

Ontario Phragmites Action Program and Management in Drains

2025 Ontario Drainage Conference

January 23, 2025

Kyle Borrowman, NCC



Overview

Phragmites

- What is it?
- Habitat/Distribution
- Why is it a problem?

Phragmites in Drains

- Control considerations
- Prevention

Ontario Phragmites Action (OPA) Program

- Strategic Framework and Development
- Regional Coordination
- Phragmites Management Areas
- Invasive Phragmites Control Fund

Available resources

Upcoming Events/Opportunities



Invasive *Phragmites*: What is it?

- **Perennial** wetland Grass
- It grows **Quick, Thick and Tall!**
- More than 5m tall
- Over 200 stems per m²
- The above ground growth is the “tip of the iceberg”
- **60-80% is below ground**
- Roots can reach up to 40m (130') in length

- Reproduces by:
 - Root fragments
 - Stolons/Runners
 - Seeds



Photo courtesy of Dan Engel

Invasive *Phragmites*: Habitat

- Grows in aquatic, semi-aquatic and terrestrial habitats
- THRIVES in disturbed habitats
- Prefers standing water (ie. wetlands, banks, lakeshores, beaches and wet fields)
- VERY salt-tolerant species
- Sensitive to drought, low oxygen and aquatic environments with major water fluctuations (ie. tides)



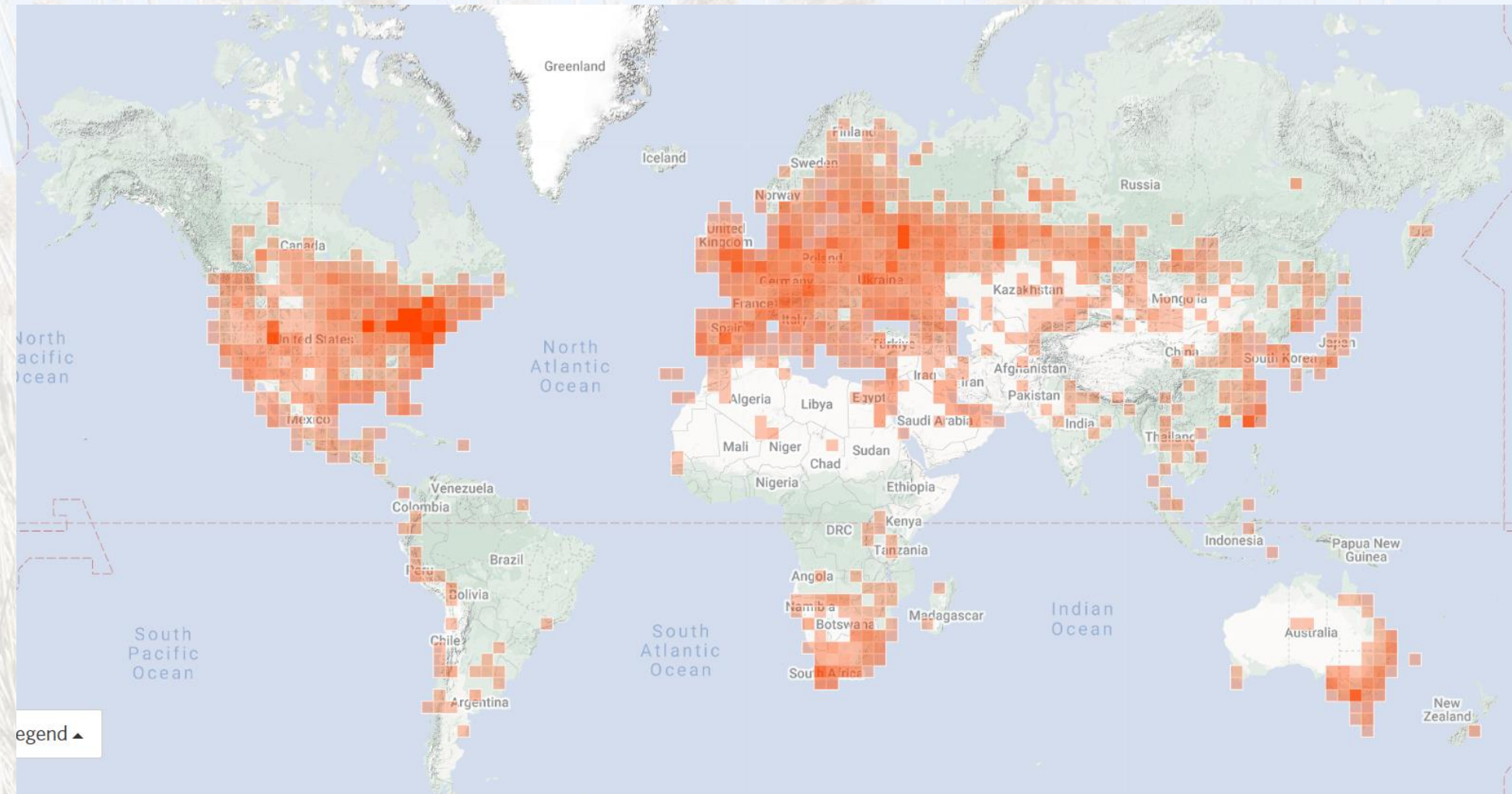
Invasive *Phragmites*: Pathways of spread

- Most commonly through rhizome growth and fragmentation
- Local populations expand from rhizomes
- New populations
 - Rhizome fragments
 - Seeds – viability is low but varies year to year and across plants
- Natural dispersion: wind, wave action on shorelines
- Human activity:
 - Mud on boots, tires or equipment
 - Roadways – effective long-distance dispersal
 - Cultural uses – home displays, hunting blinds



Distribution:

- Native to Eurasia, now found around the world
- Likely introduced as a seed contaminant in ballasts or intentionally as part of the horticulture trade.



Phragmites australis ssp australis, inaturalist.org

Distribution:

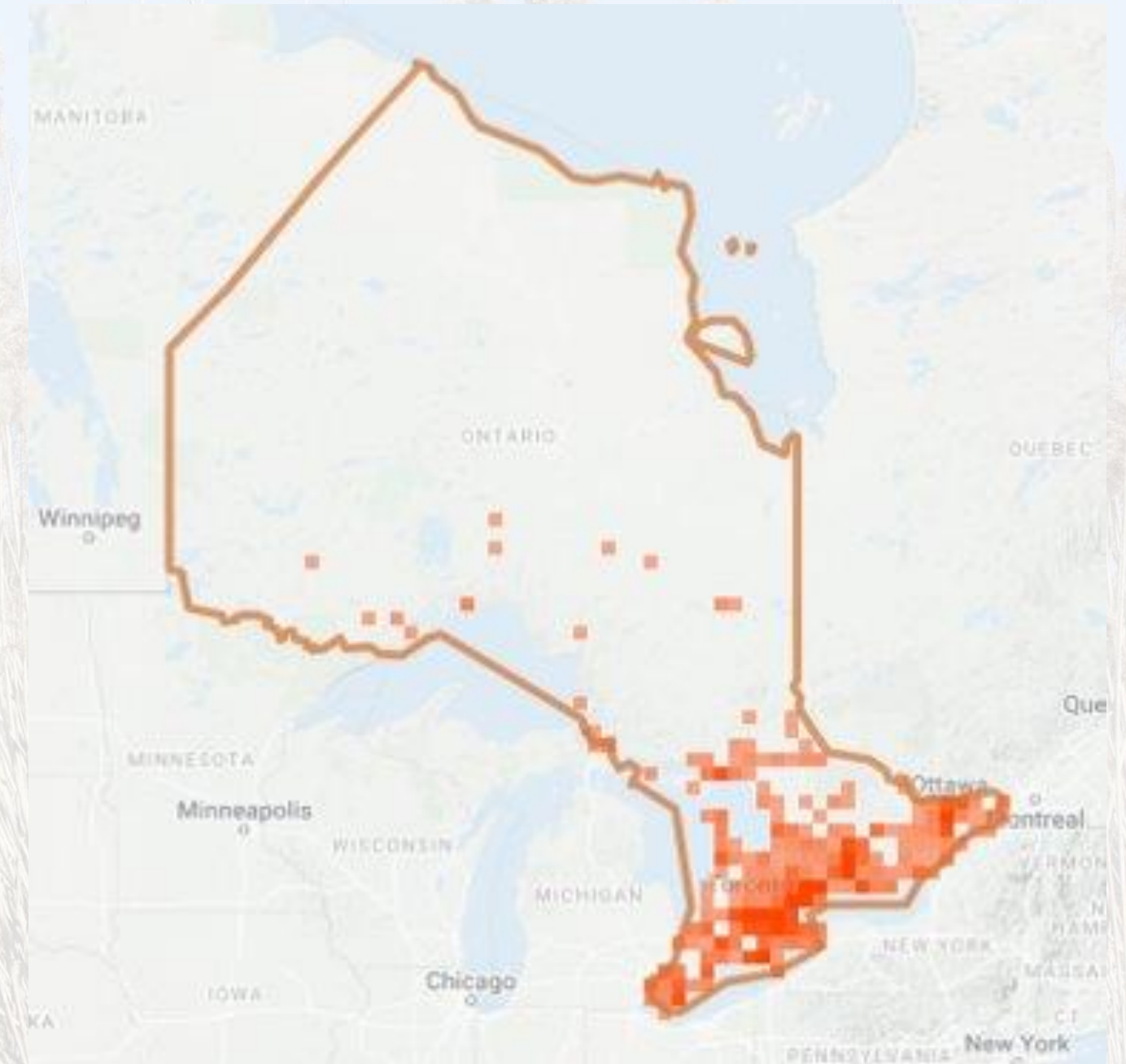
- Throughout Ontario
- Especially common in Southern Ontario and along the coastal Great Lakes
- Found in wet or low-lying areas
- A common sight along shorelines, highways and roadways



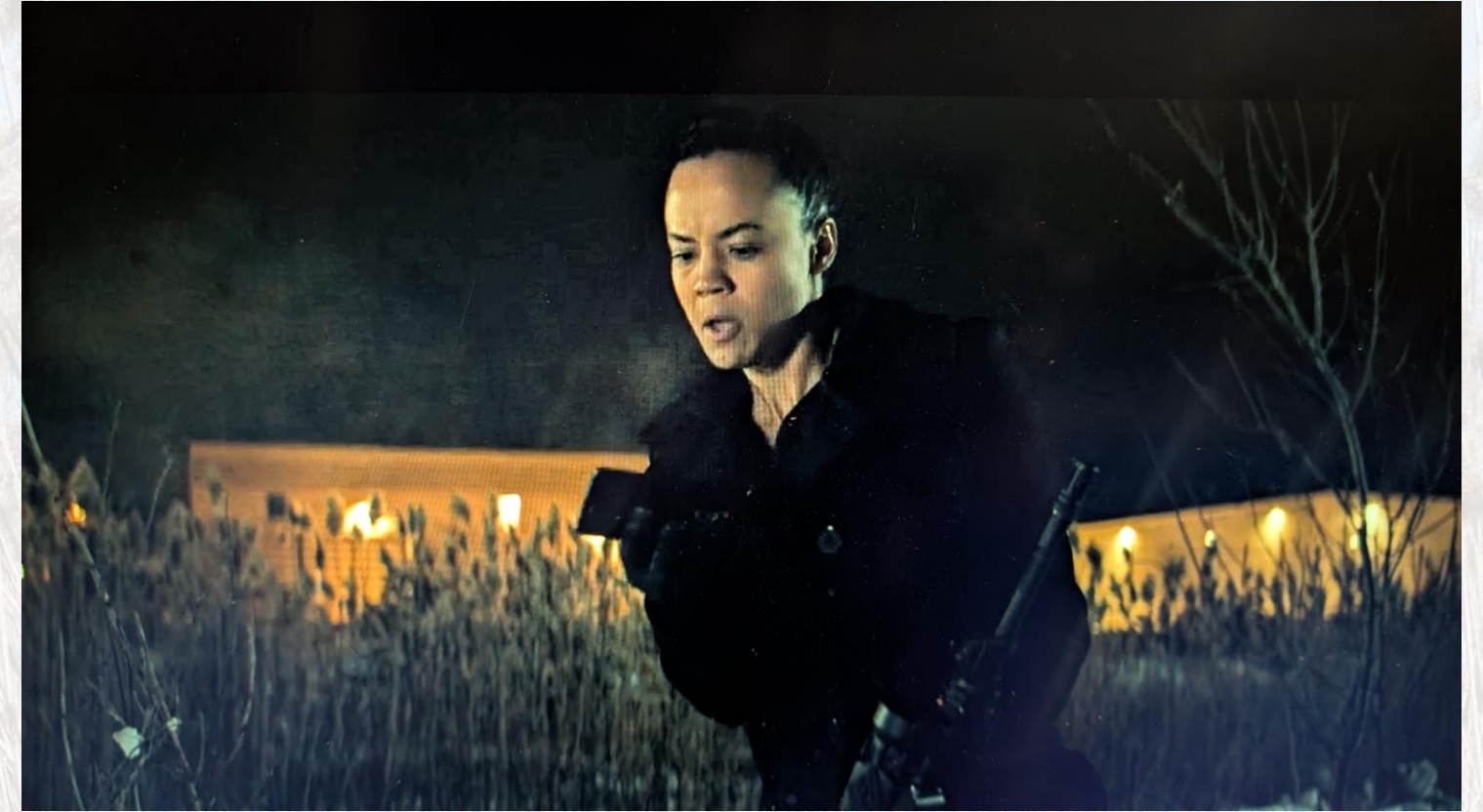
Photo Courtesy of City of London



Photo Courtesy of John F Foster



Invasive *Phragmites*: Where is it? Everywhere!



Impacts on the Environment:

- Loss of biodiversity
- Loss of habitat
- Changes in water flow, quantity, and quality
- Nutrient Cycling

Phragmites impacts over 25% of Ontario's Species at Risk.*



* Bickerton, HJ. 2015. An evaluation of European Common Reed (*Phragmites australis* ssp. *australis*) as a threat to Species at Risk in Ontario. Report prepared for Natural Heritage Section, OMNRF, Ontario, Canada.

Impacts on the Economy and Society:

- Physical and structural damage to infrastructure
- Delays and increased cost in construction activities
- Reduced property values
- Loss of productivity in woodlots and agriculture
- Increased fire risk due to dry biomass in transmission corridors

In Ontario, invasive *Phragmites* costs municipalities and the agricultural industry millions in lost revenue each year.



Impacts to Drainage and Agriculture

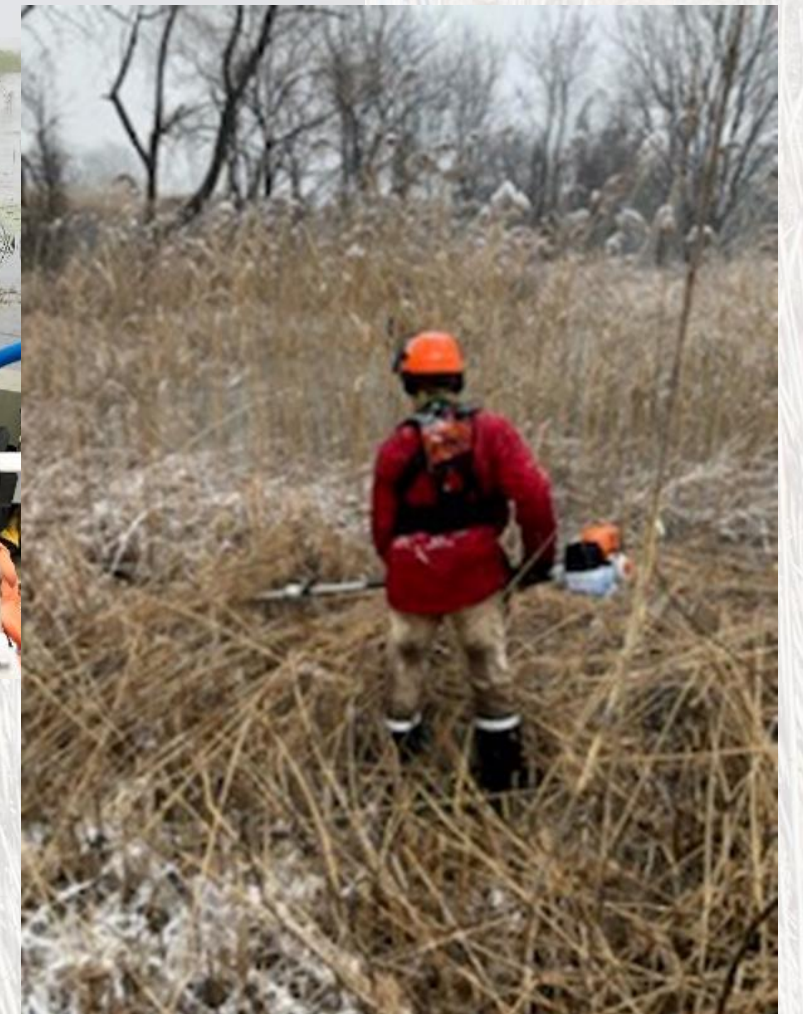
- Impedes flow in watercourses and drains
- Reduced agricultural yields from delayed planting due to clogged drains
- Blocks access for management activities
- Regular drain maintenance may encourage spread (more later on control considerations)

In Ontario, invasive *Phragmites* costs municipalities and the agricultural industry millions in lost revenue each year.



Control Considerations in Drains

- Planning for the work to ensure efficacy
 - Work needs to be conducted prior to drain maintenance ideally 2-3 years.
 - Contractors need to be selected in advance. Not many contractors available.
- Mapping and data
 - Informs contractors of scope of work,
 - Helps track progress
- Cutting and rolling
 - improves site visibility and improving re-treatment
- Multi-year treatment expected



Control Considerations in Drains

- Herbicide application must occur in late summer to early fall (August – October) for optimal efficacy.
- Aquatic
 - Only one aquatic herbicide, Habitat Aqua (Imazapyr)
 - Restrictions for use in drains, refer to label.
 - ~\$5000/ case of two 10L jugs
- Terrestrial
 - Terrestrial herbicides include VisionMAX (Glyphosate), Arsenal Powerline (Imazapyr)
 - Roundup ~\$200/case of two 10Ljugs
 - Arsenal ~\$900/case 10L
- Cut to drown should occur in mid to late summer (July – August).



Options for controlling Phragmites in Drains

- Herbicide application is a favoured management tool
 - Herbicide provides high efficacy
 - Allows for larger areas to be treated in a short amount of time
 - May require specialized aquatic extermination licence
 - Can be costly to conduct control in aquatic situations
- Cut to drown
 - Can be used in situations where herbicide is unavailable (label restrictions, drinking water sources)
 - Is labour intensive
- Mowing can be an effective component of an Integrated Pest Management Plan



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.



Clean Equipment Protocol for Industry

Inspecting and cleaning equipment for the purposes of invasive species prevention





Ontario Phragmites Action

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.



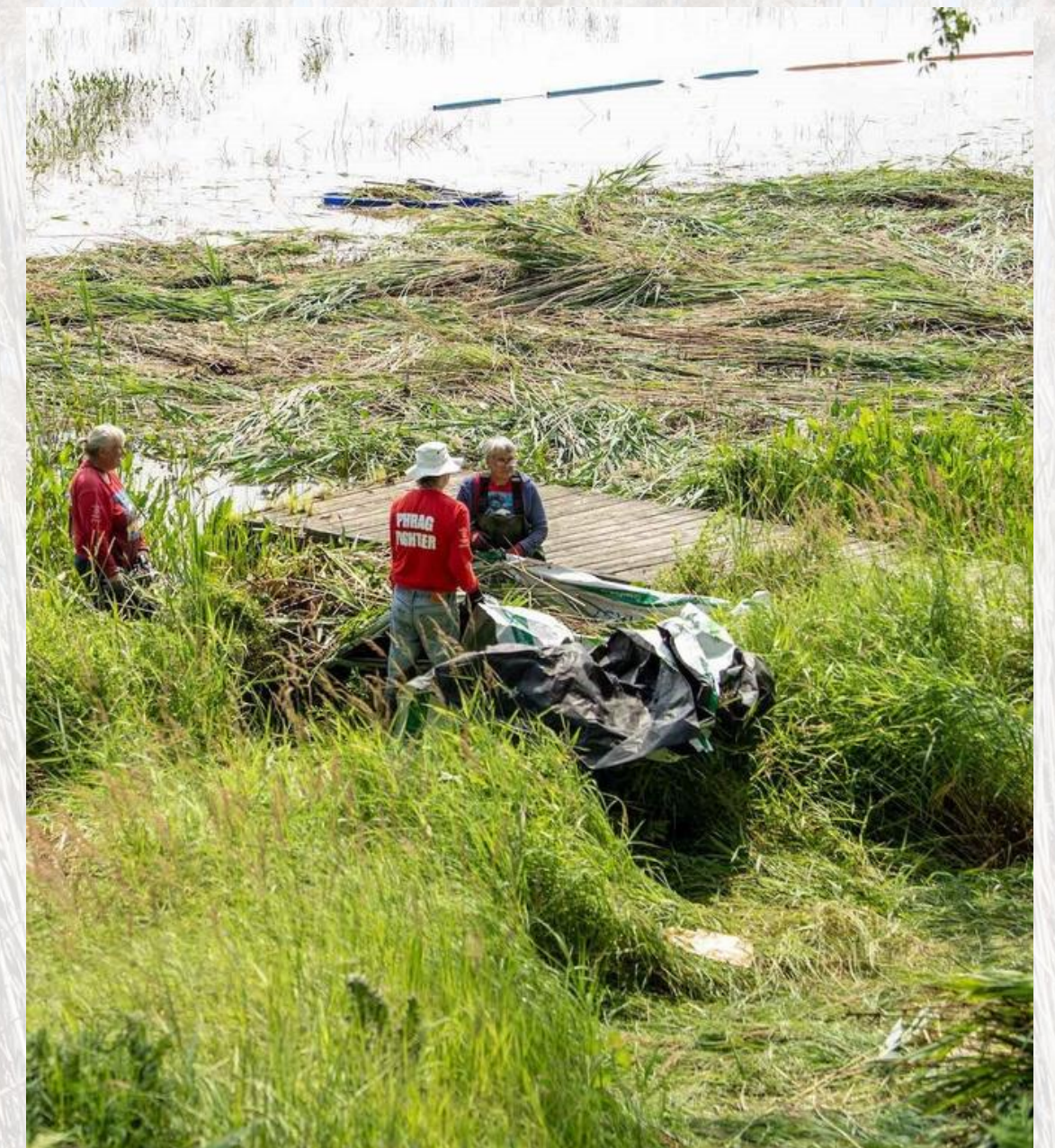
What is OPA!?

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!

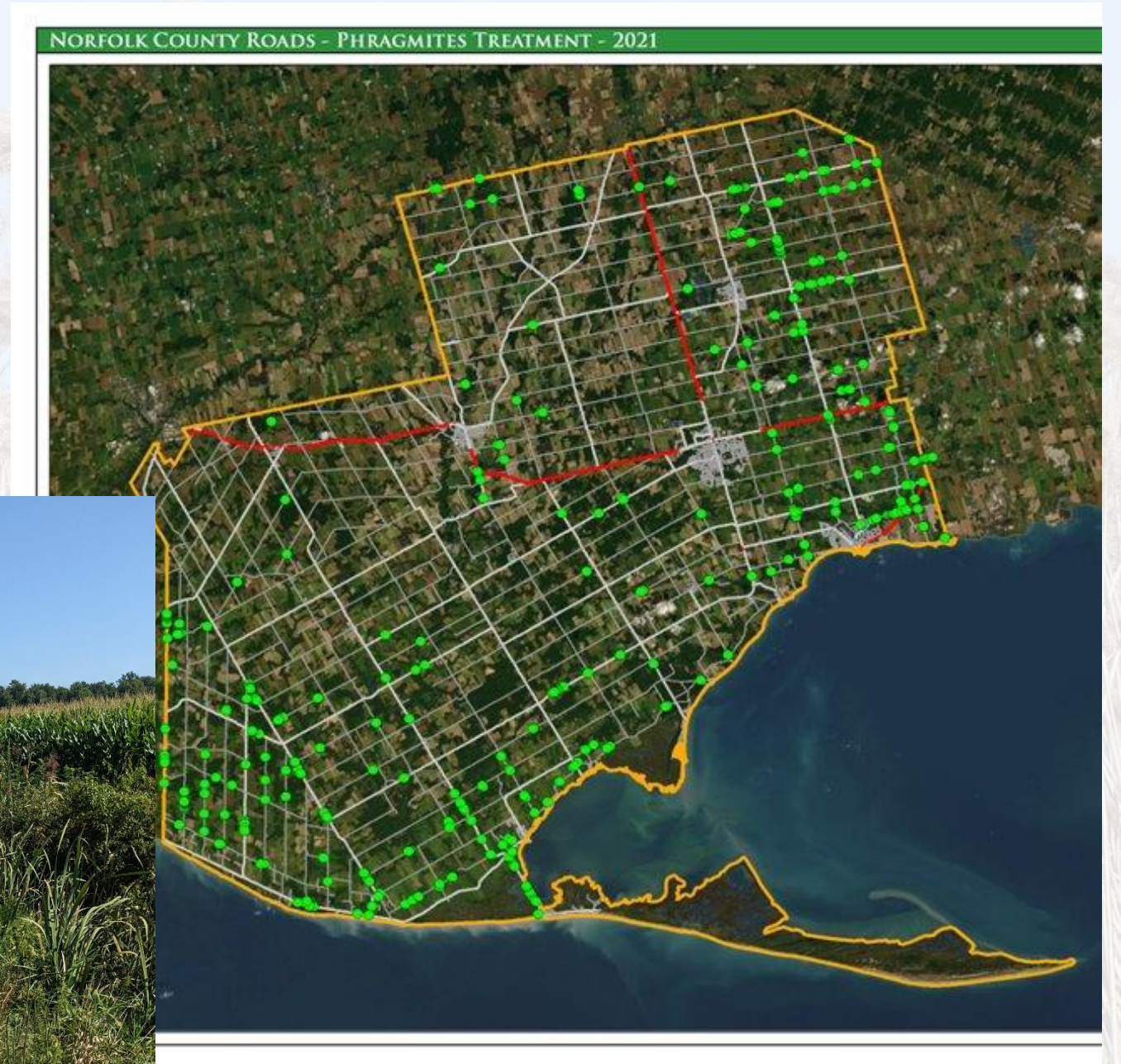
Landscape Scale Phragmites Control in Ontario



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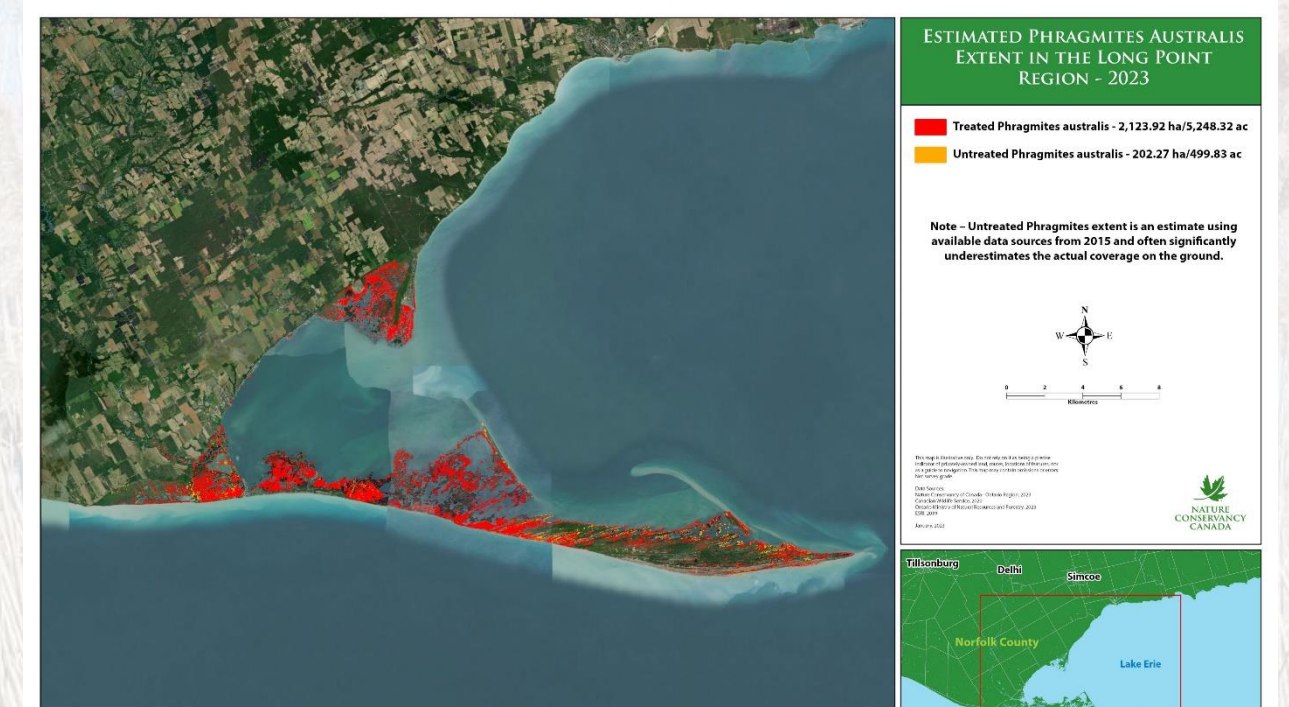
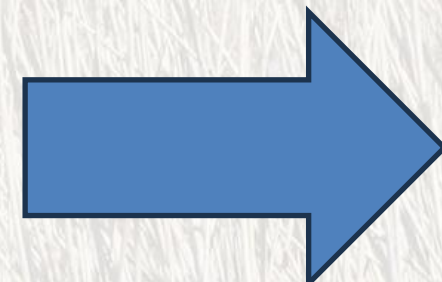
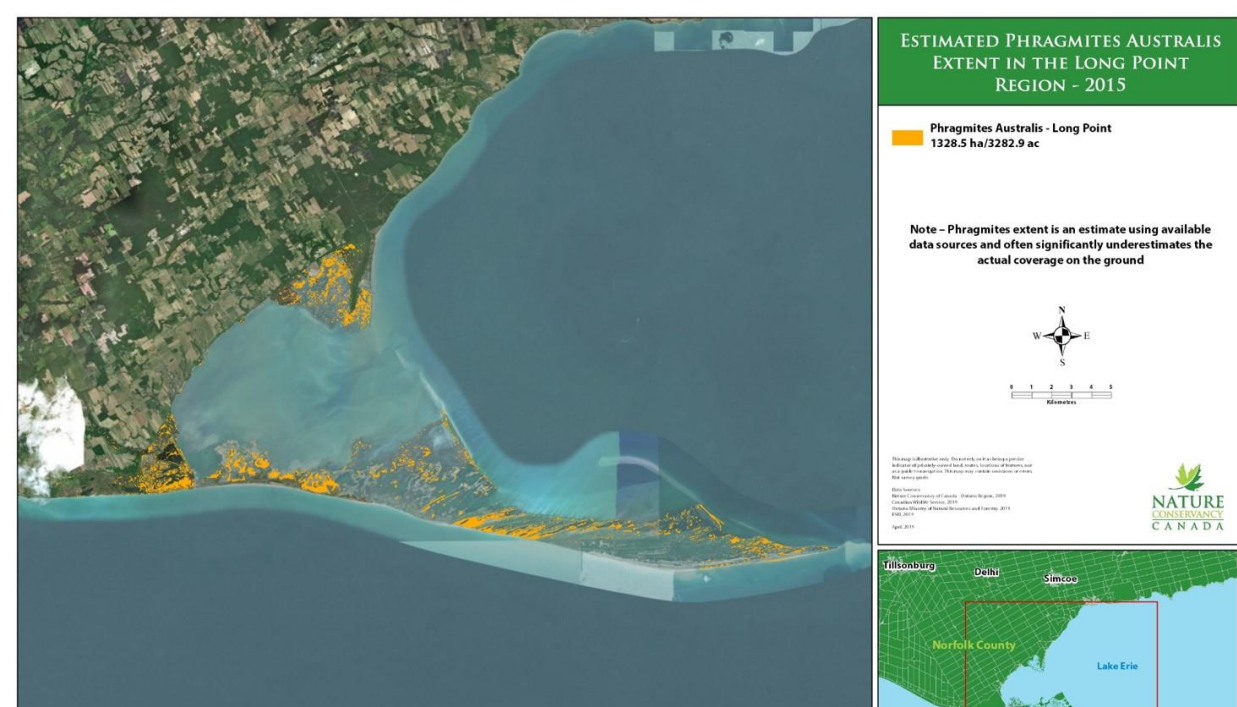


NCC/LPPAA



Purpose of OPA!

Landscape Scale Phragmites Control in Ontario *is possible!*



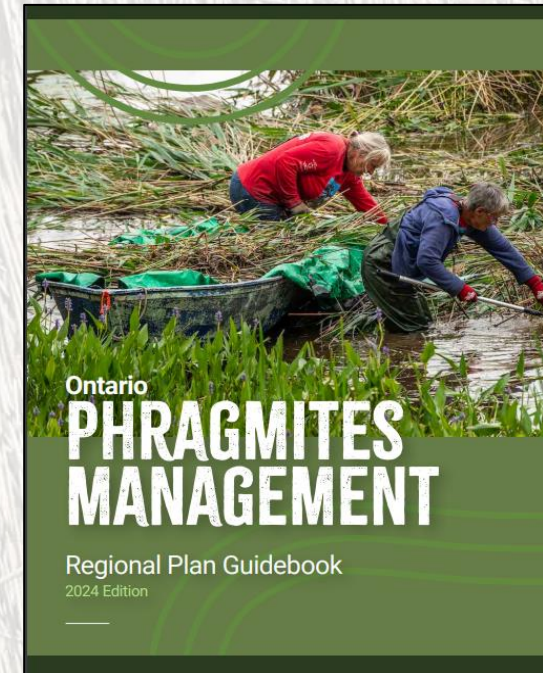
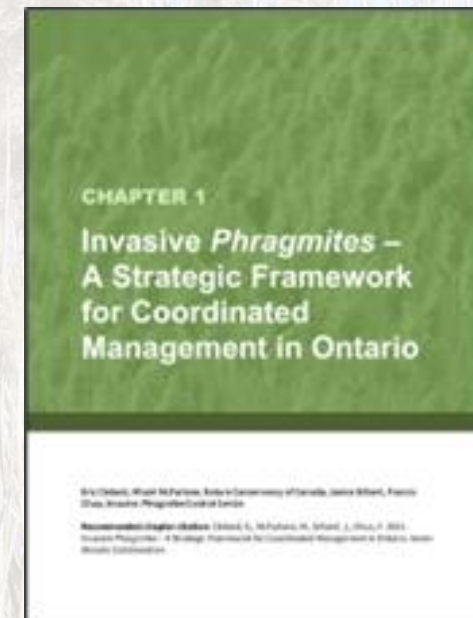
Purpose of OPA!

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



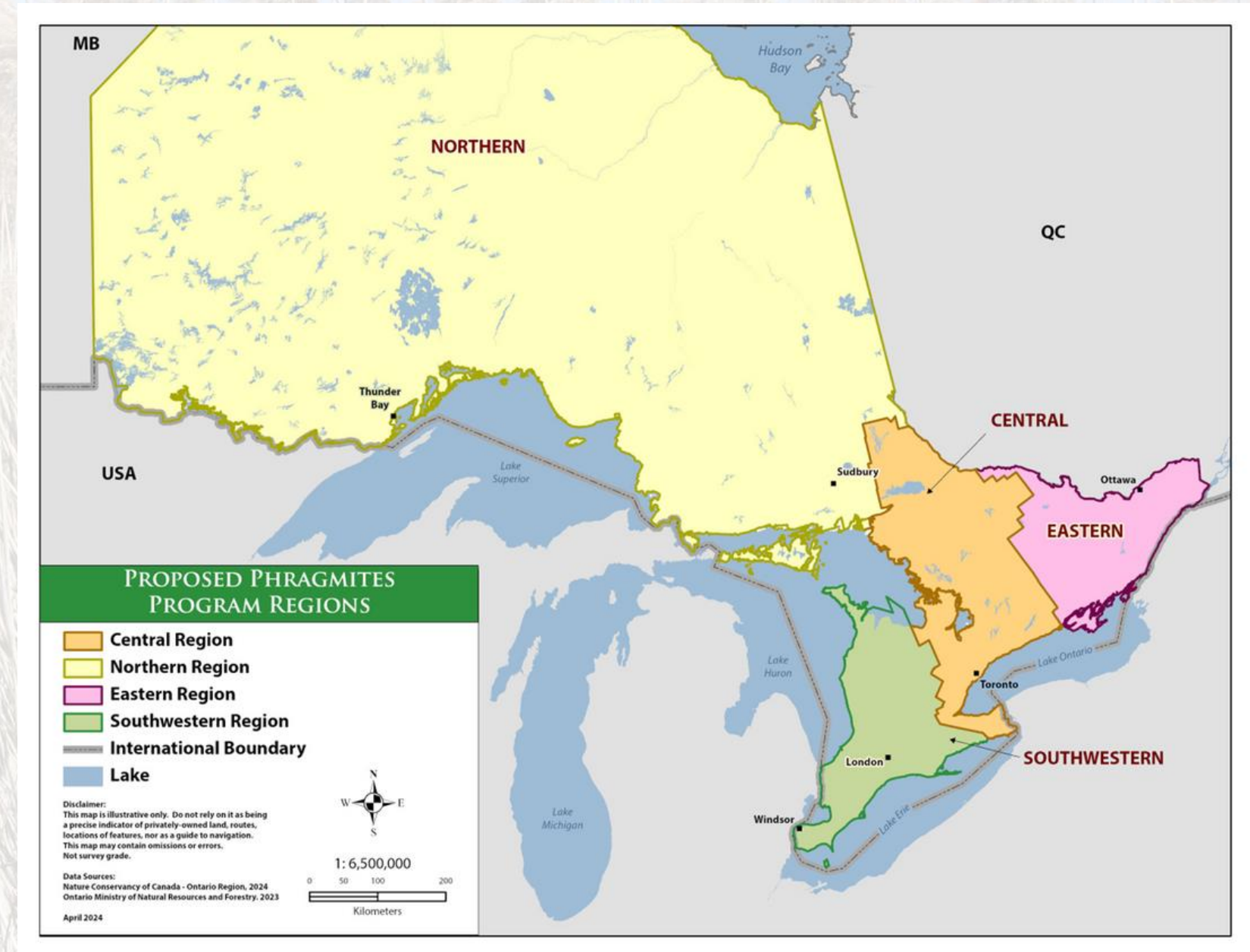
Phragmites Management Areas

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

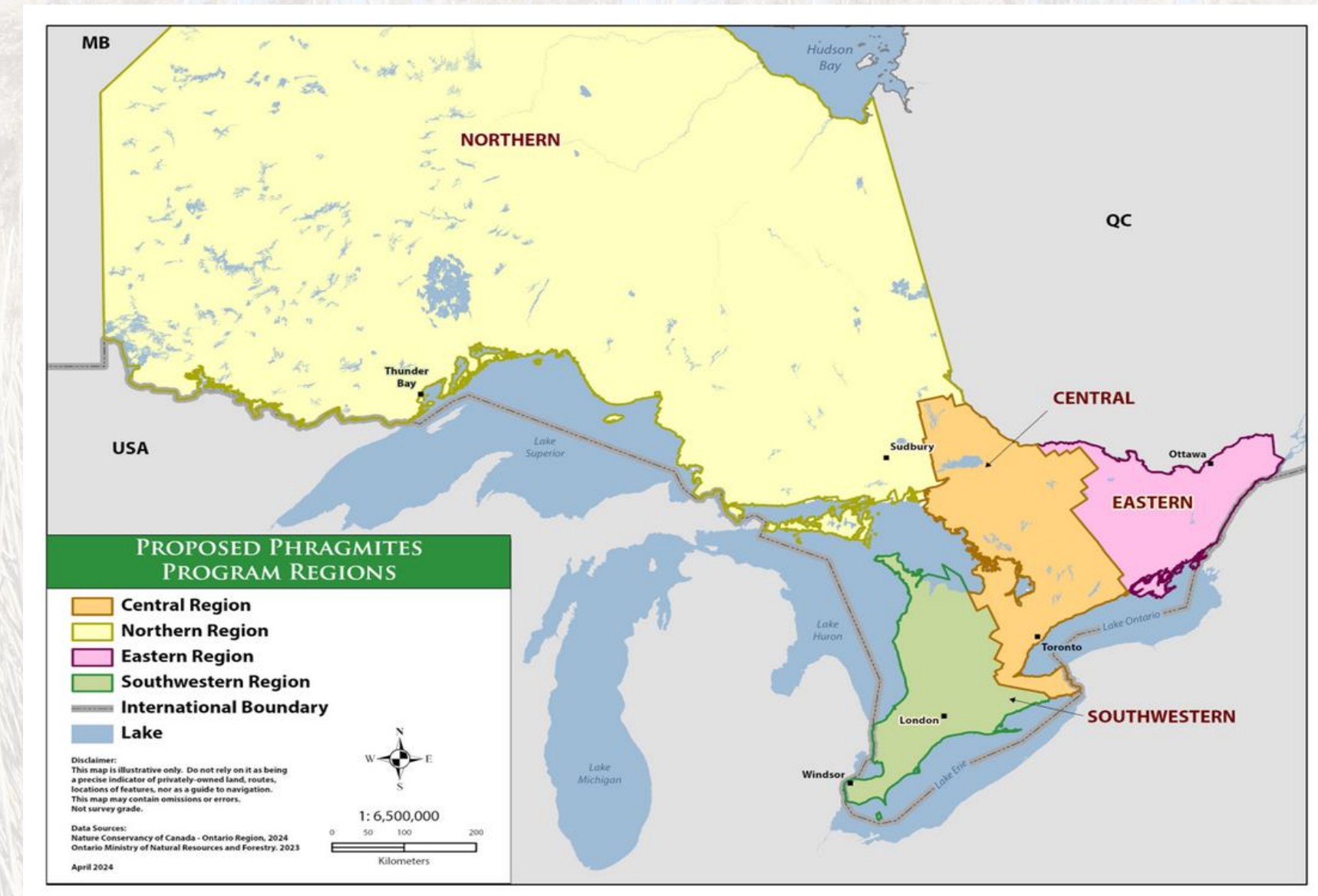
- The program divides Ontario into four regions
- Each region has a Coordinator who supports PMAWG Leads with technical and program resource supports. That might include:
 - Additional training
 - Genetic testing services
 - Invasive Phragmites Control Fund guidance
- Within each region there are numerous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



Regional Coordination 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

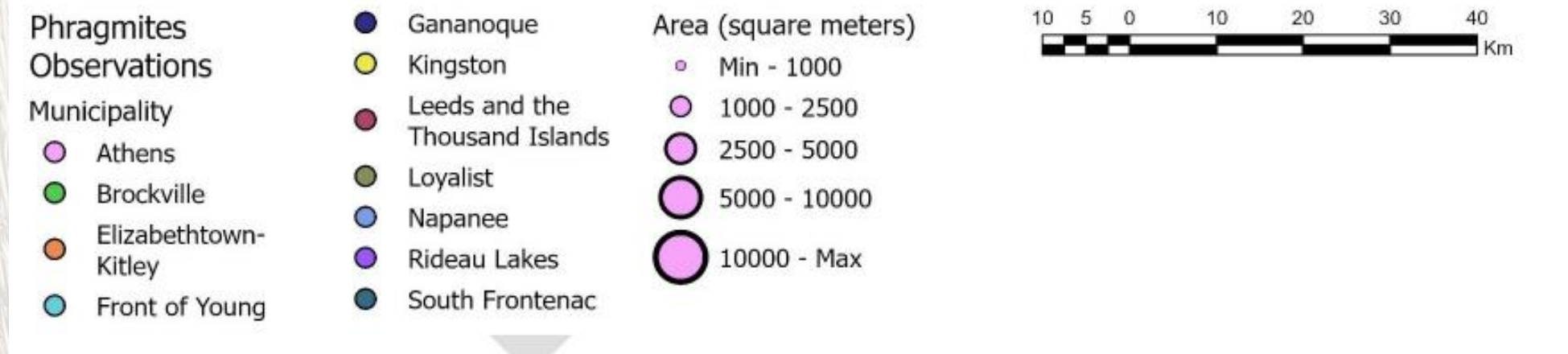
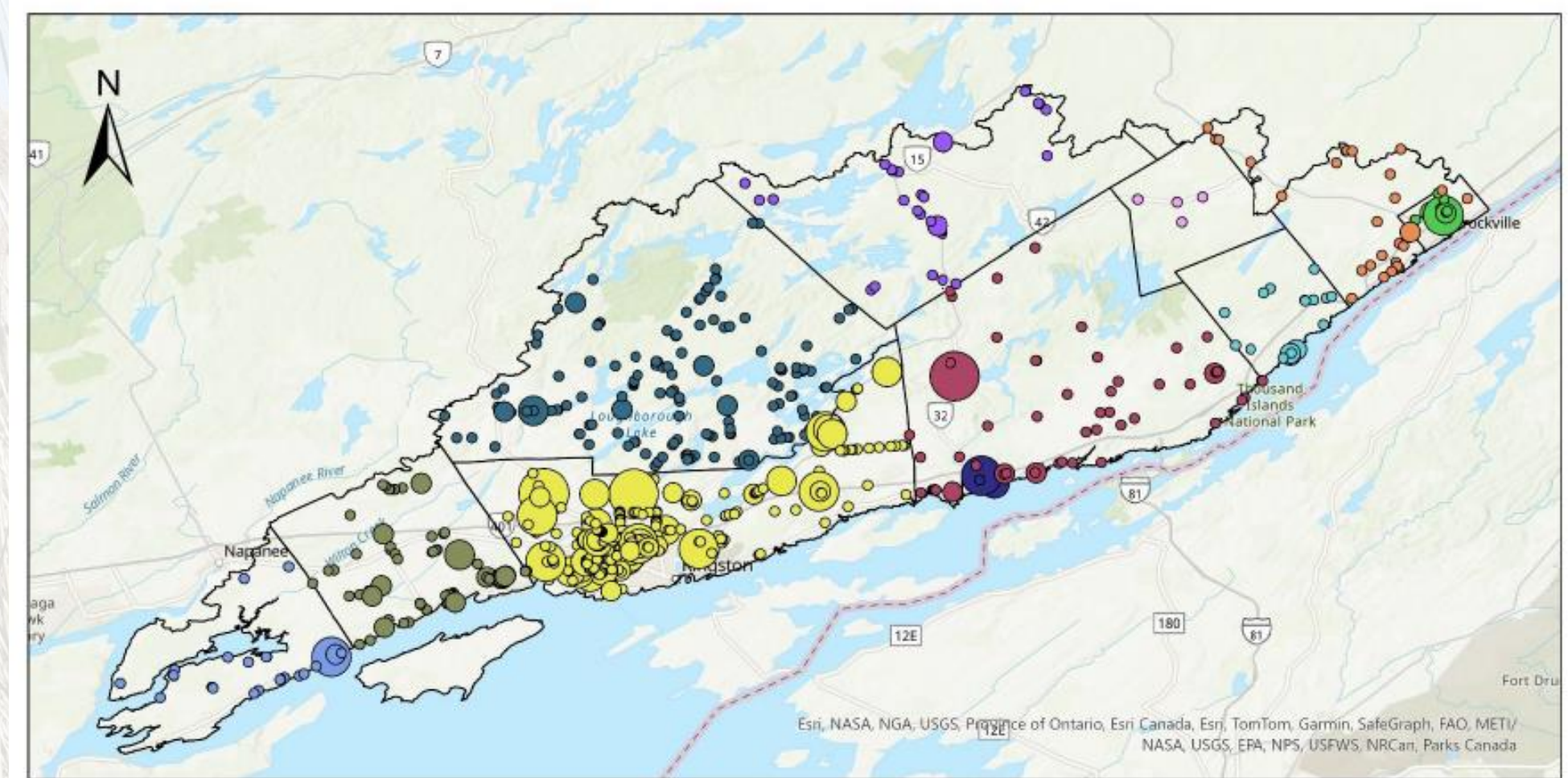
Phragmites control: Oliphant Fishing Islands, Private lands, roadside at Nawash FN



Regional Coordination Eastern Ontario



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



Invasive Phragmites Control Fund

2024-2025



- 2024-2025 marks the 5th cycle of the Invasive Phragmites Control Fund. The program has supported more than 70 projects since it began in FY2020
- 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
- This year the IPCF is supporting 38 projects across Ontario. The new investment in OPA allows us to support even more projects in FY26 and FY27
- With OPA program funding in place, we anticipate the next cycle for IPCF opening in late fall 2024 to support projects beginning in April 2025



Invasive Phragmites Control Fund

2024-2025



The 2024-25 cycle saw some exciting changes over previous years

- Funding cap was increased from \$10k to \$25k with exceptional projects supported up to \$50k
- Priority geographies were identified
- Strong emphasis on mapping as a first step

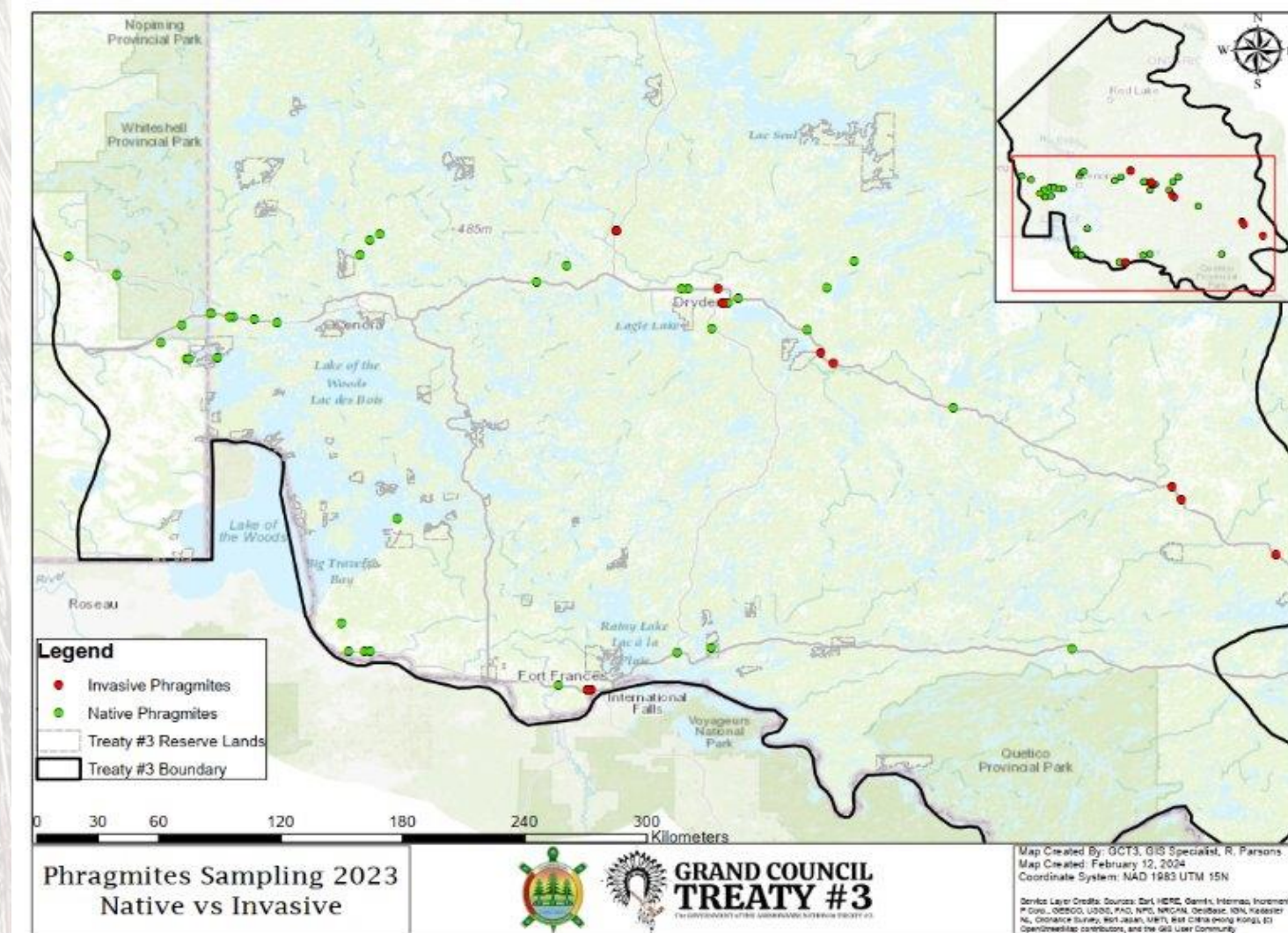
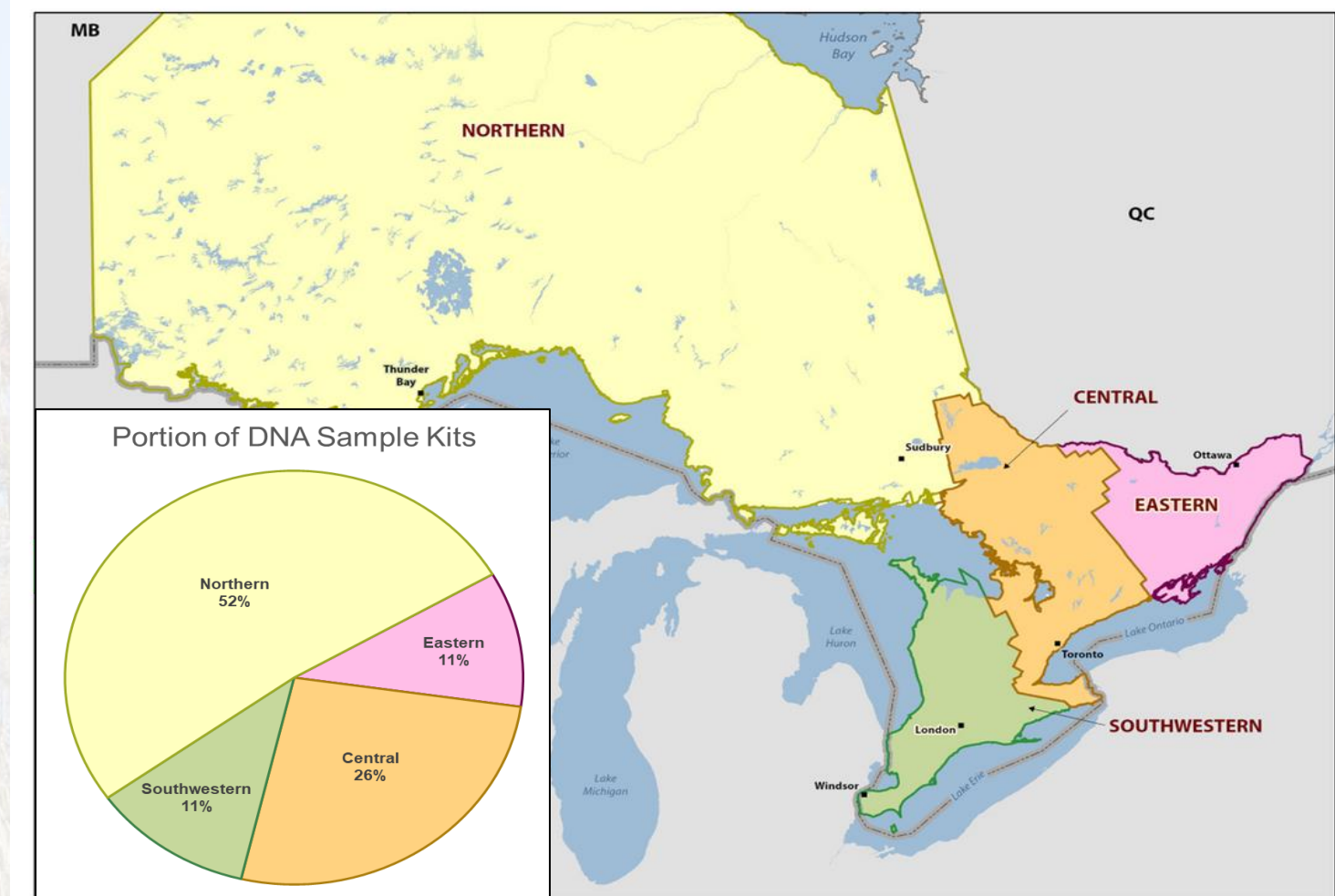
Invasive Phragmites Control Fund criteria were designed to support OPA program objectives including:

- **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
- Amplify and expand **Phragmites control** implementation, and/or
- Address the **leading edge** and rapid spread of Phragmites, and/or
- Increase **collaboration and coordination**, and/or volunteer, and landowner participation & capacity.

Application Deadline is February 12th, 2025

Genetic Testing Program 2024-2025

- OPA's aims to reduce invasive Phragmites abundance while minimizing any non-target vegetation damage.
- Invasive and native Phragmites can be difficult to distinguish based on morphology.
- OPA will continue to offer free invasive/native genetic testing service to participating Phraggers
- Genetic testing allows groups to be certain of which Phragmites they have, to guide management (No sense in managing native Phragmites)
- 300 DNA sample kits have been distributed across the province this year to date
- Results will be available late fall in a native Phragmites distribution map



What's Next for OPA

Upcoming Priorities



- Continued development of training and capacity building opportunities:
 - Phragmites Management workshops
 - Online training modules
 - Updates to key resources
 - Licensing for Pesticide applications
- 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: AMO, NOMA, ROMA, AORS, LICO/DSAO, Latornell

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, we are 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



Upcoming Event

Phragmites Management Workshop

- Hosted by Ontario Vegetation Management Association
- In-person workshop – **March 18, 2025**
- Gain insight into:
 - Phragmites Management techniques
 - Control methods and equipment considerations
 - Chemical Treatment: Products and technical considerations
 - Project permitting
- Visit ovma.ca/upcoming-events for more information



Calling all Invasive Phragmites Management Practitioners

Join us for a **free one-day workshop** designed for municipal staff, conservation and land management professionals, Indigenous partners, non profit and community groups.

Gain valuable insights and practical knowledge on invasive phragmites management, including:

- Phragmites: biology overview
- Control methods and equipment
- Chemical treatment: products and technical considerations
- Permitting considerations

Don't miss this opportunity to enhance your skills and network with fellow experts.

Reserve your spot by March 3, 2025.

Victoria Park East Golf Club
1096 Victoria Rd. South, Puslinch, Ontario
Tuesday, March 18, 2025
9:00 a.m. - 5:00 p.m.



Scan for more information
and to sign up or visit
www.ovma.ca/upcoming-events

Supported by:



Thank you Questions?



OPA Regional Coordinator Contact

North Region – Derissa Vincentini
dvincentini@invasivespeciescentre.ca

South Region – Kyle Borrowman
kyle.borrowman@natureconservancy.ca

Central Region – Terry Rees
terry@terryrees.ca

East Region – Matt Bolding
m_bolding@ducks.ca