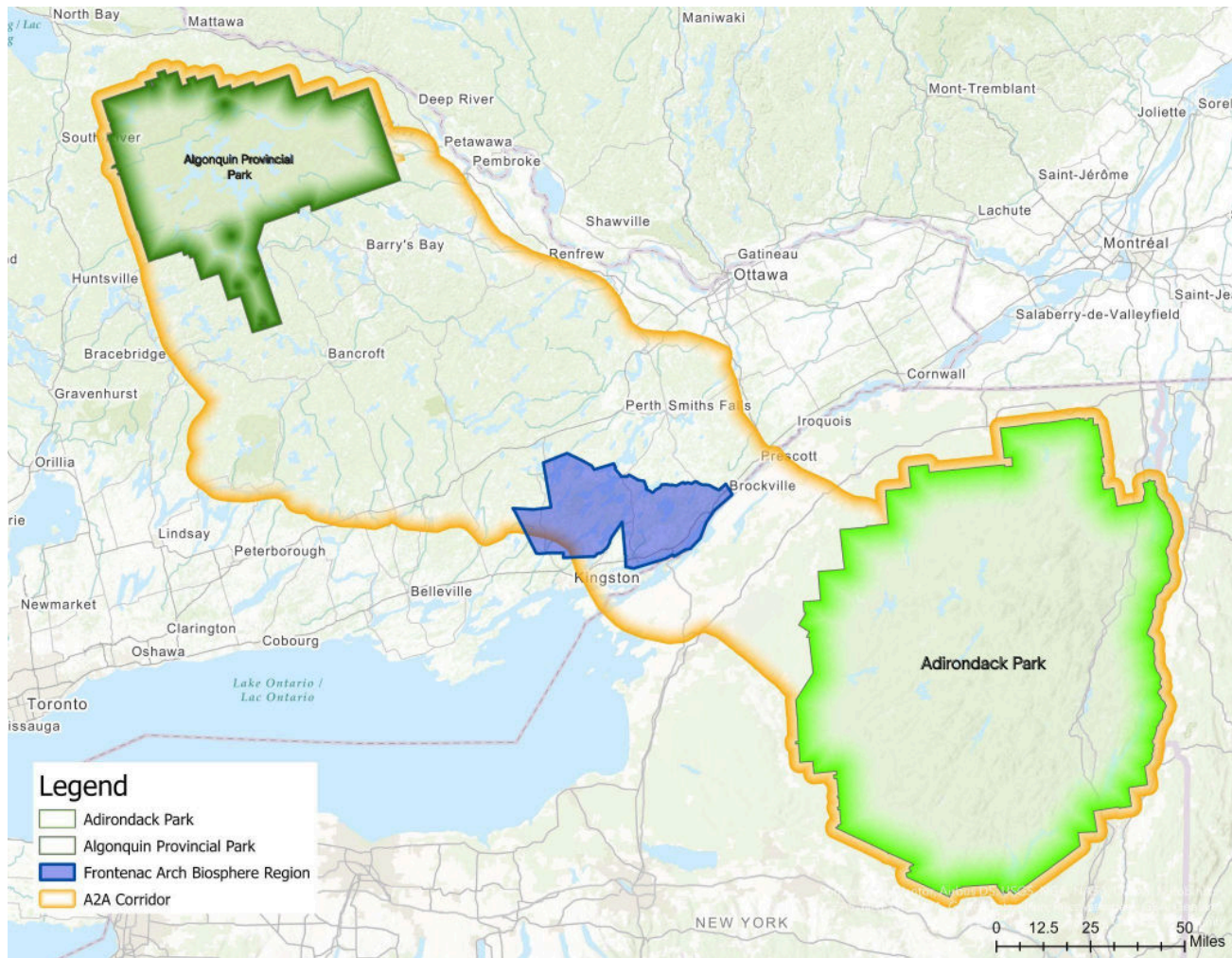
The scope of this project and its potential impacts are unprecedented in Canada. We appreciate the gravity of the decisions that lie before the proponents, the consequences of which we will live with for generations. The ambition, talent, expertise and billions of dollars in public money the project has gathered must be put to the best use possible.

This project must prioritize extensive, effective and comprehensive mitigations for wildlife. It is vitally important that environmental mitigations of the highest standard be prioritized at every stage and location.

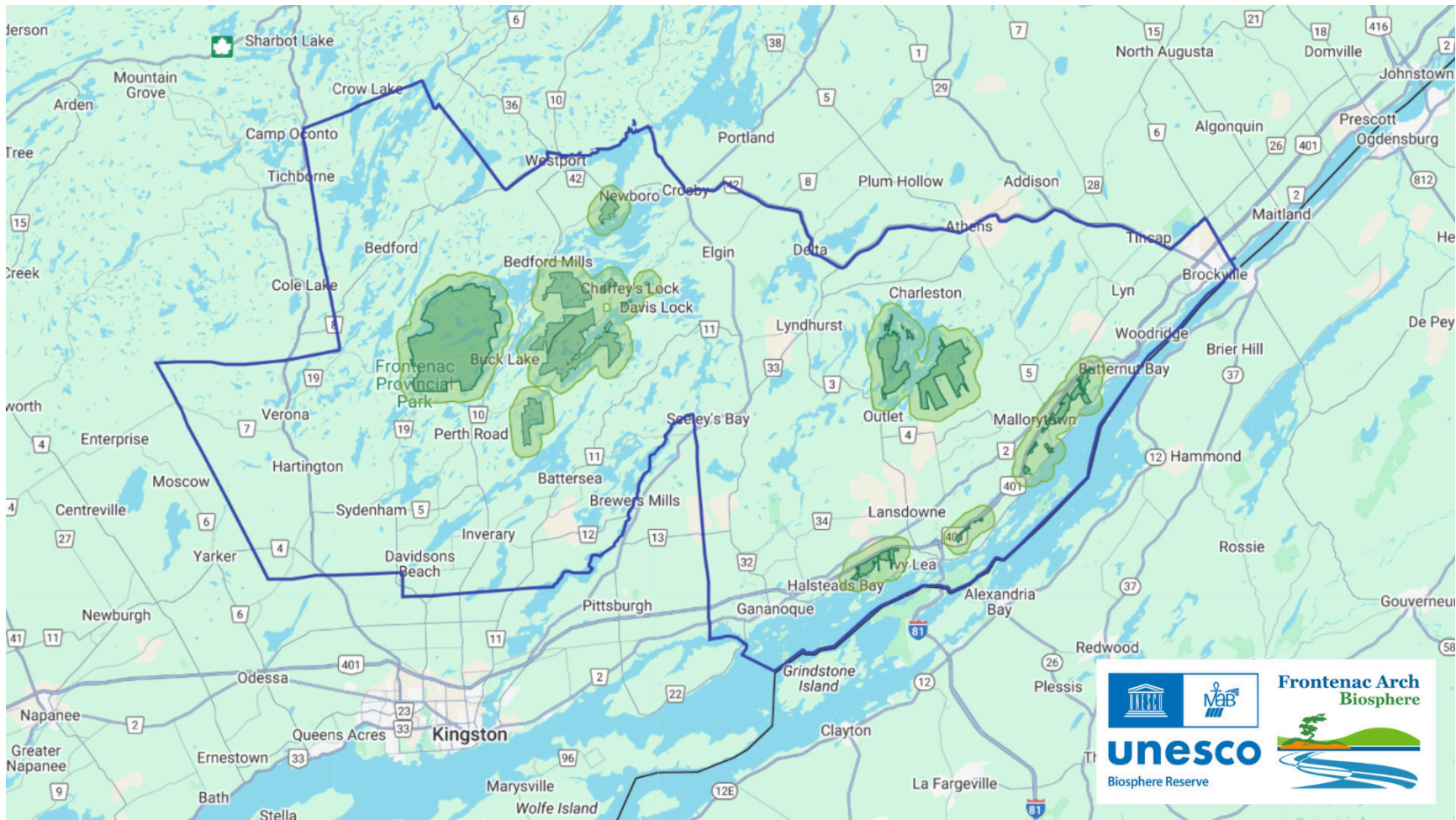
We challenge the decision makers to think past the minimum regulatory requirements needed to avoid, mitigate and offset the negative impacts of a HSR line. Rather, we encourage you to design a project that actively and intentionally contributes to net positive outcomes for biodiversity and the well-being of all, for many future generations to come.

Sincerely,

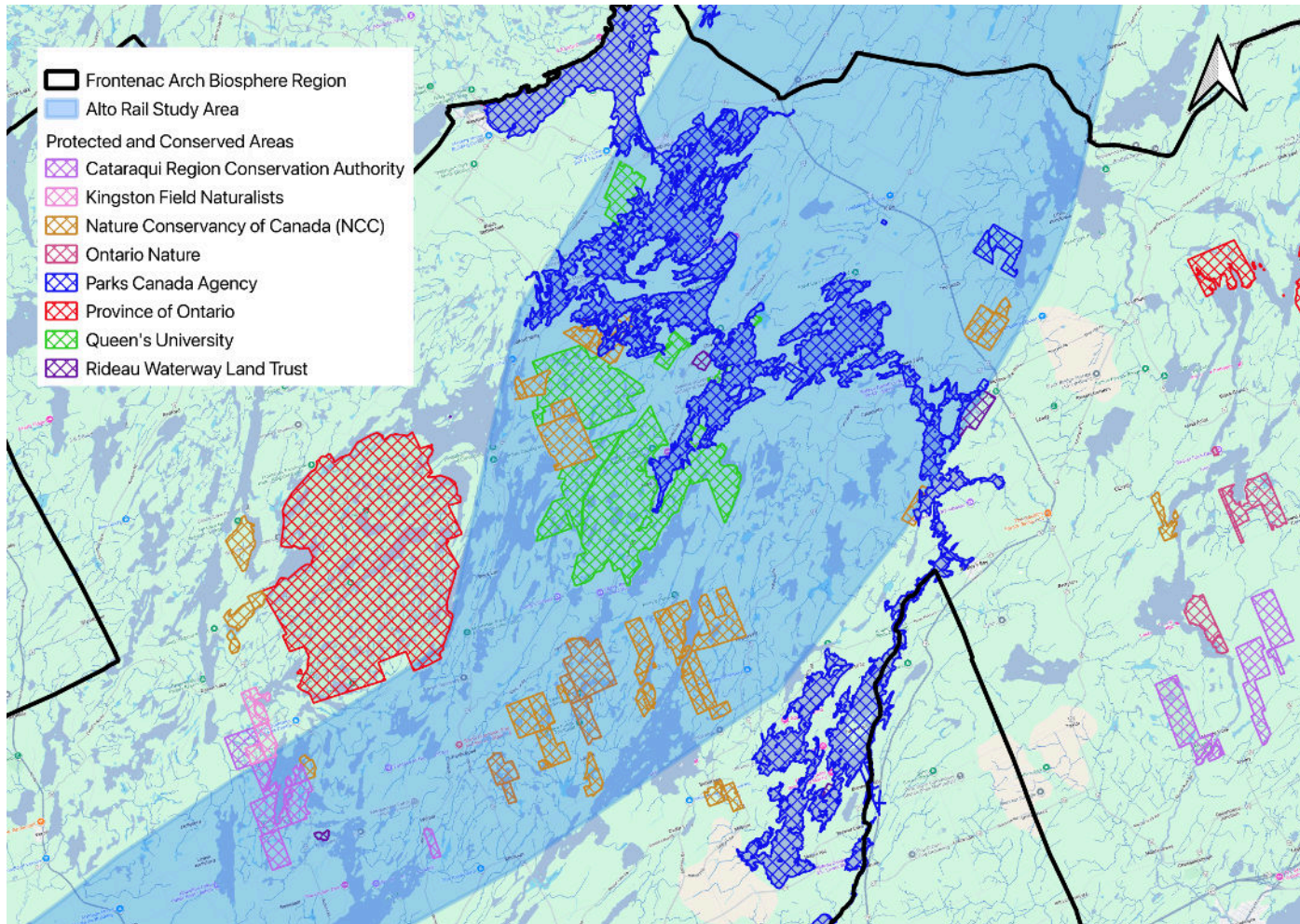
Katherine Macklem
FABN Board Chair
On behalf of the FABN Board of Directors and Staff



Map 1: The Frontenac Arch Biosphere Region is located at the narrowest point in the Algonquin-to-Adirondack (A2A) corridor and is vitally important for North-South wildlife movement, gene flow, and the ability of local species to adapt to climate change



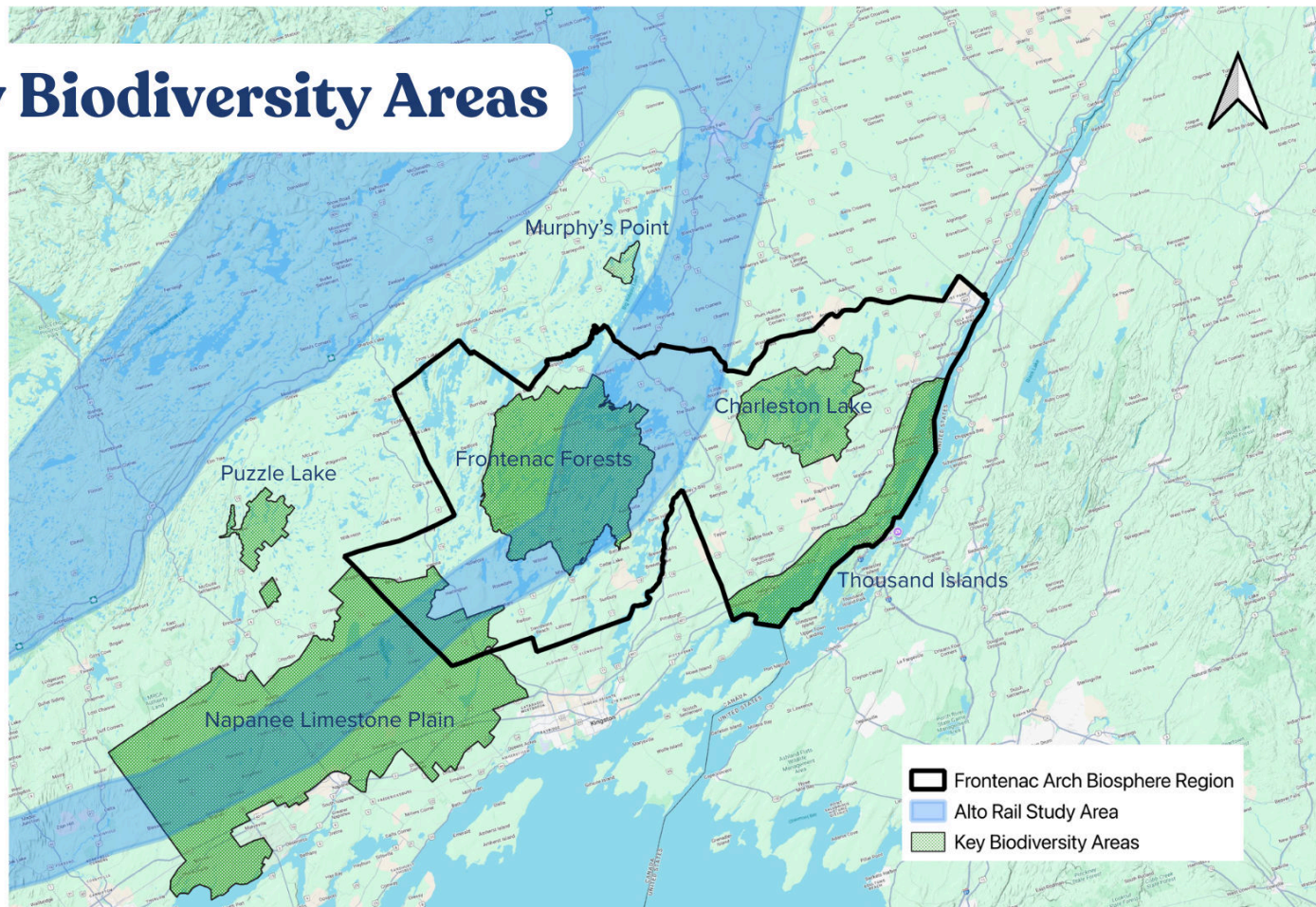
Map 2: The UNESCO-designated Frontenac Arch Biosphere Region, with required Core Areas in dark green and Buffer Areas in light green.



Map 3: Protected and Conserved Areas in the Frontenac Arch Biosphere Region and approximate Alto HSR Study Area. The Rideau Canal World Heritage Site is labelled as “Parks Canada Agency” in the legend. This map was created with data provided by the Nature Conservancy of Canada and ECCC⁸.

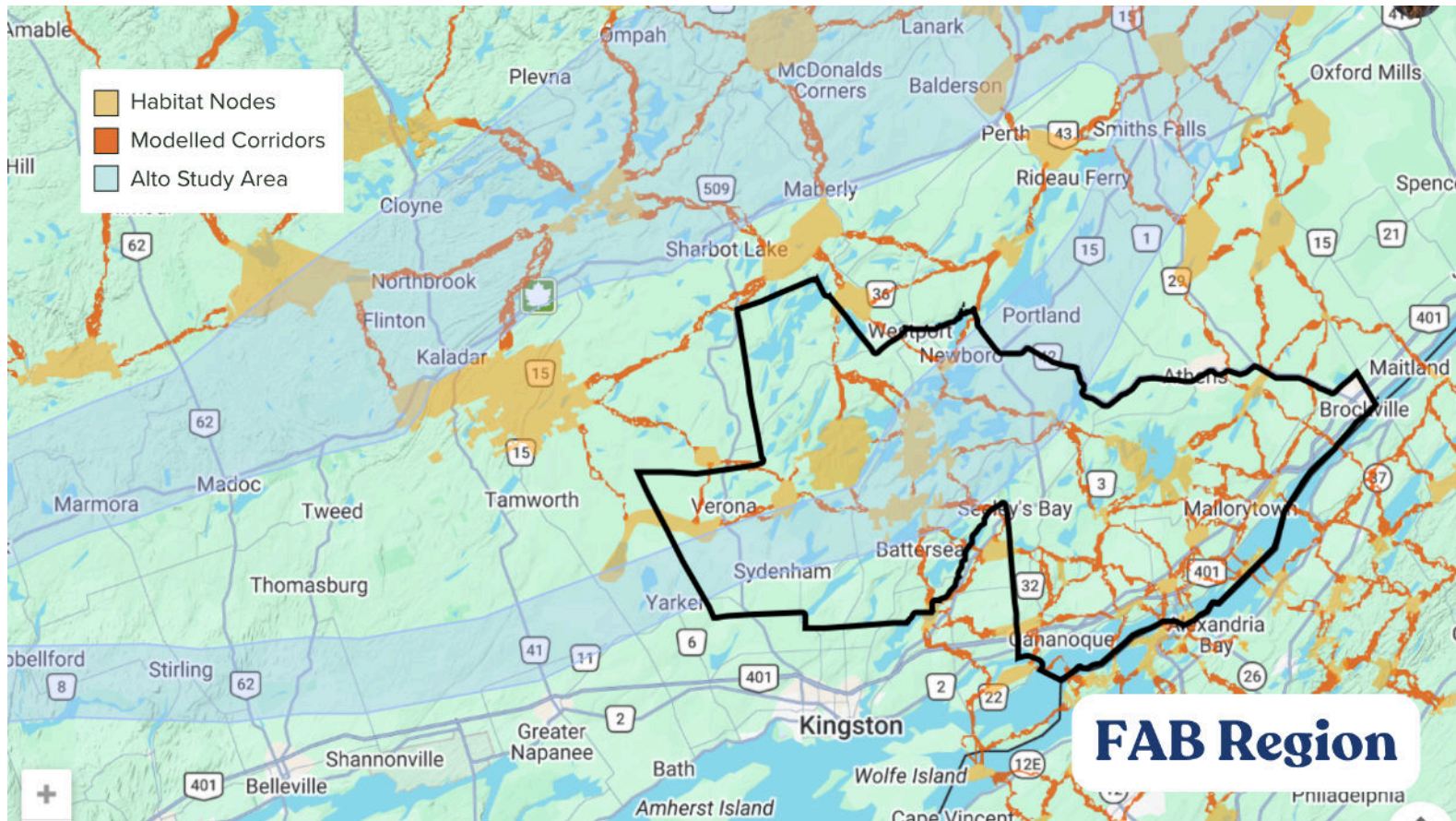
⁸ Environment and Climate Change Canada. (2024). *Canadian Protected and Conserved Areas Database*. ECCC Data Catalogue / Catalogue de Données d'ECCC. <https://data-donnees.az.ec.gc.ca/data/species/protectrestore/canadian-protected-conserved-areas-database?lang=en>

Key Biodiversity Areas



Map 4: The approximated HSR study area intersects with two National Key Biodiversity Areas, which are scientifically confirmed to provide critical habitat for species at risk of extinction or extirpation including the Cerulean warbler and Eastern loggerhead shrike⁹.

⁹ KBA Canada. (2026). *Canada Key Biodiversity Areas* [Map]. <https://kbaCanada.org/explore/map-viewer/>



Map 5: Computer models¹⁰ completed by the Algonquin to Adirondack Collaborative identified critical arteries for wildlife movement throughout the last remaining north-south connection for wildlife in North America. A full assessment of the impact of an HSR line on ecological connectivity here would require additional work to verify and refine these models¹¹.

¹⁰ Data available at <https://www.arcgis.com/apps/instant/sidebar/index.html?appid=7d8876a96bb14993b1c11f56f5a215e8>

¹¹ Steckler, P. 2024. Algonquin to Adirondacks Collaborative Wildlife Corridor Mapping Project, Technical Report. Northeast Conservation Services, LLC. Brentwood, NH.