Ontario Phragmites Action

OVMA Phragmites Management Workshop

March 18, 2025

Kyle Borrowman, NCC

Agenda

1. Purpose of the OPA program
2. Strategic Framework
3. Regional Coordination
4. Phragmites Management Areas
5. Genetic Testing Program
6. Biological Control of Phragmites
7. Invasive Phragmites Control Fund

Ontario Phragmites Action Program

An Exciting New Approach to Landscape Scale Phragmites Control in Ontario

- In 2024, the province of Ontario announced an exciting new investment of $11M over 3-years to create a new program to coordinate enhanced action on Phragmites across Ontario.
- The program supports and expands on existing efforts in Ontario.
- Also allows for coordination across jurisdictions and involves important actors including municipalities, conservation authorities, Indigenous communities, and NGOs.

What is OPA!?

Landscape Scale Phragmites Control in Ontario

- Ontario Phragmites Action program is a brand new, 3-year program funded by the **Ontario Ministry of Natural Resources**.

- It strives to provide a landscape scale, coordinated response to invasive Phragmites management in Ontario by connecting local groups across the province in harmonized management.

Severn Sound Environmental Association

Near North Enviro-Education Centre

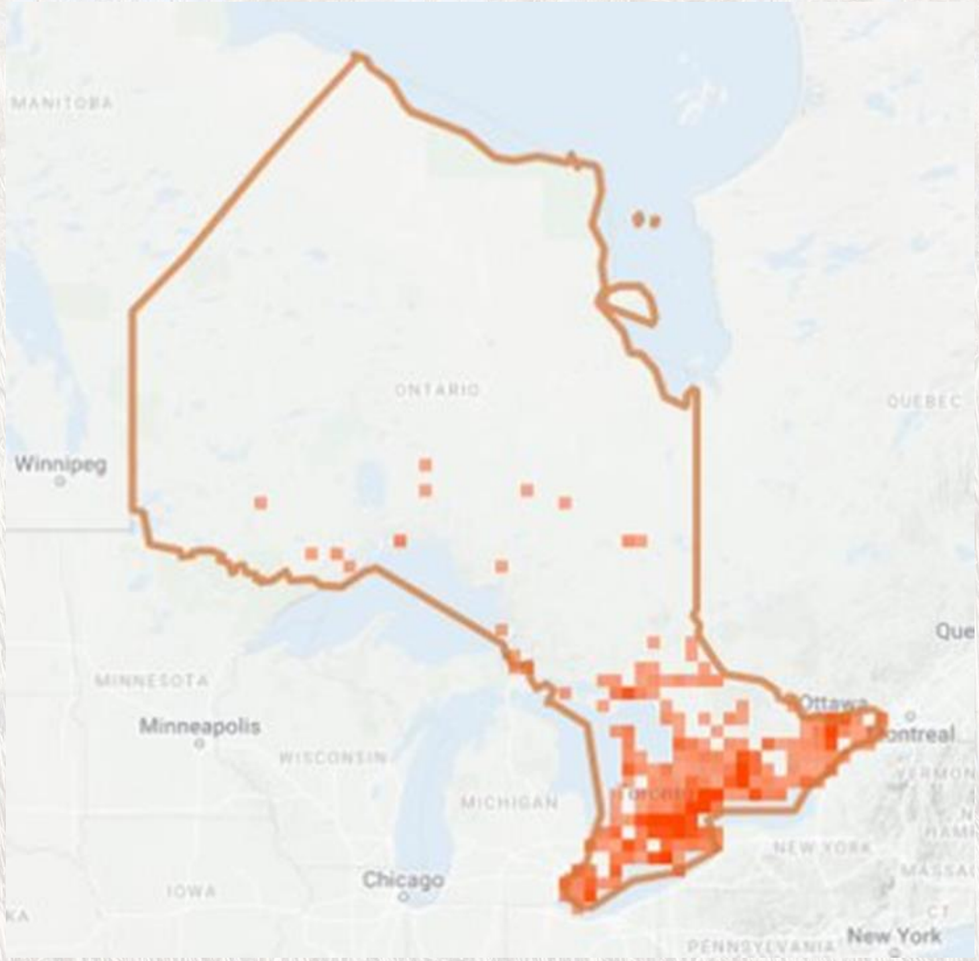
County of Brant

West Carling Association

Purpose of OPA!

Landscape Scale Phragmites Control in Ontario

- The impacts of Phragmites are felt across Ontario and beyond.
- Each region has its own unique strengths, challenges and needs.
- Some regions have seen extensive Phragmites growth while others are on the edge of expansion.
- Management needs to consider the bigger provincial picture.



Purpose of OPA!

Landscape Scale Phragmites Control in Ontario

- Phragmites does not respect property lines: collaboration across the fence is essential for long term success!
- Successful program works with a variety of actors including municipalities, CAs, Indigenous communities, community groups and many more.

Purpose of OPA!

Landscape Scale Phragmites Control in Ontario

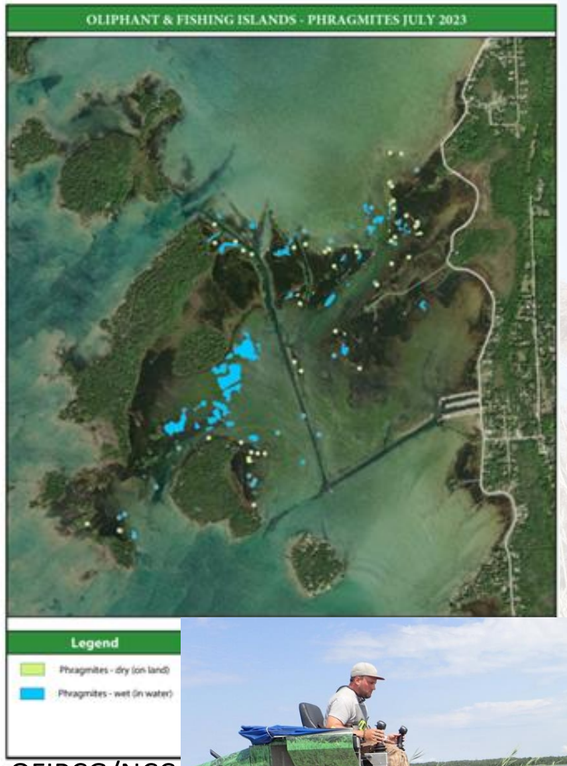
Toronto Nature Stewards

- Projects are often localized in scale, and may be occurring alongside other efforts.
- Jurisdictional boundaries can create obstacles or limit implementation by individual groups.
- Coordination through regional lens allows the opportunity to leverage available resources, expertise and funds.

To successfully manage Phragmites, an integrated, landscape-scale implementation plan that includes all necessary partners, rights holders and interest groups within a region is needed.

Purpose of OPA!

Landscape Scale Phragmites Control in Ontario



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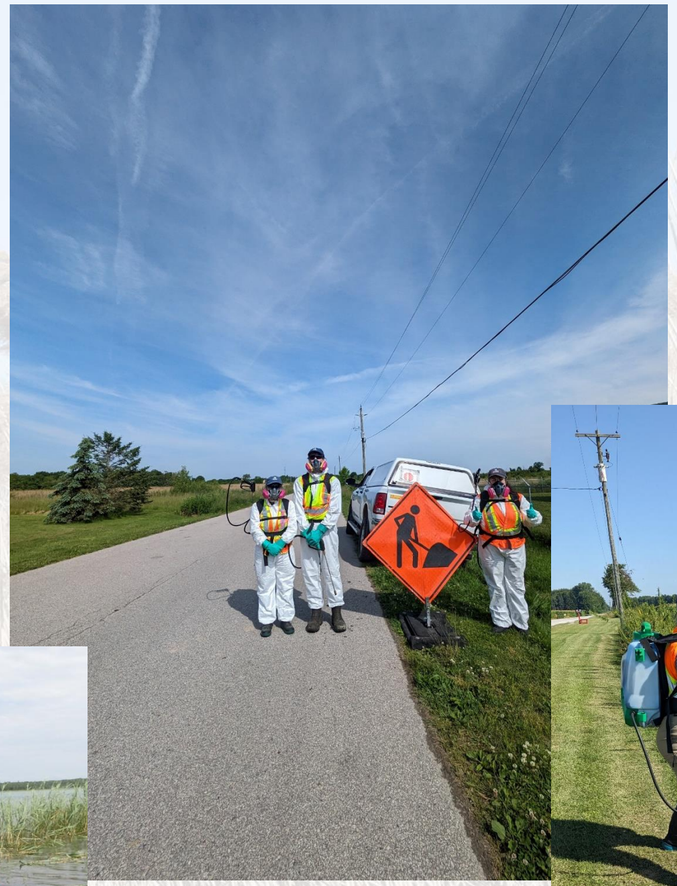

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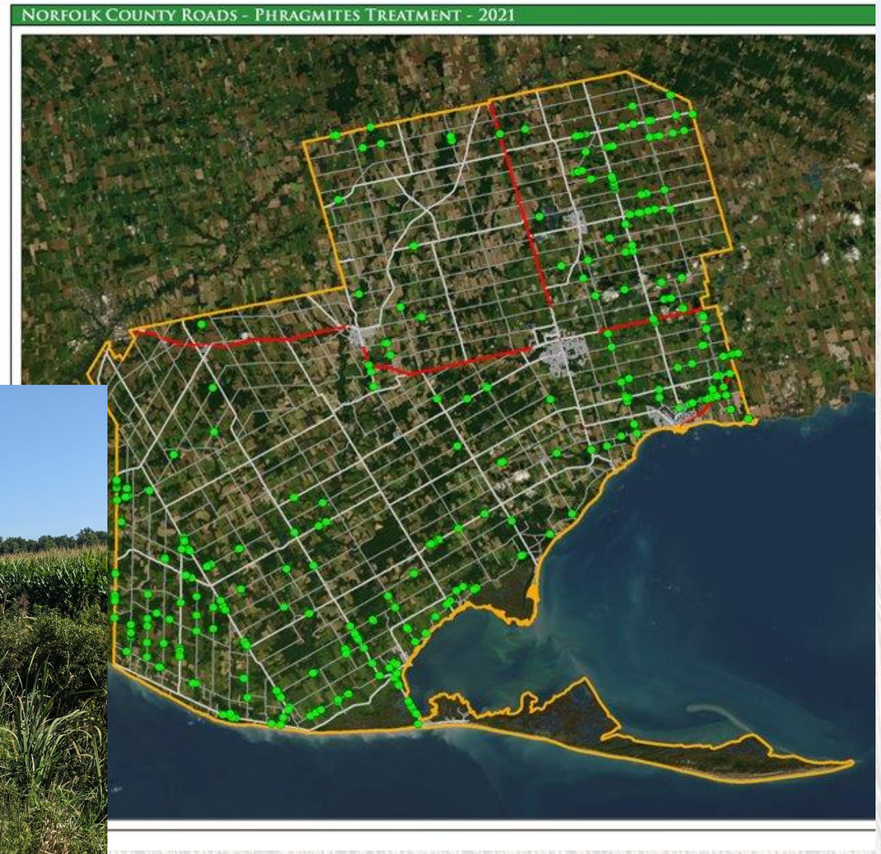
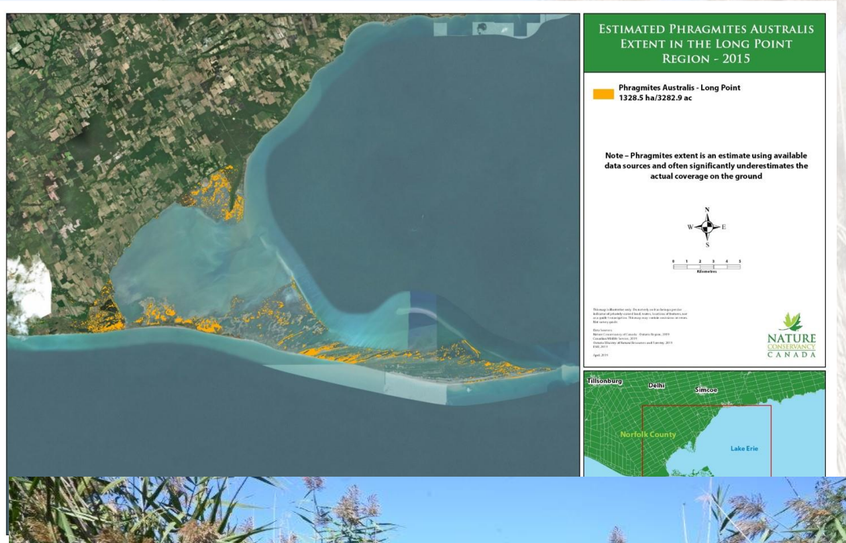
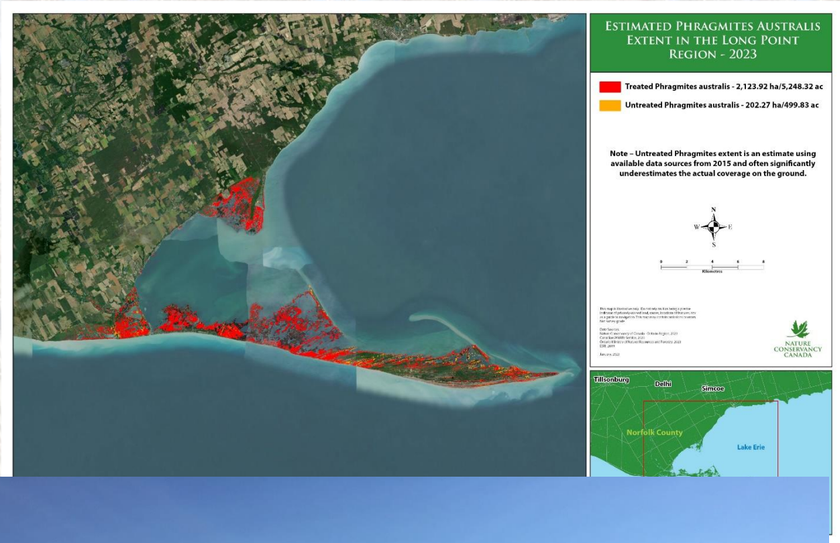


Purpose of OPA!

Landscape Scale Phragmites Control in Ontario *is possible*!



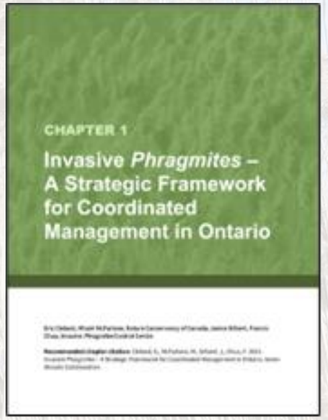


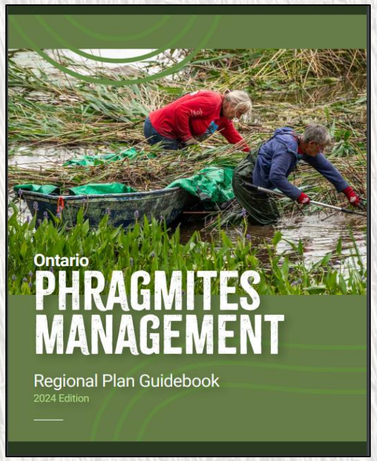
Purpose of OPA!

We’ve been busy preparing!

Over the last 4+ years, with our partners, we have set the stage for a comprehensive Phragmites program to support community-led action on Canada's **"worst"** invasive plant.

- Strategic Framework for Coordinated Management in Ontario
- Cost Benefit Analysis on Expanded Response to Phragmites
- Regional Plan Guidebook
- Trial Phragmites Management Area Working Groups



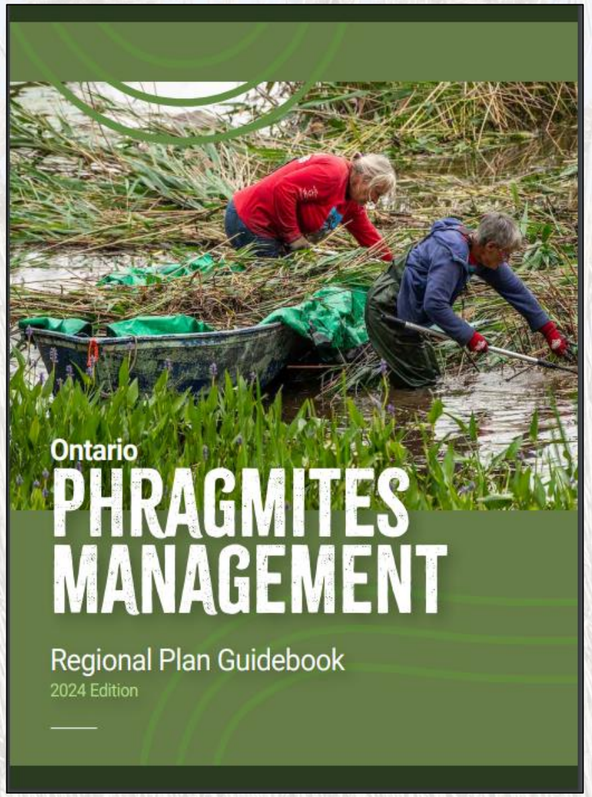


Purpose of OPA!

Core Delivery

Core Delivery of the OPA program:

- Supporting the Development of Phragmites Management Areas (PMAs) and related Working Groups
- Building Capacity through training, workshops and opportunities
- Supporting the advancement of new tools (genetic testing and biological control)
- Funding support through the IPCF and Working Group action projects

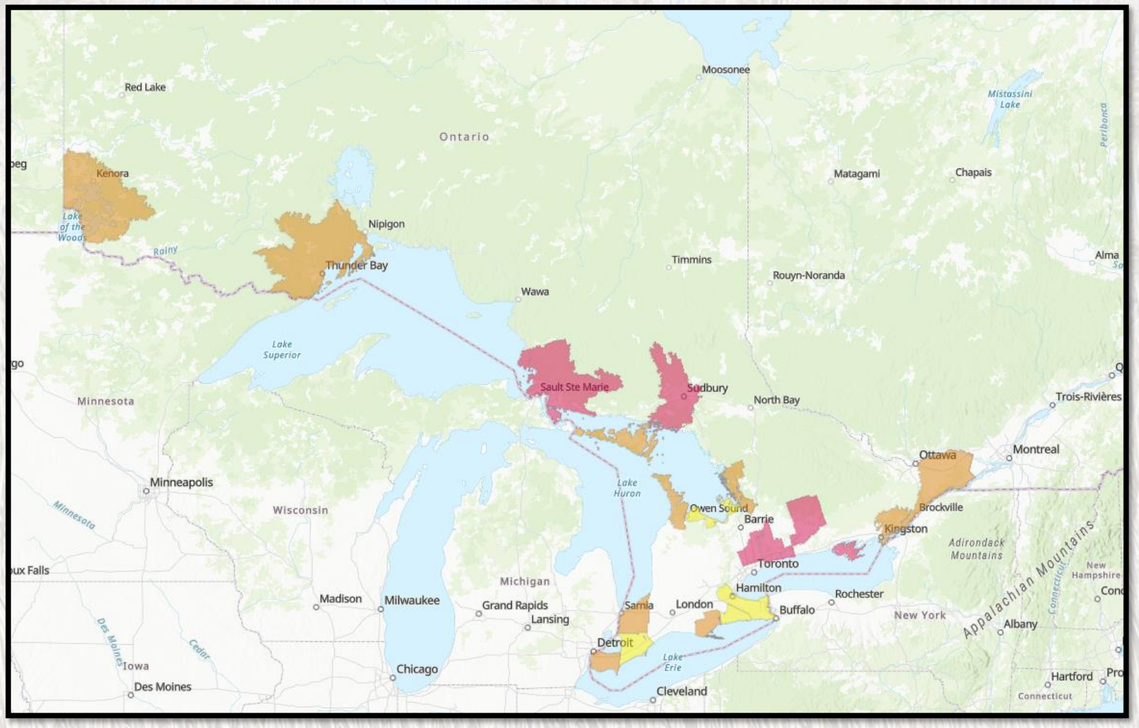


Phragmites Management Areas

What are they?

Phragmites Management Areas: spatial units where Phragmites monitoring and control activities are coordinated. They can be defined by any number of features:

- Municipal boundaries
- Watersheds
- MNR districts
- Treaty boundaries
- +++



PMA Working Group: a collection of organizations, individuals, business/industry, and government representatives and other key implementation partners who contribute to a local implementation of the Phragmites Guidebook.

Phragmites Management Areas

Working Groups

How it works:
Regional Coordinators identify one lead per PMA who is contracted by OPA to establish PMAWGs.

PMAWG's are encouraged to:

- Bring all local partners to the table to coordinate and collaborate on Phragmites mapping and control activities. This typically means coordinating 2-4 meetings per year.
- Prepare an annual workplan to ensure all activities are complementary and coordinated.
- Submit monitoring and control proposals for funding under the Invasive Phragmites Control Fund and other funding opportunities that arise.
- Implement all funded projects to the best of their ability, in manner consistent with Guidebook, Best Management Practices and all required permits.
- Report up on activities to OPA contact to provide guidance, support and resourcing.

Lakehead Region Conservation Authority

Regional Coordination

Program Regions

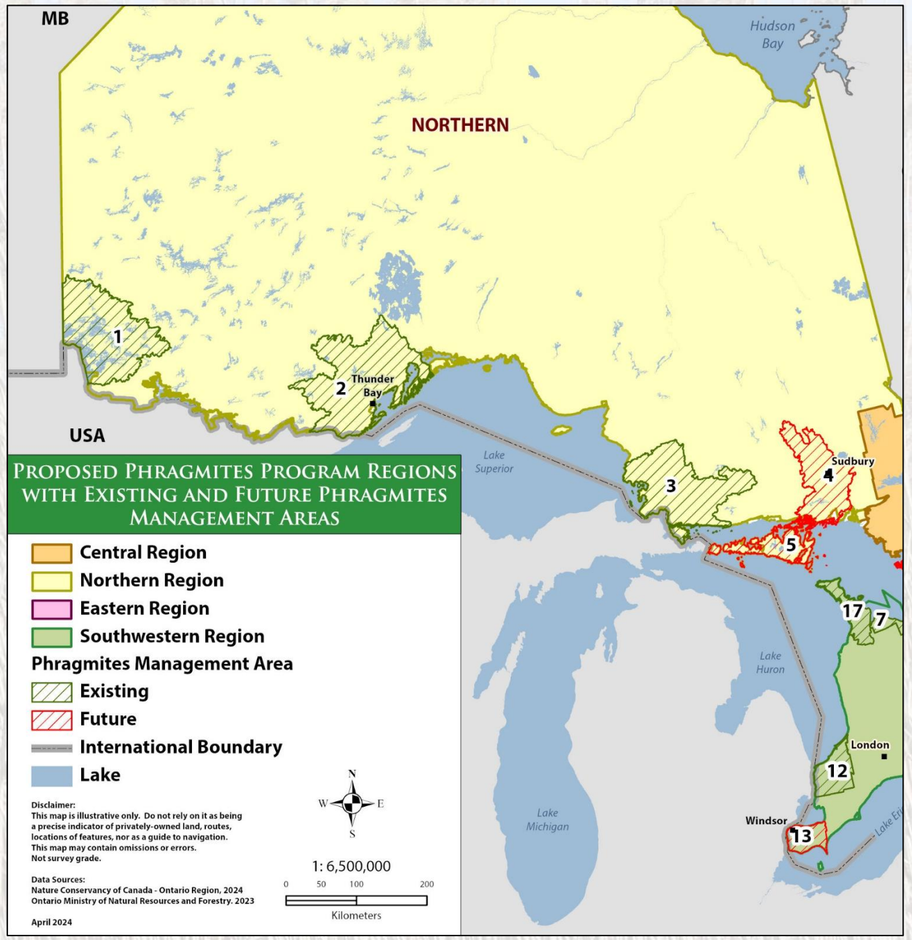
- The program divides Ontario into four regions
- Each region has a Coordinator who supports PMAWG Leads with technical and program resource supports. That might include:
  - Additional training
  - Genetic testing services
  - Invasive Phragmites Control Fund guidance
- Within each region there are numerous PMAs – with the number of groups increasing over time

Regional Coordination
Northern Ontario

- **Derissa Vincentini**, Invasive Species Centre
  dvincentini@invasivespeciescentre.ca

- **Leading edge:** Invasive Phragmites is becoming more prominent in the North Region but is still primarily located along highway corridors.

- **Regional priorities:** Mapping and monitoring of Invasive Phragmites is critical to understanding the extent of current distribution



Regional Coordination

Northern Ontario

Established Phragmites Management Areas:

- **Thunder Bay**
  Lead: Lakehead Region Conservation Authority
  Established: 2022
  2024-2025 Highlights: Treated/retreated 14 stands totaling to 4,780.5 m2

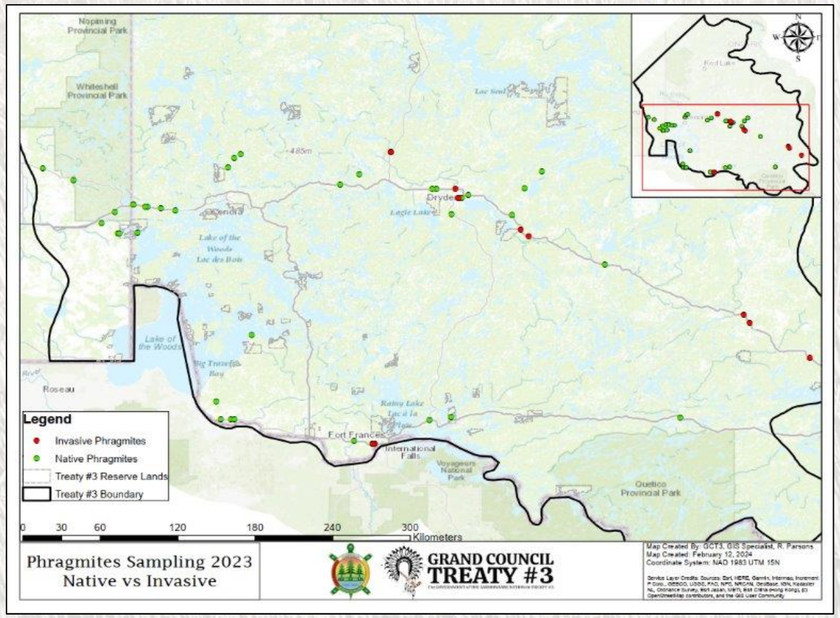
Regional Coordination

Northern Ontario

Established Phragmites Management Areas:

- **Ground Council Treaty#3 Territory/Kenora Area**

Lead: Grand Council Treaty 3
Established: 2022
2024-2025 Highlights: Completed the identification, mapping, and DNA testing for invasive and native Phragmites within communities and along major roadways



Regional Coordination
Northern Ontario

- **<u>Algoma Region</u>**
  Lead: Lake Huron North
  2024-2025 Highlights: Extensively mapped all highways and roadways in larger municipalities in Algoma and some secondary/tertiary roadways.

- **<u>Manitoulin Island</u>**
  Lead: Judith Jones/NCC

- **<u>Sudbury District</u>**
  Lead: Junction Creek Stewardship Committee

- **Future Opportunities:**
  - Wawa/Michipicoten, Timmins, North Bay/Nipissing
  - North Central Corridors
  - Other suggestions welcome!

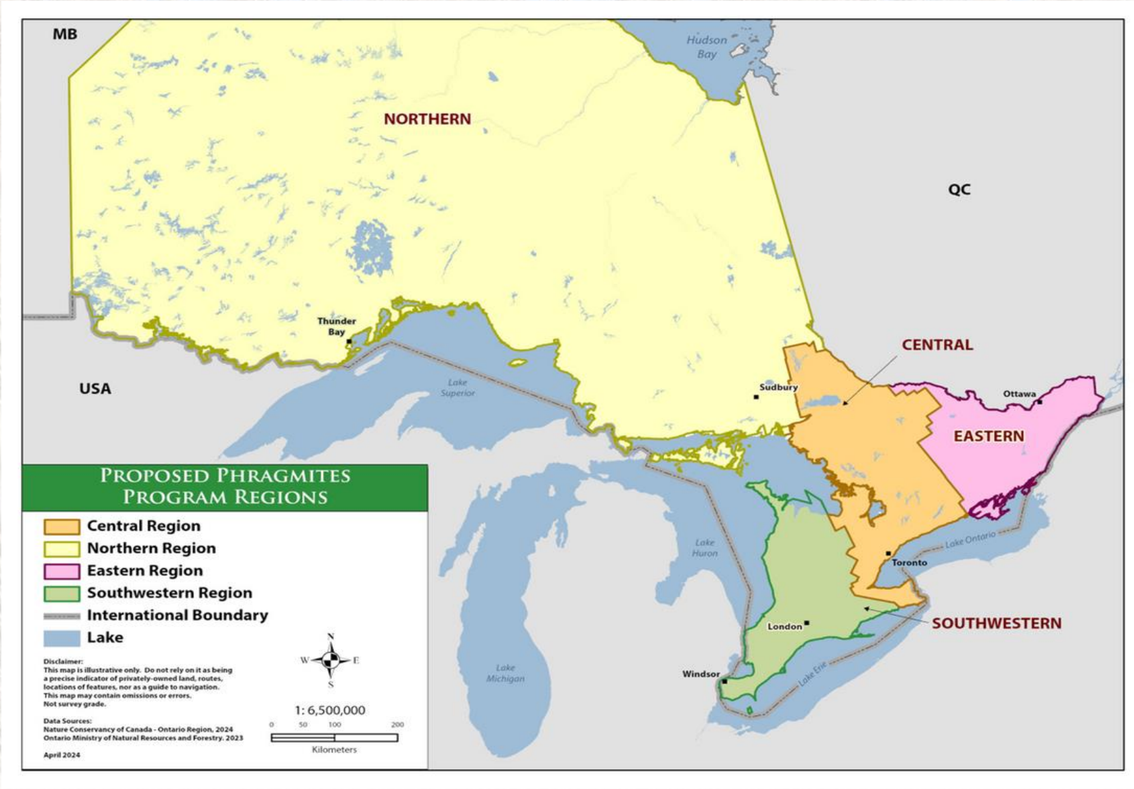
Regional Coordination

Southwestern Ontario

- **Kyle Borrowman**, Habitat Restoration Manager, Nature Conservancy of Canada
  kyle.borrowman@natureconservancy.ca

- Invasive Phragmites is widespread throughout southwestern Ontario and impacting natural ecosystems and municipal infrastructure.

- **Regional Priorities:** Supporting existing efforts; strong communication and coordination across partners, mapping and prioritization for future years



Regional Coordination

Southwestern Ontario – Established PMAs

- Established PMA’s:
  - Lambton County PMA
    - Co-Led by:
      - Invasive Phragmites Control Centre,
      - St. Clair Region Conservation Authority
      - Ausable Bayfield Conservation Authority
    - 2024-2025 Highlights
      - Coordinated control efforts on Lake Huron
      - Planning for PMA led/coordinated control in 2025-26
      - Control on Conservation Authority lands
  - Essex County PMA
    - Led by Essex Region Conservation Authority
    - 2024-25 Highlights
      - Municipal treatment occurring and regular communication across municipalities
      - Planning for PMA led/coordinated projects and management planning for 2025-26

Regional Coordination

Southwestern Ontario – NCC Led PMAs

NCC-Led PMA's:

- Geographies with existing landscape-scale management efforts
- Continuation of Existing Phragmites Management Programming
- Interest in building upon existing efforts in 2025-26

Norfolk County PMA

Lead: Long Point Phragmites Action Alliance
Phragmites control: Federal/Provincial Lands, Private Lands Program, Municipal Roadsides, Conservation Authority lands

Pelee Island PMA

Lead: NCC
Phragmites control: Roadsides, Drains, Provincial Parks, Private Lands

Saugeen Bruce Peninsula PMA

Lead: Saugeen Peninsula Invasive Species Collaborative
Phragmites control: Oliphant Fishing Islands, Private lands, roadside at Nawash FN

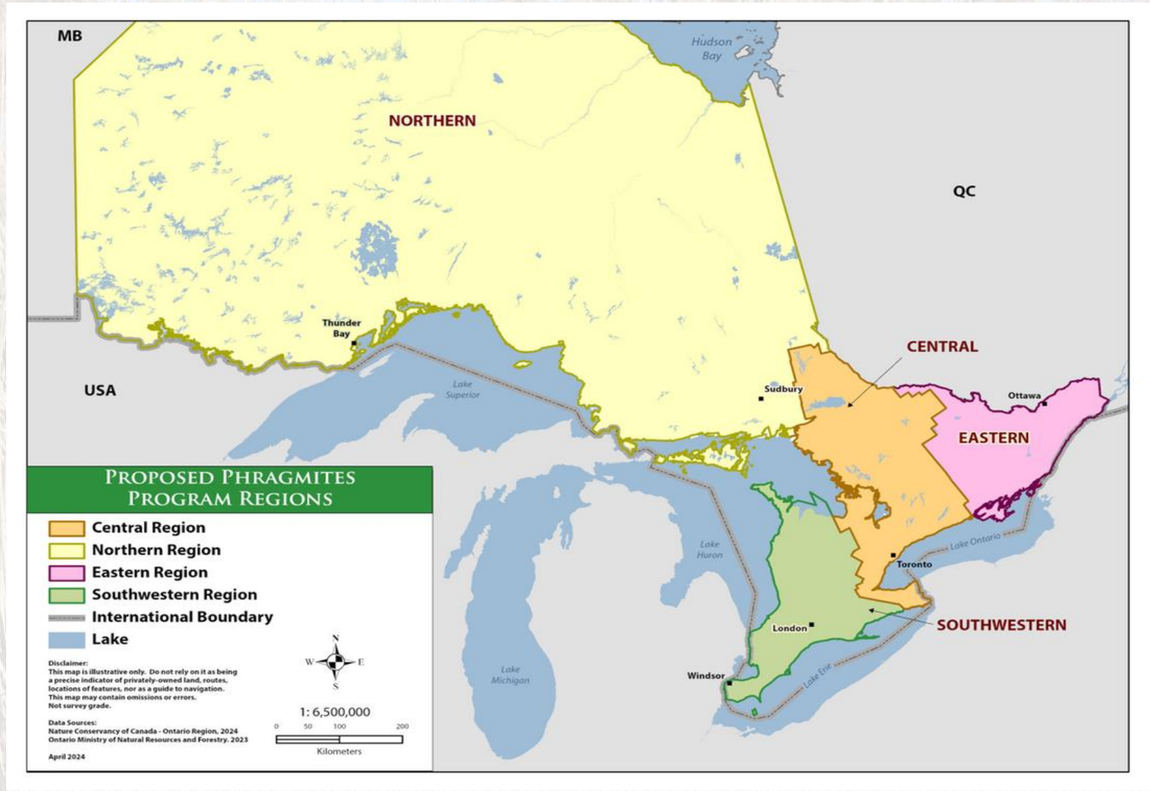
Regional Coordination

Southwestern Ontario – NCC Led PMAs

Future PMA Opportunities:

- Interest in supporting Great Lakes Coastal geographies
- Other potential PMAs with strong partners on the landscape

Locations of interest:
Huron County
Chatham-Kent
Haldimand County
Other suggestions welcome!

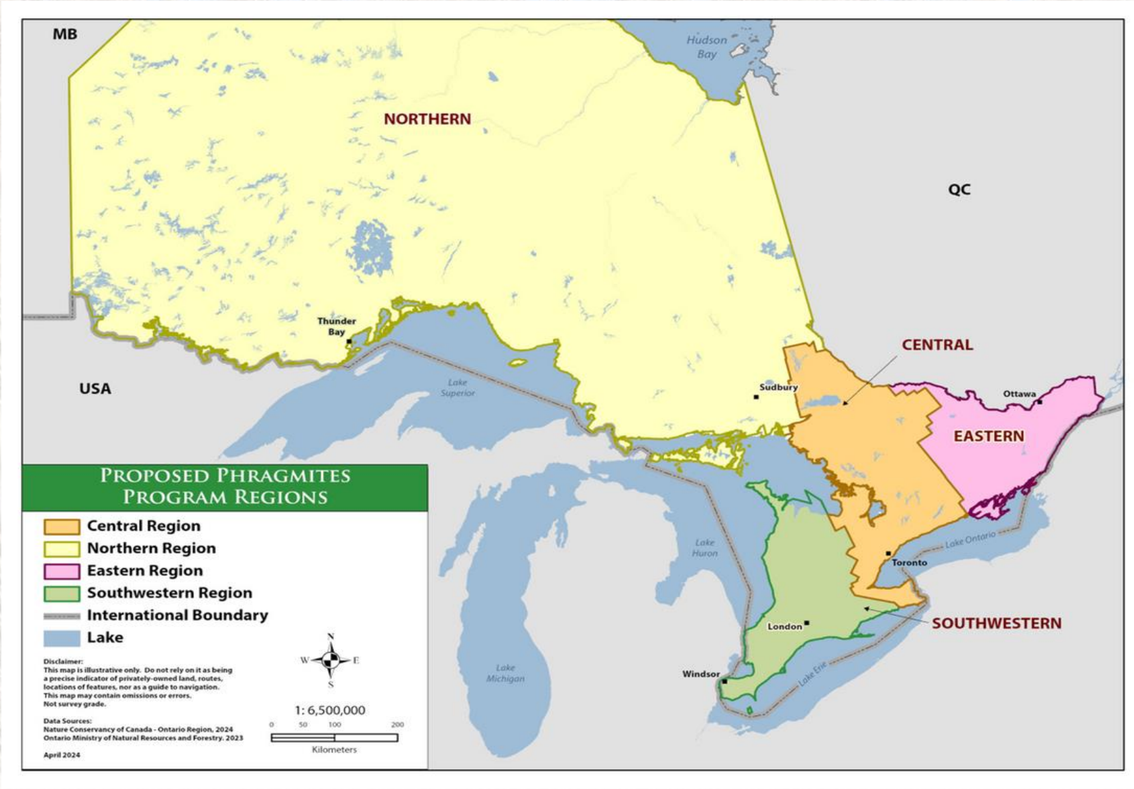


Regional Coordination
Eastern Ontario

- **Matt Bolding**, Invasive Program Coordinator, Ducks Unlimited Canada m_bolding@ducks.ca

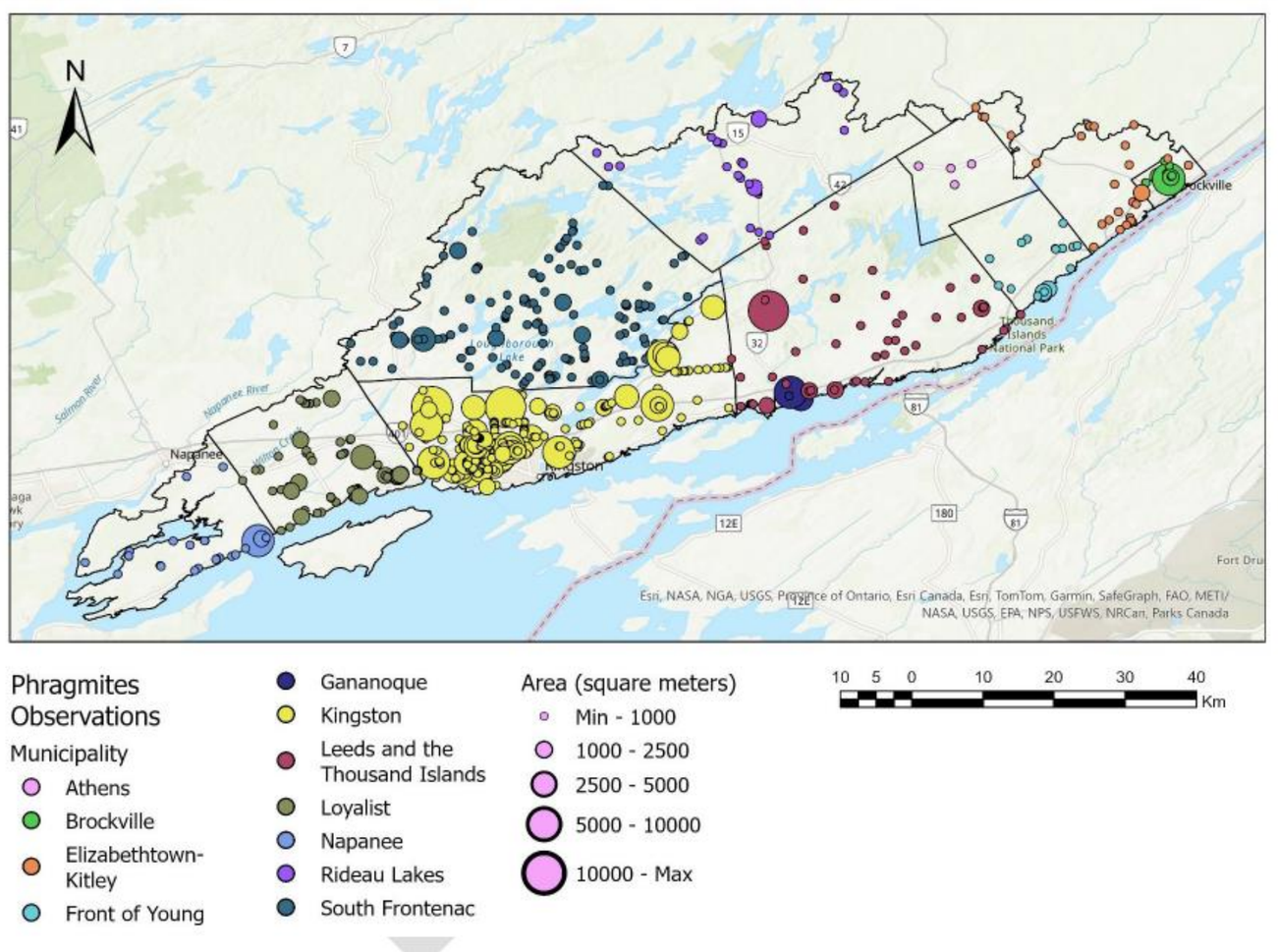
- Established Phragmites Management Areas:
  - Cataraqui Region PMA
  - Eastern Ontario PMA
  - Quinte Region PMA

- Future PMA opportunities
  - Lower Trent
  - Ottawa/Capital Region
  - Mississippi & Rideau Valleys



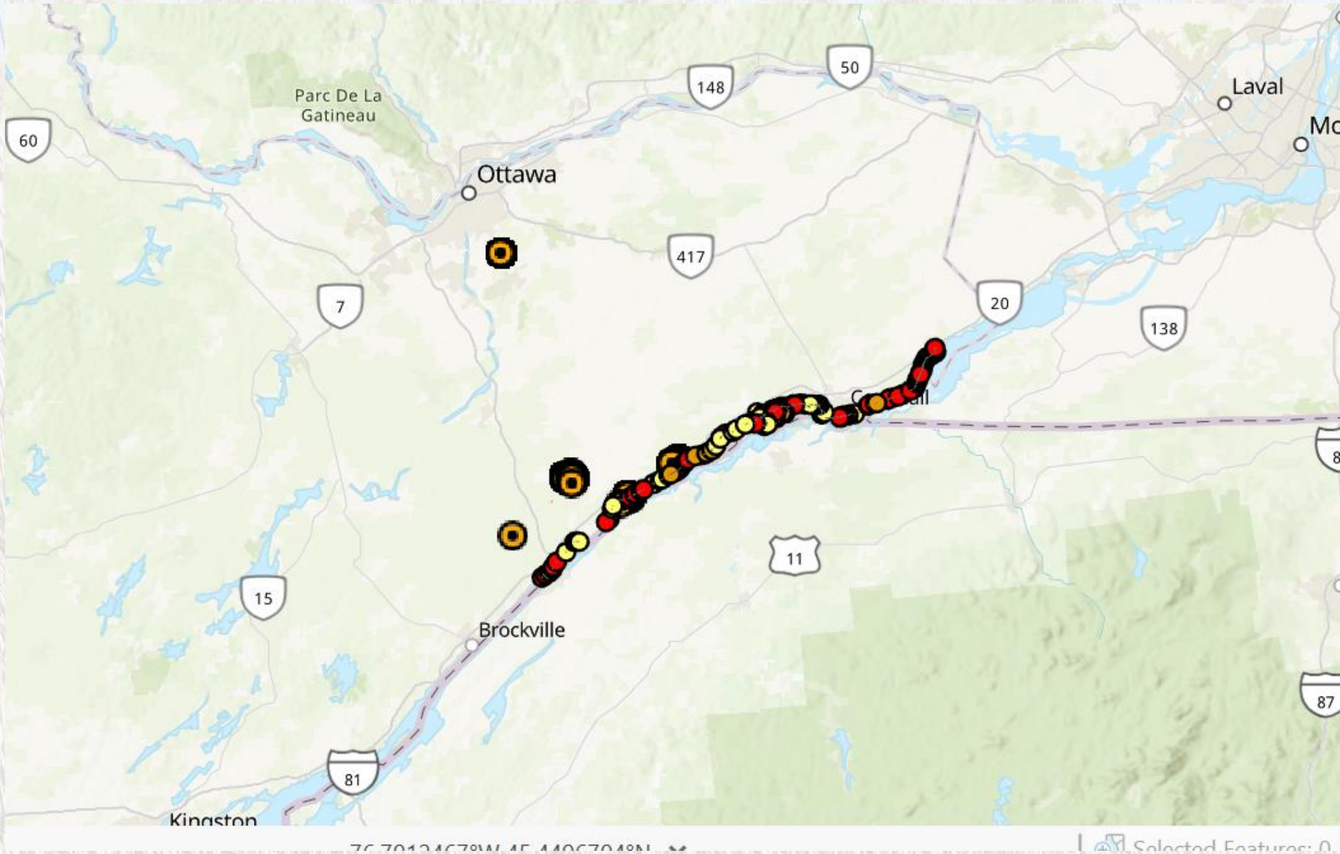
Regional Coordination
Eastern Ontario

- **Cataraqui Region PMA**
  - Cataraqui Conservation Authority
- Cataraqui watershed
- 2024-2025 work:
  - Comprehensive mapping of the region with great involvement from municipalities
- 2025-2026 planning:
  - Moving forward on management for priority areas and roadside management



Regional Coordination
Eastern Ontario

- **Eastern Ontario PMA**
  - River Institute
- South Nation & Raisin Region watersheds
- 2024-2025 work:
  - Preliminary mapping along the St. Lawrence and within South Nation & Raisin Region priority areas
- 2025-2026 planning:
  - Expanding mapping efforts and beginning priority management

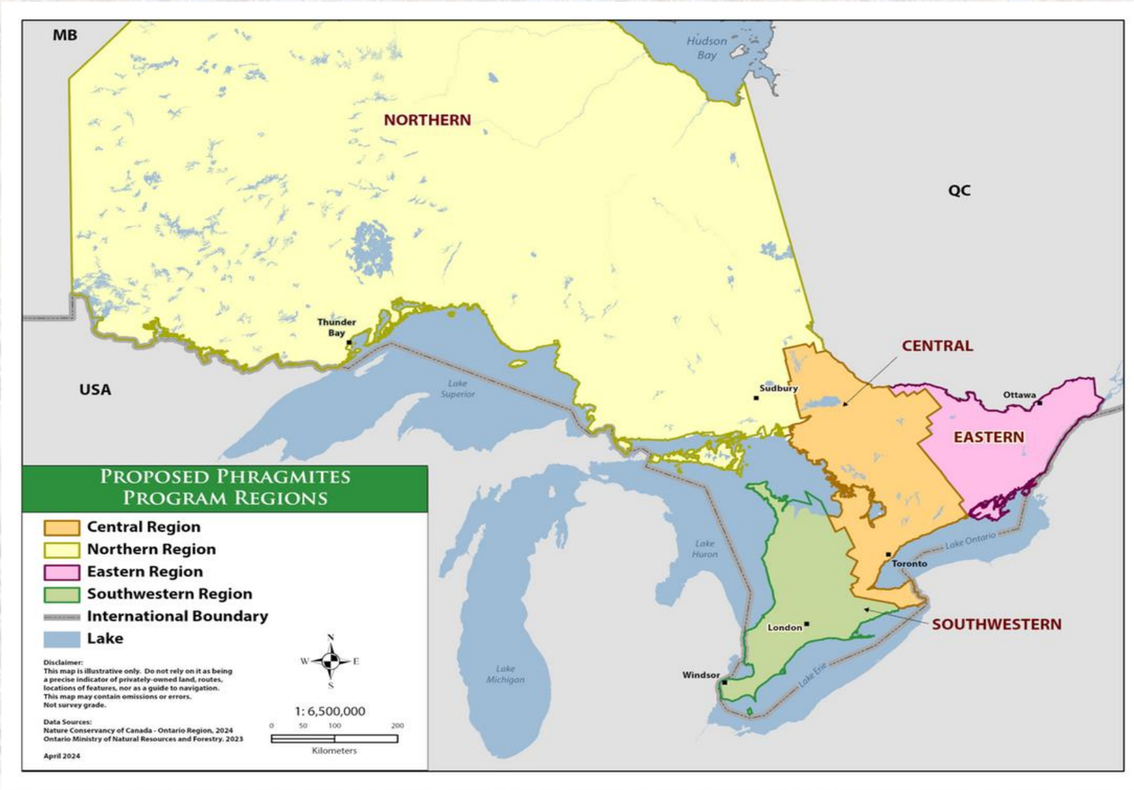


Regional Coordination

Central Ontario

- **Terry Rees**, Partnerships Coordinator, Invasive Species Centre terry@terryrees.ca
- Invasive Phragmites is well established in Central region. This area is home to the most population dense areas of the province with large numbers of partners in Phragmites control.

Regional priorities: Mapping and management of existing stands. Increased collaboration among existing actors.



Regional Coordination
Central Ontario PMAs

Established and developing PMA's:

Georgian Bay PMA
Lead: Georgian Bay Forever
Focus is on Great Lakes coastal wetlands along the eastern shores of Georgian Bay, and working with municipal and community partners on mapping and control

Severn Sound PMA
Lead: Severn Sound Environmental Association
Working with and alongside municipal partners to map and do management planning, mostly roadside Phragmites

Credit Valley PMA
Lead: Credit Valley Conservation
Continuing collaborative work with municipal and other partners on priority ecological areas across the region

Georgian Bay Forever

Regional Coordination

Central Ontario PMAs

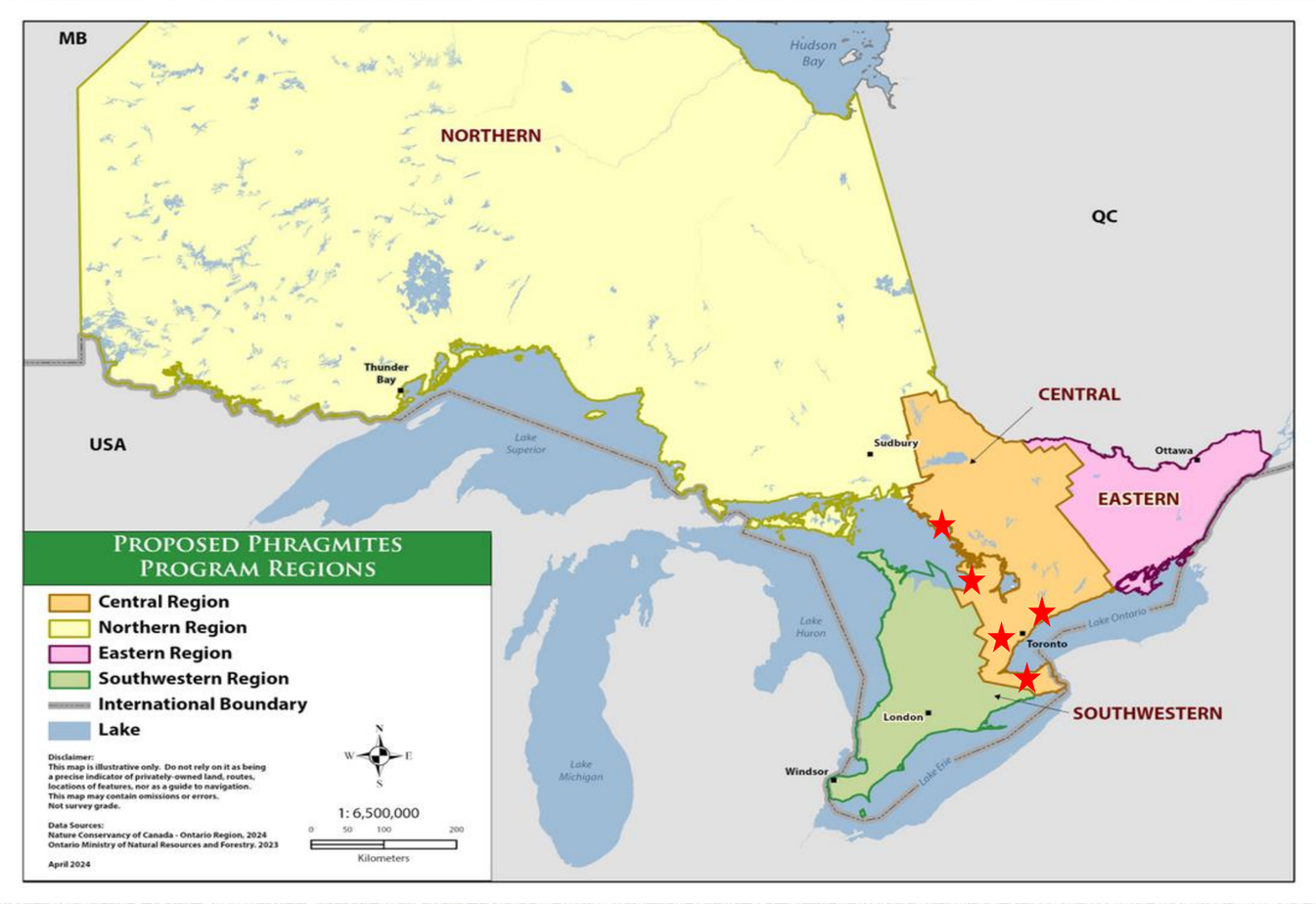
Established and developing PMA’s:

Durham-area PMA

Lead: Central Lake Ontario Conservation Authority
Building on the ongoing efforts by municipal, community and technical partners on management of Phragmites in sensitive coastal and inland waters, roadside populations

Niagara Region PMA

Lead: Niagara Peninsula Conservation Authority
Collaborating to establish regional priorities for Phragmites mapping and future control efforts



Regional Coordination

Central Ontario – Future PMA's

Future / potential PMA’s:

Northern York Region PMA
Peterborough-area PMA
Lake Simcoe-area PMA

Ontario Phragmites Action

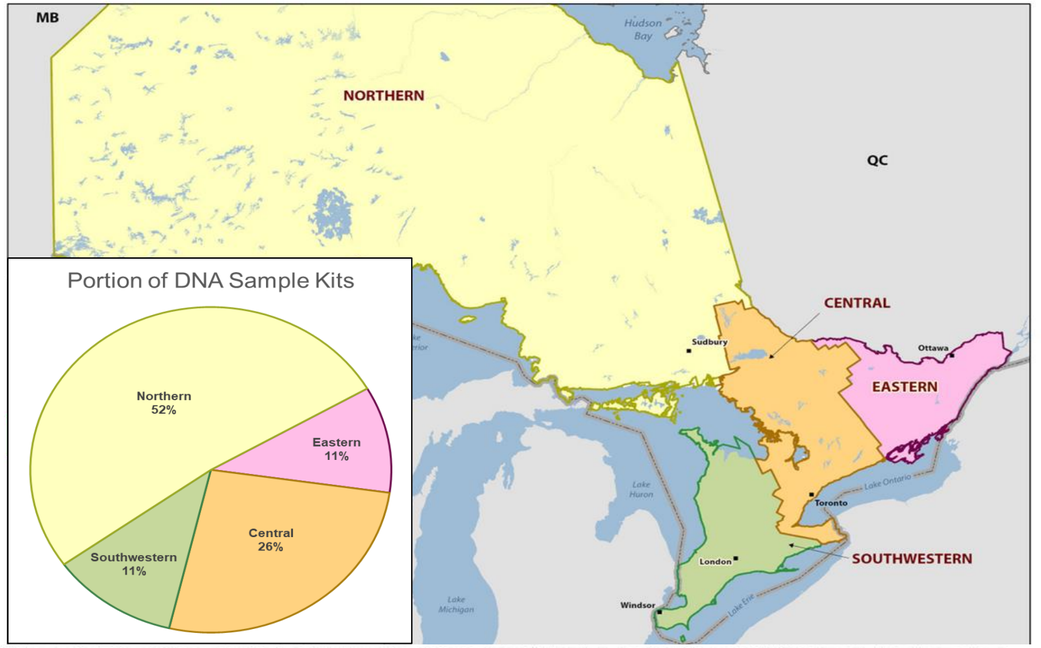
Opportunities to Support Additional Impact

Facilitating Biological Control Access
Genetic Testing Support
Invasive Phragmites Control Fund 2025
Connecting with Fund Recipients

Genetic Testing Program

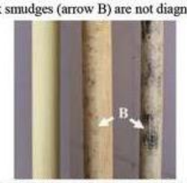
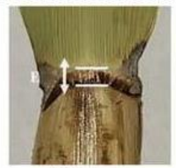
Overview

- OPA aims to reduce invasive Phragmites while protecting non-target plants
- Native and invasive Phragmites are difficult to distinguish morphologically
  - Resources like McTavish (2023) help
  - Hybrids are possible
- OPA offers free genetic testing to confirm Phragmites subspecies
  - Prevents unnecessary management of native Phragmites
- 367 DNA sample kits distributed in 2024



Native vs. introduced *Phragmites* ID checklist (Adapted from McTavish MJ, Smith T, Mechanda S, Smith SM, Bourchier RS. 2023. Morphological traits for rapid and simple separation of native and introduced *Phragmites australis*. *Invasive Plant Science and Management*)

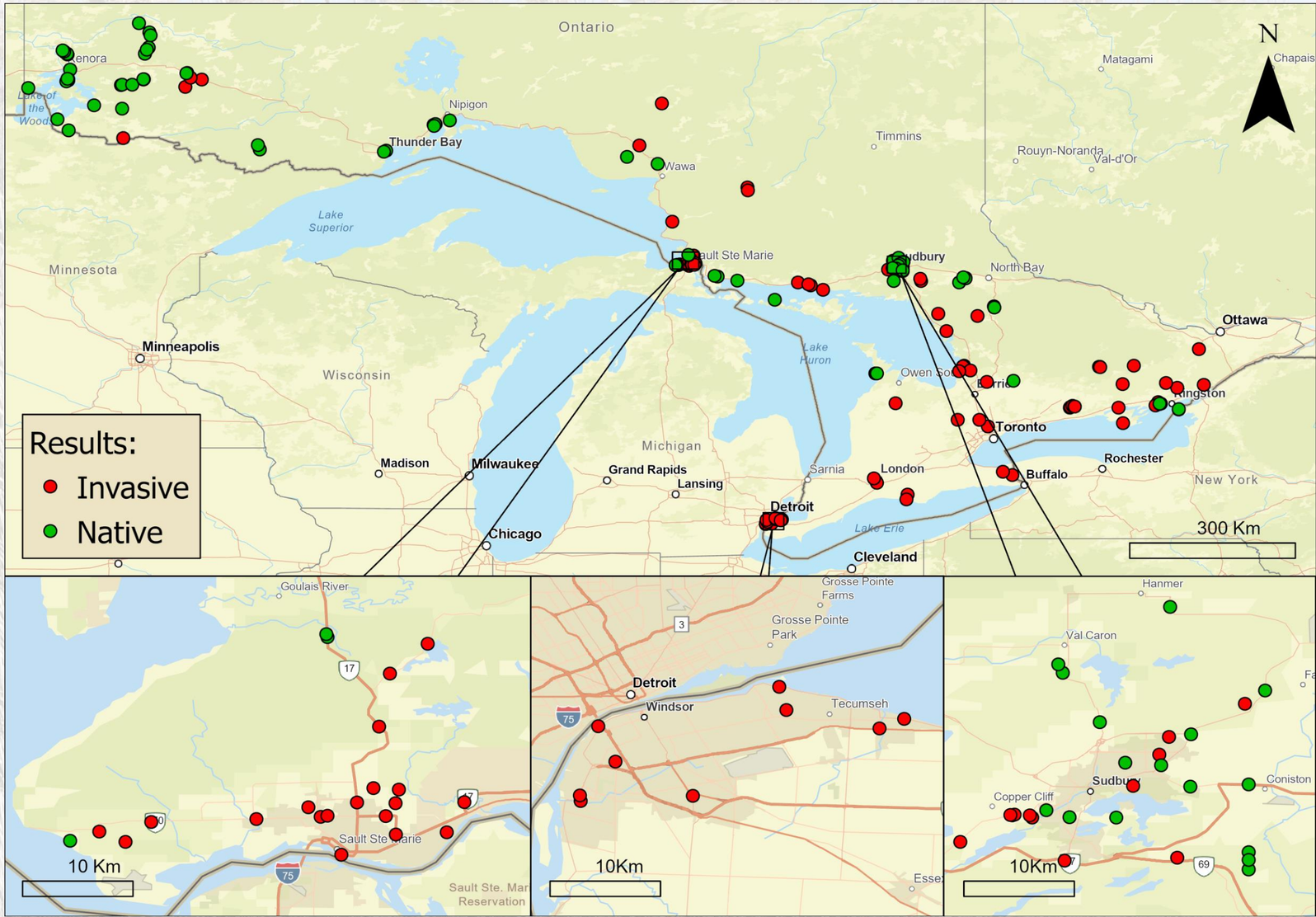
Use this checklist to help identify unknown populations of *Phragmites* as native (*Phragmites australis americanus*) or introduced (*Phragmites australis australis*). For each trait, follow "How to measure" and check the corresponding box. If all check boxes match either native or introduced *Phragmites*, the sample can be identified with high confidence. If there is incomplete consensus, identification should be considered inconclusive and followed by genetic testing where possible. For best results: (a) measure as many traits as possible; (b) test multiple stems per patch; and (c) collect measurements in late summer or fall when the differences are most pronounced. Contact: michael.mctavish@alum.utoronto.ca.

Trait	Stem spot fungus	Stem colour	Leaf retention	Ligule base height	Optional: Lower glume length + leaf length
How to measure	Check living stems for dark round fungal spots (arrow A).	Check the base of the stem for dark red colouration.	Inspect greying dead stems (i.e., not living stems) to determine how much is still covered by attached leaf sheaths (arrow C). When leaf sheaths have fallen off, the stem below will be bare (arrow D).	Remove a leaf from the middle of the plant. Use calipers or a ruler to measure the height of the dark membranous band where the leaf meets the stem (i.e., the ligule), excluding any light-coloured, hairy fringe at the top of the band (arrow E).	Press a floret under glass and measure lower glume length (arrow F) using calipers or a ruler under a microscope. Find a leaf near the middle of the stem. Measure its length from ligule to tip (arrow G) using a ruler.
Introduced *Phragmites*	Stems without round fungal spots (arrow A) or dark red may be either introduced or native *Phragmites*. Dark smudges (arrow B) are not diagnostic. 		☐ > 50% attached (stem mostly covered) 	☐ ≤ 0.15 mm 	☐ Lower glume < 4.6 mm and leaf length > 37 cm 
Native *Phragmites*	 ☐ Round spots present	 ☐ Dark red, up to 100% coverage	 ☐ < 30% attached (stem mostly bare)	 ☐ > 0.35 mm	 ☐ Lower glume > 4.6 mm, OR lower glume < 4.6 mm and leaf length < 37 cm

Genetic Testing Program

2024-2025 Results

- 50/50 split between native and invasive Phragmites
- Distribution consistent with previous understanding
- Considerable overlap between subspecies

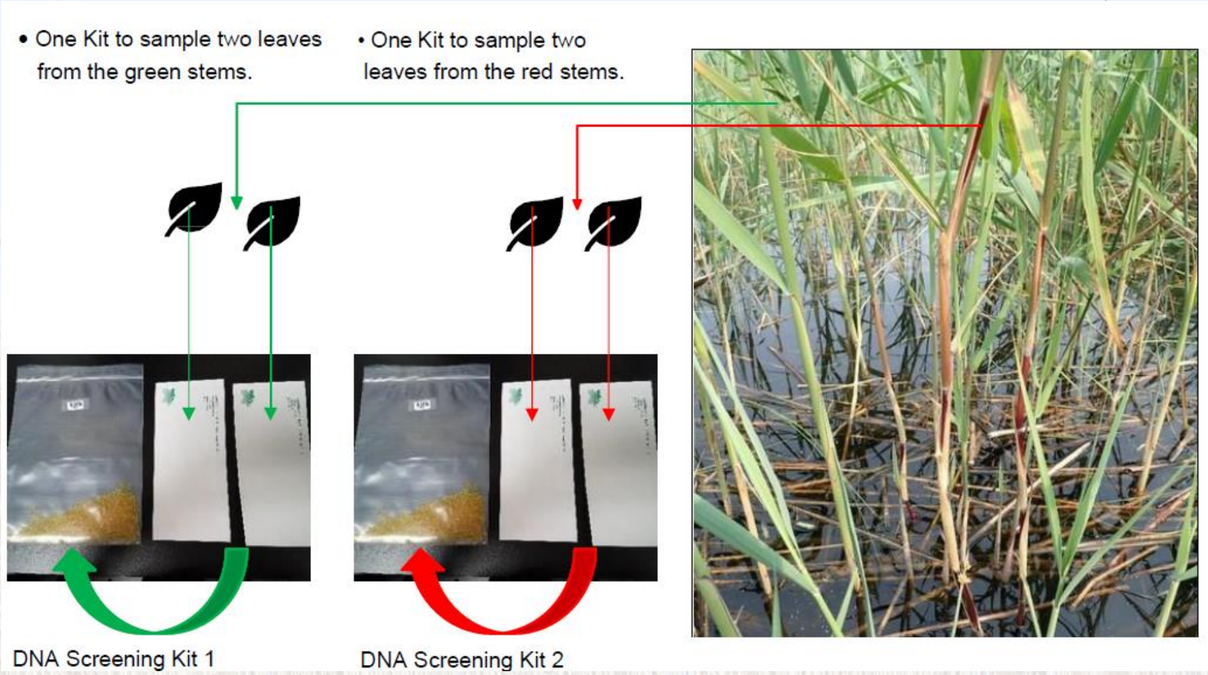


Phragmites Genetic Testing

Sample Kits

- **Phrag DNA Screening Kits**
  - 2 Envelopes
  - 1 Desiccant bag
  - 1 Barcode for tracking
  - Instructions
  - Stamped return envelope

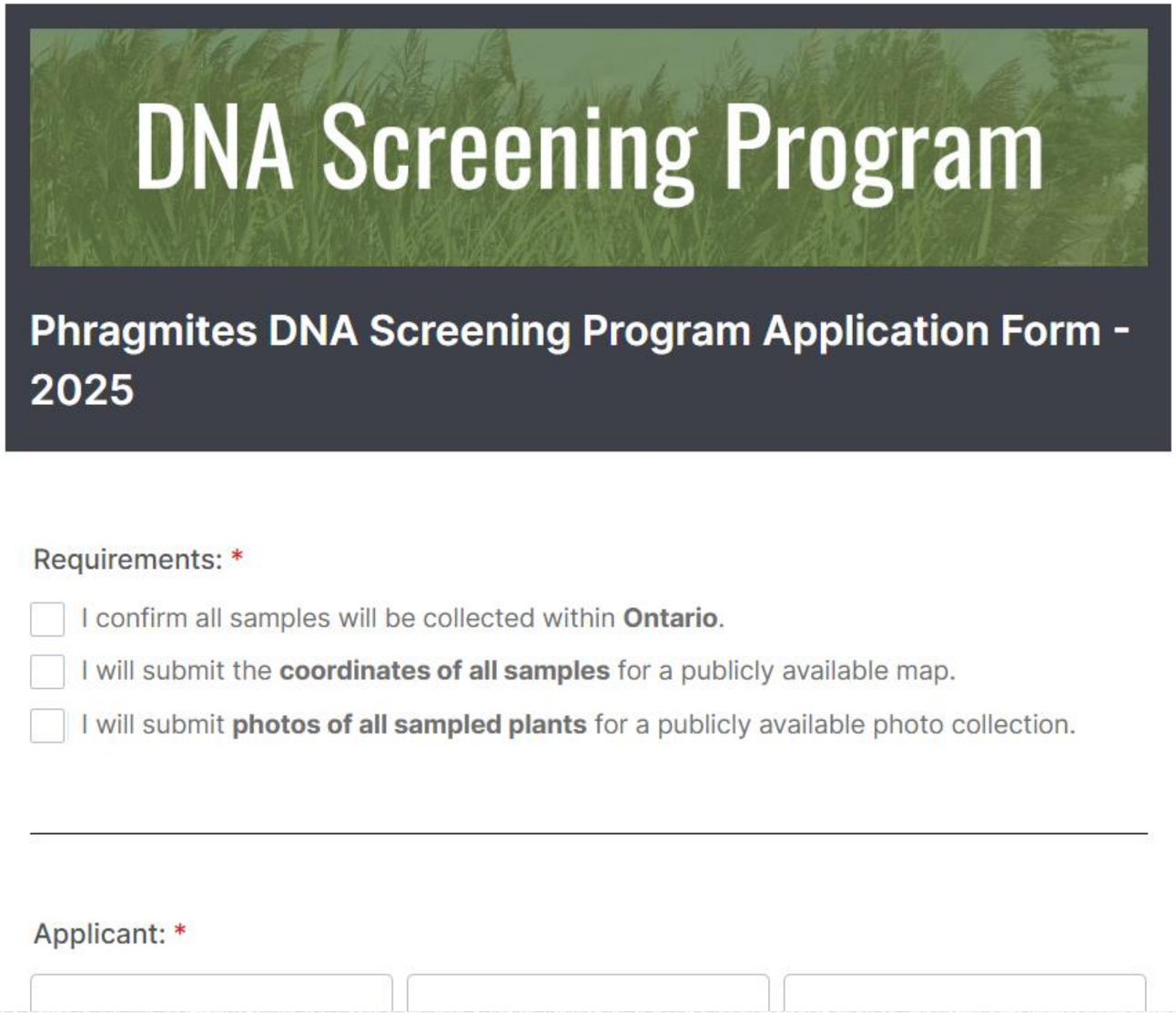
- **Sampling**
  - Anyone interested can receive sample kits
  - Must be done in Ontario
  - Must submit photos and coordinates
  - Current window is the field season, exploring off-season sampling



Phragmites Genetic Testing

2025 Kit Application is Open!

bit.ly/PhragDNA25



Phragmites Genetic Testing

2025 Sampling Timeframe

bit.ly/PhragDNA25

- **Same-season Management:**
  - Samples submitted by July 4th
  - Receive results by August 16th
- **Next-season Management:**
  - Samples submitted between July 4th and October 10th deadline, will be processed
  - Results will only be useful for management occurring after the 2025 field season

Phragmites Biocontrol

- Over 30,000 moths have been released at 50 sites across Ontario

- Populations are surviving and growing

- Next Steps:
  - Continue to grow domestic populations to sustainable levels
    - Reach a level where moths can be widely distributed
  - Explore the integration of biocontrol with traditional management techniques.

- Looking for new or ongoing management projects to establish a biocontrol experiment.


Photo: Claire Schon

Ontario Phragmites Action

Invasive Phragmites Control Fund

- We would like to thank the Ministry of Natural Resources for their continued financial support in making this fund possible
- 2024 marked the **fifth** year of the IPCF
- 2024 included some notable changes from previous cycles:
  - Increased cap per project - $2,500 to $50,000 in funding available for eligible projects
  - Priority geographies identified
  - Strong emphasis on mapping as a first step
- Thanks to the many project leads who have completed excellent work in previous cycles!

Invasive Phragmites Control Fund 2024 Recipients

Georgian Bay Forever	Marl Tiny Matchedash Conservation Association	Grand Council Treaty 3	Essex County Field Naturalists' Club
Severn Sound Environmental Association	Nipissing First Nation	Sault Ste. Marie Innovation Centre	The Corporation of Norfolk County
The City of Brampton	Crescent Harbour Association	Winter Spider Eco-Consulting	Cataraqui Region Conservation Authority
Credit Valley Conservation Foundation	Hiawatha First Nation	Garden River First Nation	St. Lawrence River Institute of Environmental Sciences
Town of Georgina	U-Links Centre for Community Based Research	Junction Creek Stewardship Committee	South Nation River Conservation Authority
Lake Simcoe Region Conservation Authority	Near North Enviro Education Centre	Sheshegwaning First Nation	Ontario Federation of Anglers and Hunters
Town of Newmarket	York Region	Ausable Bayfield Conservation Authority	Raisin Region Conservation Authority
Town of Ajax	Curve Lake First Nation	Caldwell First Nation	Friends of Presqu'ile Provincial Park
Chippewas of Rama First Nation	Invasive Phragmites Control Centre	Birds Canada	
Friends of Second Marsh	Lakehead Region Conservation Authority	The Corporation of the Town of LaSalle	

Invasive Phragmites Control Fund
2025

- 2025 marks the **6th cycle** of the Invasive Phragmites Control Fund. The program has supported more than 70 projects since it began in 2020.
- The fund supports local on-the-ground action on Phragmites to help amplify and expand control activities at a provincial scale
- Thank the Ministry of Natural Resources for their continued, and ongoing financial support, it allows us to make this fund possible
- In 2024 the IPCF supported 38 projects across Ontario. The new investment in OPA allows us to support even more projects in 2025 and 2026
- The next cycle for IPCF is ***NOW CLOSED*** with a submission intake window closing February 12, 2025! These funds will support work beginning in April 2025.

Invasive Phragmites Control Fund Program Objectives

The Invasive Phragmites Control Fund will support collaborative action in Ontario to:

1. **Map** and develop **integrated collaborative plans** to prevent and control invasive Phragmites at scale (e.g., watersheds, municipalities, regions etc.) and consider post-management restoration to prevent re-establishment, and/or

2. Amplify and expand **Phragmites control** implementation, and/or

3. Address the **leading edge** and rapid spread of Phragmites, and/or

4. Increase **collaboration and coordination**, volunteer, and landowner participation & capacity

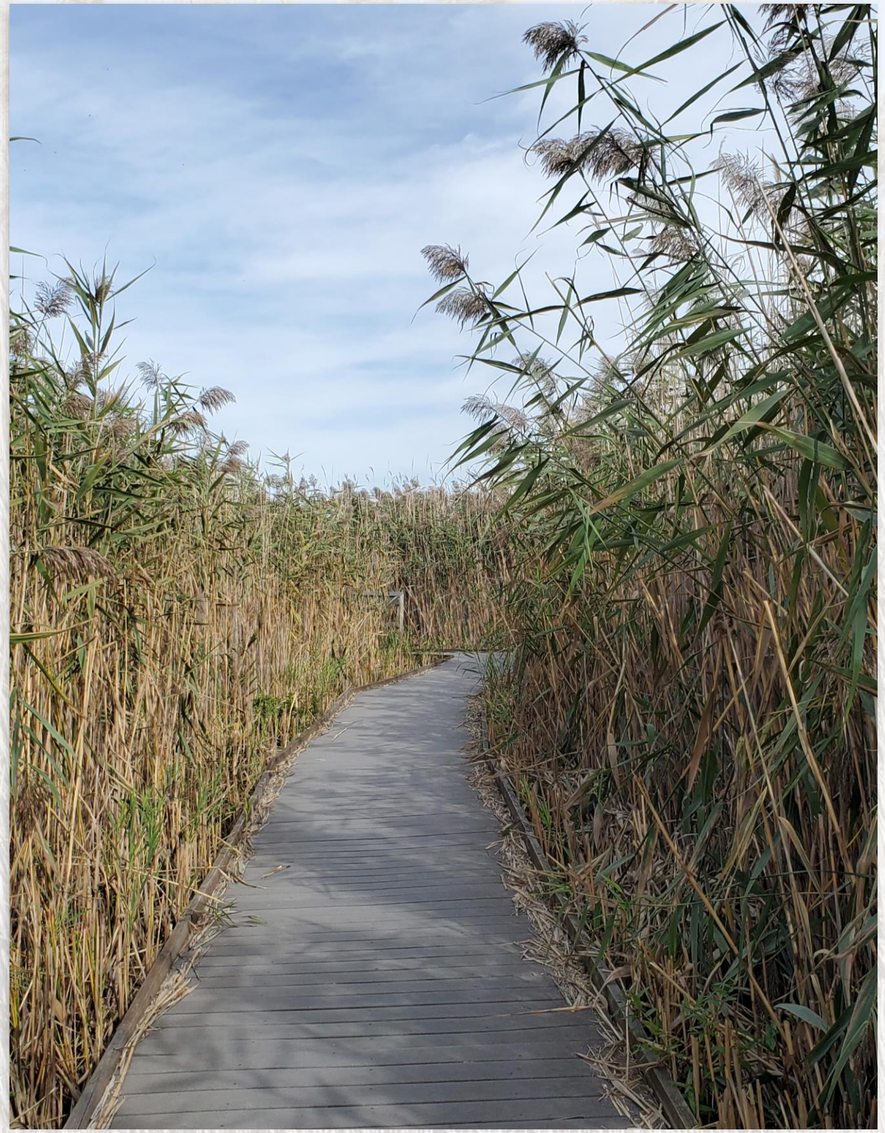
Funding Priorities – PMA Working Groups 2025

Advancing efforts of PMA Working Groups:

- Some PMA Working Groups Partners receiving funding
- Enhance local action
- Build on existing efforts
- Tackle identified gaps in delivery
- Multiple recipients of funding within WGs

Connecting Practitioners to Funding Recipients

The Invasive Phragmites Control Fund is open to applications from municipalities, conservation authorities, Indigenous communities, and other incorporated not-for-profit organizations for projects focused on preventing and controlling invasive phragmites.



Funding Recipients

- Receive funds for Phragmites Management (Mapping, Control, Planning)
- Recipient makes decisions on how quotes are gathered
- Approach will vary based on recipient organization (ie. Muni vs. CA vs. NGO)

Connecting Practitioners to Funded Projects

Where to keep an eye out for bid, tenders and RFQs?

Websites that host municipal bids/quotes:

- **Bids and Tenders: www.bidsandtenders.ca**
- **MERX: www.merx.com**
- **Biddingo: www.biddingo.com**

- **There is a GAP connecting practitioners to Project Managers**

Connecting Practitioners to Funded Projects

ADDRESSING THE GAP

- Reach out to Regional Coordinator
- Sign up for the OPA Mailing List (www.ontariophragmitesaction.ca)
- OVMA – List of available contractors (in development)
- Suggestions from the Audience!

What's Next for OPA

Upcoming Priorities

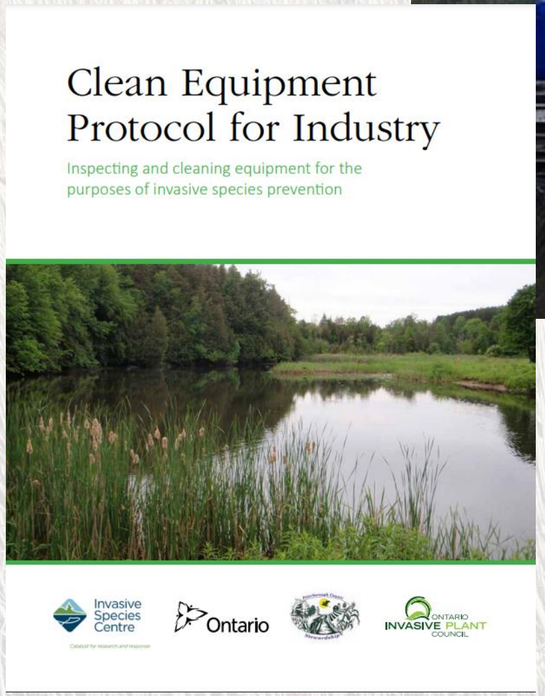
- Continued development of online presence including:
  - Online training modules
  - Updates to key resources
- Increased access to key tools supported by the program including:
  - Pathway to increasing biocontrol agent access
  - Genetic testing kit access
  - New Invasive Phragmites Control Fund cycle over fall/winter to support work for 2025
- Increased presence at key events as we continue to grow program participation. Look for us at events such as:
  - NOFNEC
  - AMO
  - NOMA
  - ROMA
  - LICO
  - AORS
  - Latornell
  - OPWG
  - ISC Forum

Here's How You Can Help

- Help us build a strong network of practitioners on the landscape
- Phragmites Management Areas – Connect with your Regional Coordinator, were always looking for feedback on where to best support future PMAWGs
- Resources are available!
  - Phragmites Management Regional Guidebook
  - OIPC's Best Management Practices
  - Clean Equipment Protocol
  - **Visit OntarioPhragmitesAction.ca**
- Engage with local partners on existing or future Phragmites management plans
- Connect with the Regional Coordinators

Clean Equipment Protocol

- NCC requires Clean Equipment Protocol as part of all of our work.
  - Good practice to build this requirement directly into contracts.
  - Budget should be allocated to accommodate good practices conducted by a contractor
- CEP is a cost of doing business.
  - Money well spent when compared to addressing future management due to the spread of invasives.



Thank you
Questions?

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www.ontariophragmitesaction.ca

Thank you for joining us!

Wrap-up