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2021 LONG POINT REGION PHRAGMITES MANAGEMENT PROGRAM

A Partnership Between:

Canadian Wildlife Service
Ministry of Northern Development, Mines, Natural Resources and Forestry
Nature Conservancy of Canada
Ontario Parks
Long Point Phragmites Action Alliance

July 30, 2021

LONG POINT PHRAGMITES ACTION ALLIANCE

WELCOME & OVERVIEW

Eric Gunnell, Chair
Long Point Phragmites Action Alliance

MEETING AGENDA

1:30 – 1:35	**Welcome and Overview** *Eric Gunnell, Chair – Long Point Phragmites Action Alliance*
1:35 – 1:50	**2021 Phragmites Control on Private Lands in the Long Point Region and Big Creek Watershed** *Brett Norman, Invasive Species Program Manager – Nature Conservancy of Canada*
1:50 – 2:05	**2021 Phragmites Control on Federal National Wildlife Areas in the Long Point Region** *Heather Braun, Habitat Biologist – Environment and Climate Change Canada, Canadian Wildlife Service*
2:05 – 2:15	**2021 Phragmites Control on Crown Lands** *Francine MacDonald, Senior Invasive Species Biologist – Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry*
2:15 – 2:25	**2021 Phragmites Control on Long Point and Turkey Point Provincial Parks** *Amy Hall, Assistant Ecologist, Ontario Parks, Southwest Zone*
2:25 – 2:30	**Wrap-up & Questions**

Phragmites australis

Canada's "worst" invasive plant (Agriculture and Agri-foods Canada, 2005)

- Invasive perennial grass that grows up to 6m tall and up to 200 stems/m2
- Spreads by rhizomes, stolons, stems and seeds
- Outcompetes native vegetation, particularly in wetlands
- Loss of biodiversity
- Loss of habitat for wildlife including species at risk (SAR)
- Negative impacts to agriculture and drainage
- Increase risks of road safety and maintenance costs
- Reduction in property values
- Declines in tourism

PROJECT PURPOSE

Contribute to the recovery of wetlands, wildlife and species at risk (SAR) in the Long Point area by:

1. Implementing non-native Phragmites management
2. Monitoring and evaluating the impacts of those actions

PHRAGMITES MANAGEMENT APPROACH

Recognized BMP:

1. Fall: Herbicide applied via Helicopter, Marsh Master, boat or backpack
2. Winter: Mechanical management to reduce standing dead, via rolling, cutting or burning
3. Subsequent Fall: Herbicide retreatment as needed (5-10%)
4. Ecological monitoring before during and after

Fall → Winter → Fall

A Guide to the Control and Management of Invasive Phragmites, 3rd Ed. Michigan DEQ, 2014
Invasive Phragmites Best Management Practices in Ontario, Ontario Invasive Plan Council, 2020

ENVIRONMENTAL MONITORING 2016-2020

- Successful control of Phragmites
  - >95% control efficacy, after 4 years
- Native plant communities, open water and hemi-marsh habitats are returning
  - No observed negative impacts to non-target species
  - Species at risk benefiting (e.g. Bent spike rush, Fowlers Toad, Barn swallows etc.)
- Use of herbicide demonstrated to be low risk to environment and health
  - Herbicide and surfactant levels in water and sediment have been well below all ecological thresholds and degrade quickly
  - Surface water samples have never approached the Ontario Drinking Water Quality Standard

2021 PHRAGMITES CONTROL ON PRIVATE LANDS IN THE LONG POINT REGION AND BIG CREEK WATERSHED

Brett Norman, Invasive Species Program Manager – Nature Conservancy of Canada

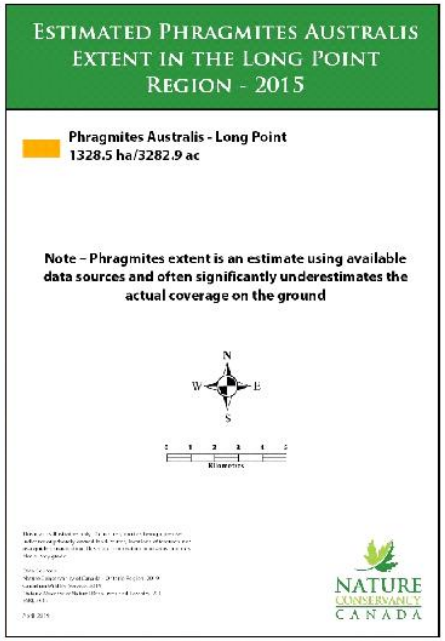
Big Creek Phragmites Control Program

30 July 2021

Brett Norman – Invasive Species Program Manager

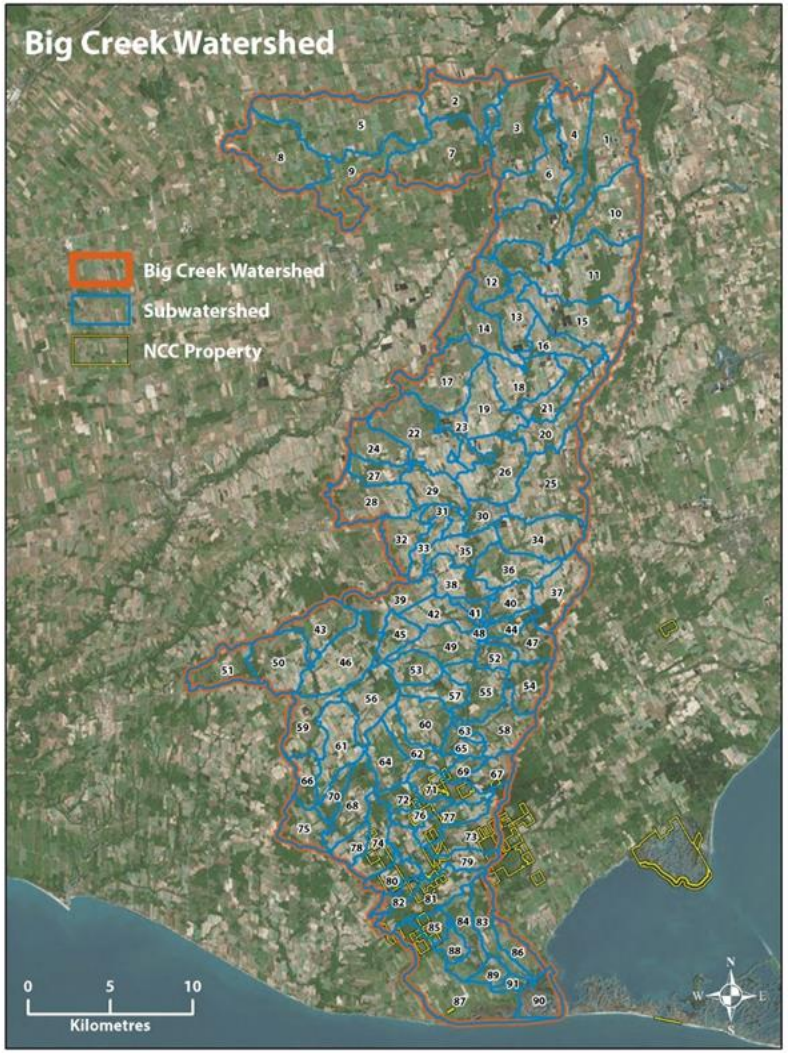
NATURE CONSERVANCY CANADA

Phragmites in 2015



Big Creek Watershed

- 750 sq. km
- 22 sub watersheds
- Entirely within Norfolk County
- 1 settlement: Delhi (4,000 people)
- Sandy soils, some pockets of heavy clay
- Agriculture dominates land cover
- Road density is high



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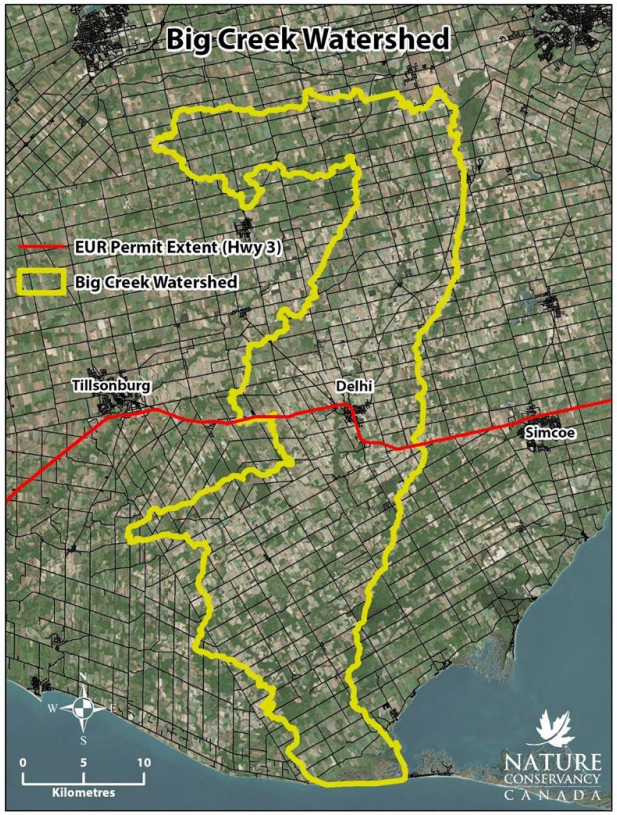
Project team

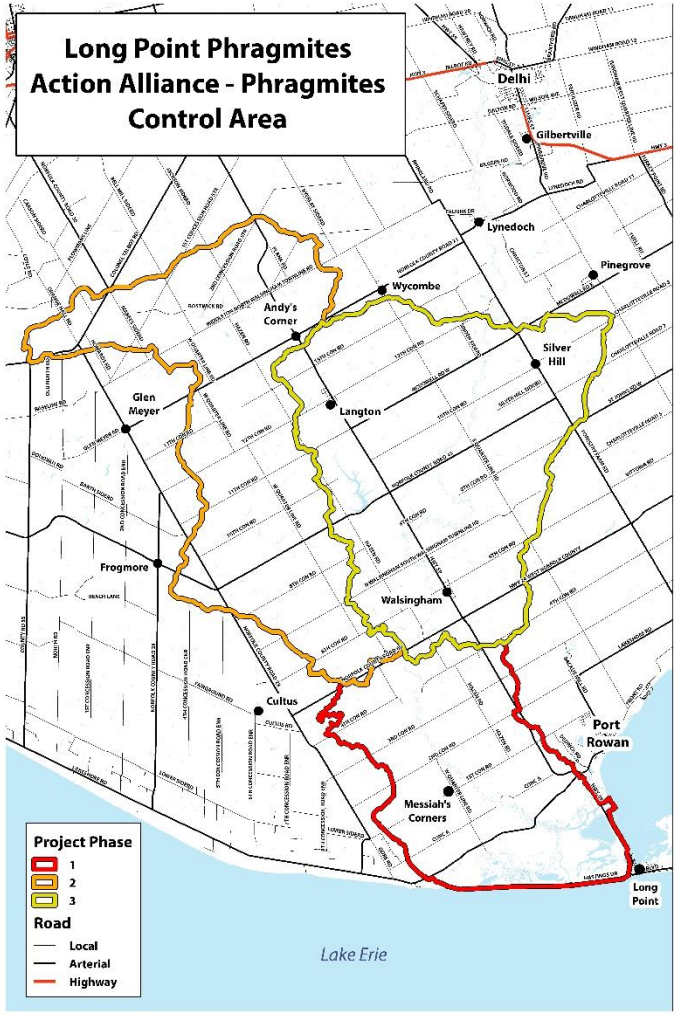
- The project is lead by 15 organizations, from the Long Point Phragmites Action Alliance, who form the *Big Creek Watershed Subcommittee.*
- They include: ALUS Norfolk, ECCC – CWS, Giles Restoration Services, IPCC, LPRA, LPRCA, LPWBRF, MNRF, MTO, NCC, NFA, NWOA, and Norfolk County (Roads, Drainage, and Forestry divisions).

What is the Big Creek Phragmites Control Plan?



- Divided the 750 km2 watershed into 8 phases.
- Outlined how to collaboratively conduct control on private lands
- Control under the EUR from Long Point to Hwy 3.

Engagement results



- 2081 Parcels in Phase 2 and 3
- 1346 parcels culled (areas like Langton and Walsingham).
- 314 landowners owning 735 parcels targeted via mail outs.
- 92 parcels enrolled in the program.
- Phragmites control took place on 39 parcels.
- Re-treatement took place on 6 parcels in Phase 1 with 4 additional parcels participating in control efforts for the first time.

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Lessons Learned

Engagement

- Door to door engagement cancelled due to COVID-19 restrictions.
- Alternate methods used for engagement: direct mail outs, newspaper ad, phone calls, website sign ups and Radio ads.
- Getting landowners to assist in signing up properties is critical without door-door engagement.

Long Point Phragmites Action Alliance Phragmites Control Area

NATURE CONSERVANCY CANADA

Control Success

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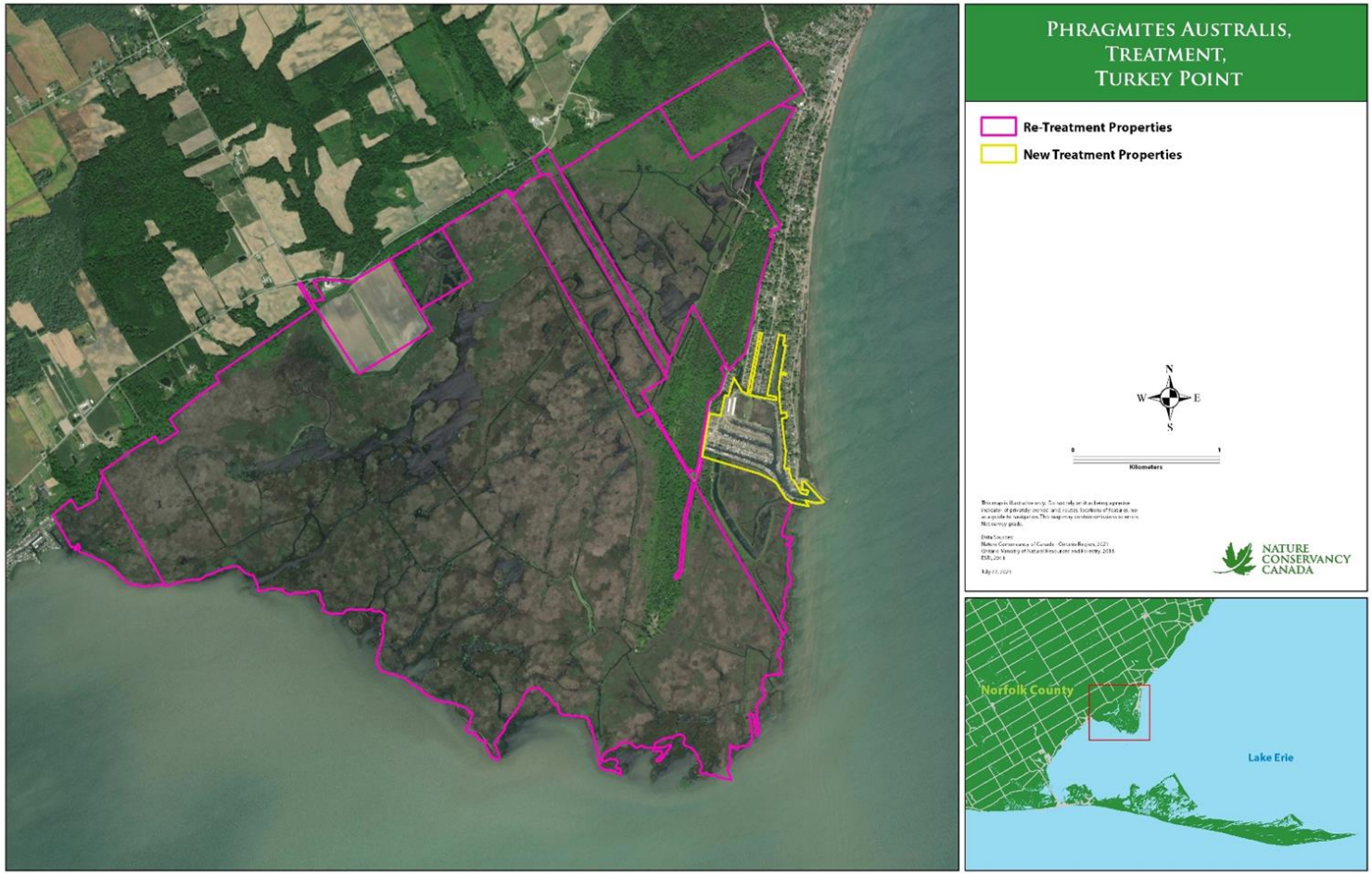
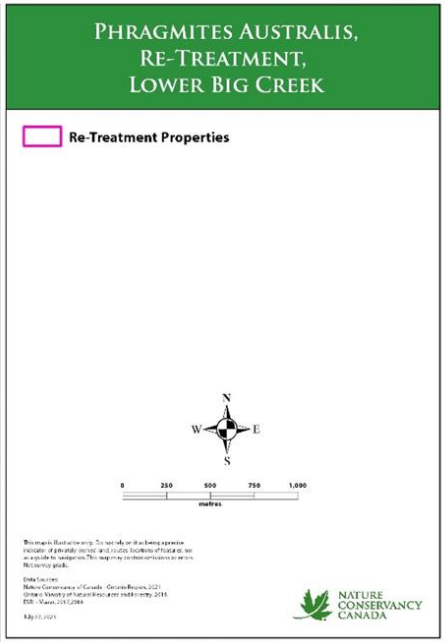
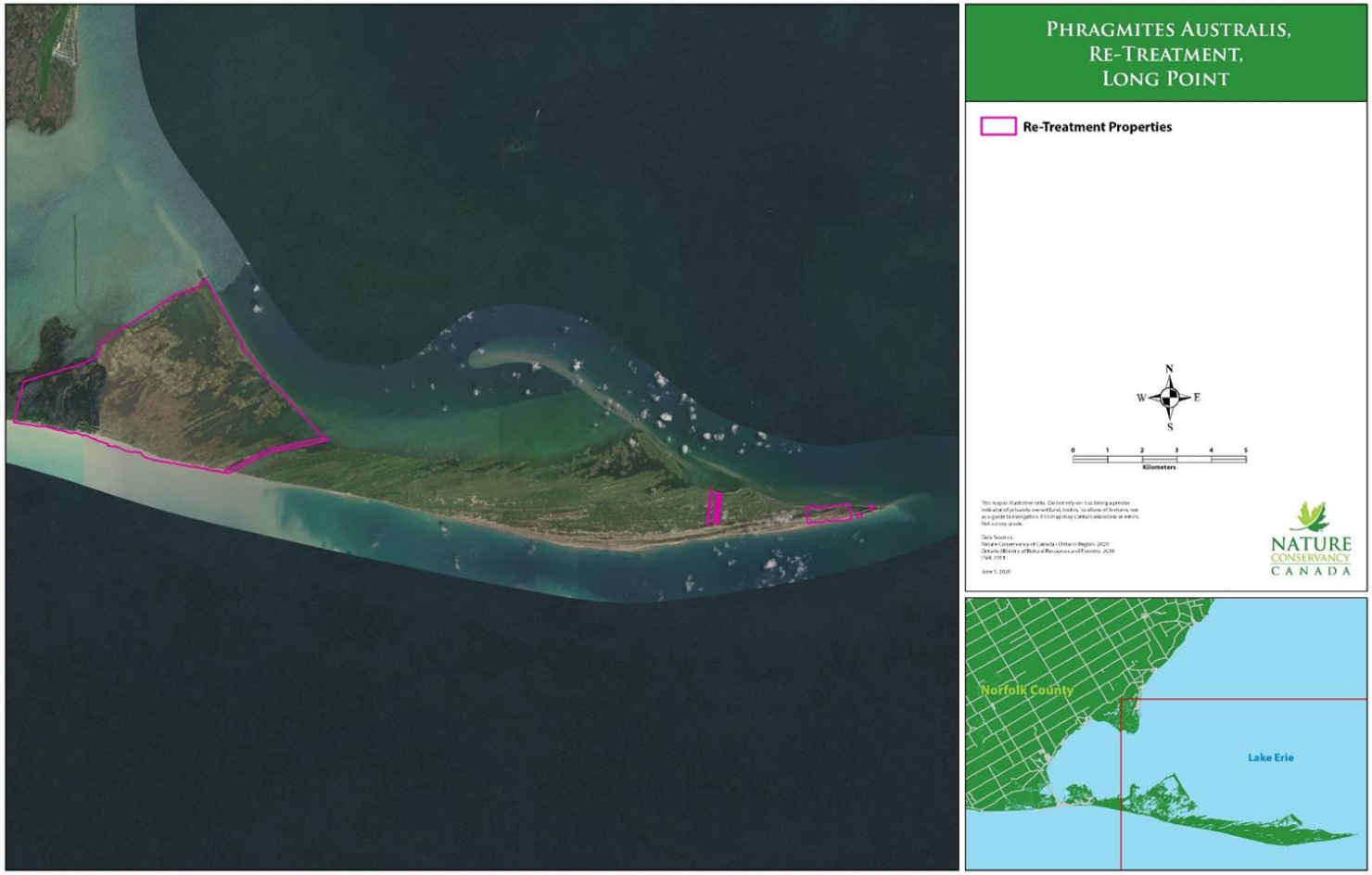
Turkey Point 2021 Re-treatment



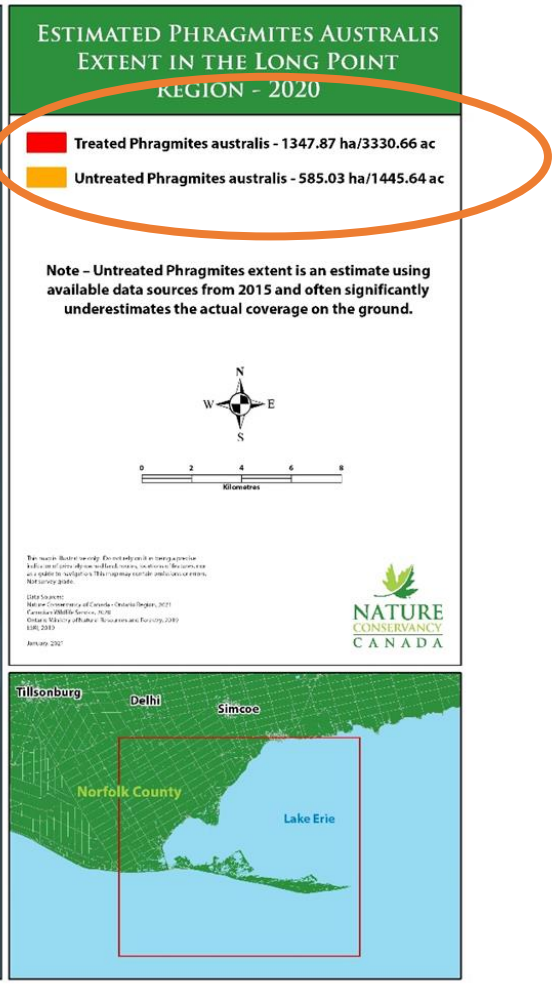
Lower Big Creek – private lands



Long Point peninsula – private and provincial lands



The Big Picture – It's actually much bigger



Thank You! - Donors, Grantors and Partners

- Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry
- Environment and Climate Change Canada – CWS ON Region
- Ducks Unlimited Canada
- Wildlife Habitat Canada
- USFWS – NAWCA
- Bird Studies Canada
- Long Point Phragmites Action Alliance members
- Private landowners and waterfowl hunt clubs

NATURE CONSERVANCY CANADA

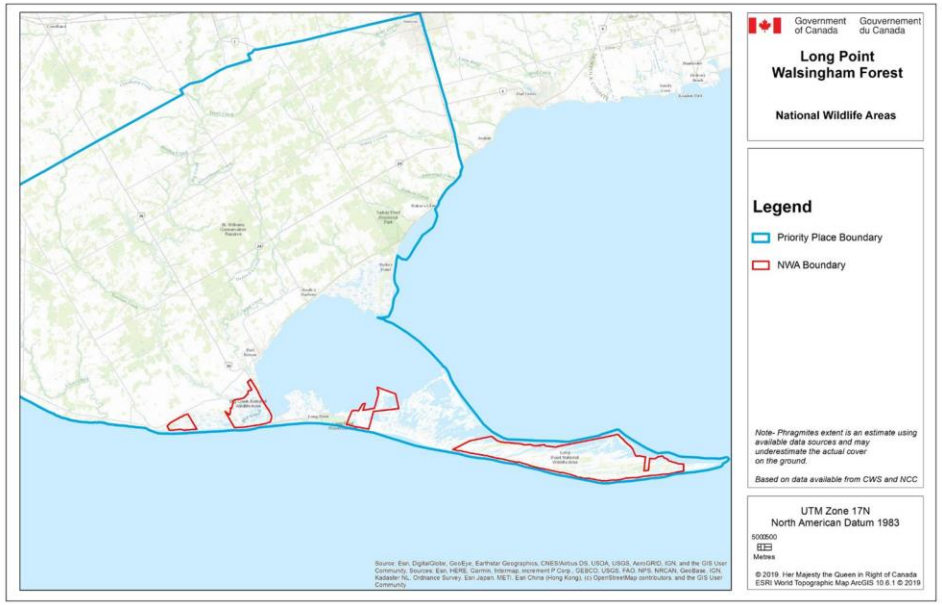
2021 PHRAGMITES CONTROL ON FEDERAL NATIONAL WILDLIFE AREAS IN THE LONG POINT REGION

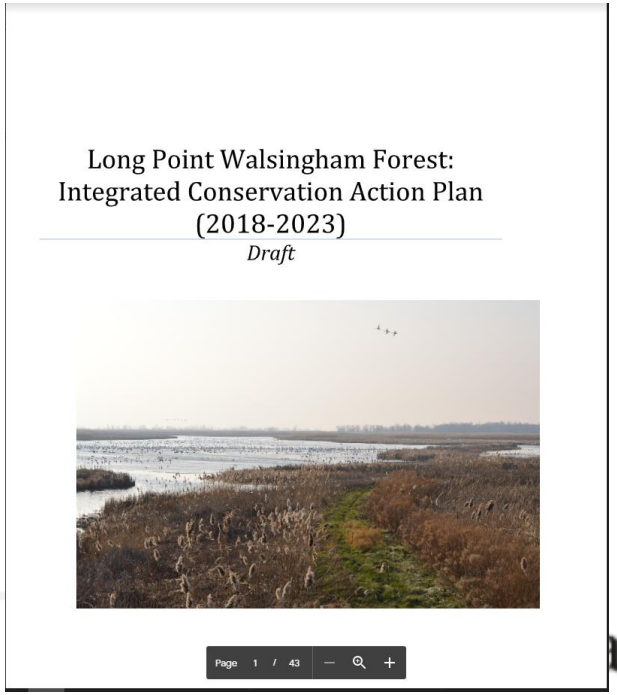
Heather Braun, Habitat Biologist – Environment and Climate Change Canada, Canadian Wildlife Service

CWS ENGAGEMENT

LONG POINT WALSINGHAM FOREST PRIORITY PLACE

- Ontario's Priority Place for Conservation Action
- Phragmites is a primary threat
- CWS has provided funding to partners
- Also contains two federally managed National Wildlife Areas (NWAs)
- 2019: Phrag management initiated
- 2020: Phrag management expanded





PURPOSE

Contribute to the recovery of SAR and other wildlife by implementing actions identified in Recovery Strategies and management plans

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OBJECTIVES

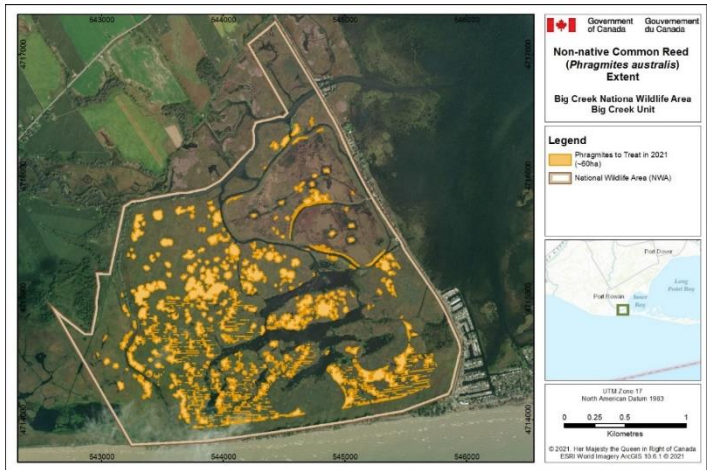
- Manage 90% of the Phragmites at LPWF between 2020 and 2025
- Restore native vegetation
- Contribute to the recovery of SAR
- Evaluate the impacts on SAR, other wildlife and habitat

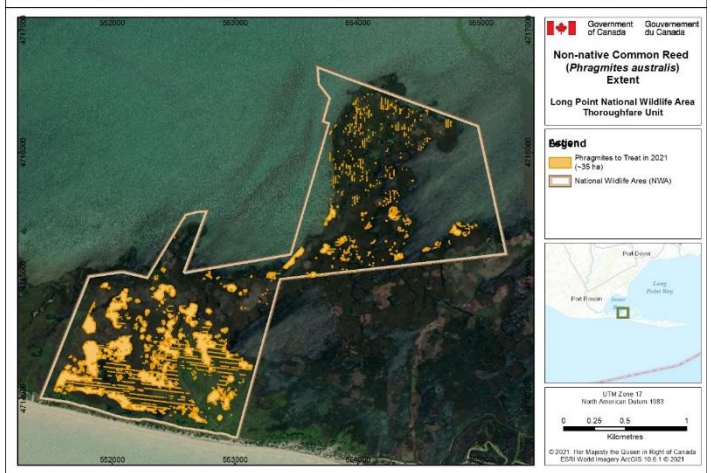
PHRAGMITES PROJECT
2019-2020

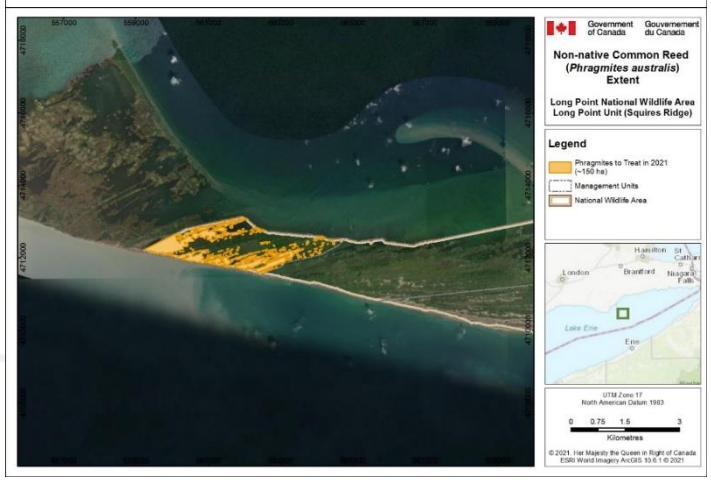
- Managed approximately 115 ha of Phragmites within two National Wildlife Areas
- Herbicide applied by ground and aerial methods
- Pre- and post-management monitoring
  - 99% management efficacy
  - Concentration of herbicide in surface water never approached the Ontario Drinking Water Quality Standards
  - Herbicide and surfactant in water and sediment remained below ecological thresholds of concern, and degraded over time
  - No observed negative impacts to non-target species

PHRAGMITES PROJECT 2021

- Big Creek Unit, Big Creek NWA
- Thoroughfare Unit and eastern section of Long Point Unit, Long Point NWA
- Up to 200 ha of Phragmites to be managed
  - Implemented by CWS
  - Herbicide applied by ground and aerial methods
- Pre- and post-management monitoring







IMPLEMENTATION

- Management to commence late August or early September
- Contracts for ground and aerial herbicide application
- Contract for winter management

2020 ECOLOGICAL MONITORING PLAN

1. Map key SAR habitat features and SAR plants
2. Assess effects of herbicide application on vegetation
3. Evaluate vegetation recovery
4. Evaluate maximum exposure risk of herbicide and surfactant in water and sediment
5. Assess effects of treatment on wetland biota habitat use
6. Assess changes in fish habitat

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SURFACE WATER MONITORING

- Pre and post-management surface water sampling
- Ensure that concentrations of herbicide and surfactant remain below Ontario Drinking Water Quality Standards.

STATUS AND NEXT STEPS

- All necessary permits received
- Ecological monitoring initiated
- Contracts for 2021 implementation pending
- Work to commence late August or early September

THANK YOU

For more information, contact:
Heather Braun
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Canadian Wildlife Service
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Canada

2021 PHRAGMITES CONTROL ON CROWN LANDS

Francine MacDonald, Senior Invasive Species Biologist – Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry

Long Point Phragmites Project:

Successful cooperative management with the right tools

2015 – Long Point Phragmites Action Alliance formed to address critical threats to fish and wildlife, and species at risk (19)

2016-2020 - MNRF obtained Emergency Registrations (ER) from Health Canada to use Roundup Custom an overwater herbicide at Long Point.

- Project Team: Nature Conservancy of Canada, Ontario Parks, and Canadian Wildlife Service and many partners!
- >1380ha of Phragmites controlled at Long Point
- ~ 200 ha at Long Point Crown Marsh and Crown Tip
- 5-year environmental monitoring program has confirmed herbicide poses low risk *
    - Maximum exposure is low, well below thresholds of concern to aquatic life
    - Does not disperse far (<100m) and degrades quickly (~30d)

*Robichaud and Rooney, 2021. Low concentrations of glyphosate in water and sediment after direct over-water application to control an invasive aquatic plant. Water Research (188).

Project Status – Long Point Crown Marsh

- **Successful control!**
  - > 95 % reduction in live stem density after 4 years (compared to reference plots)
- **Native plants are returning!**
  - Years 2 and 3 – Secondary invaders dominated (e.g. European Frog-bit)
  - Year 4 – Native plants are resurging (e.g. Canada waterweed, Slender naiad, native pondweeds, bur-reeds)

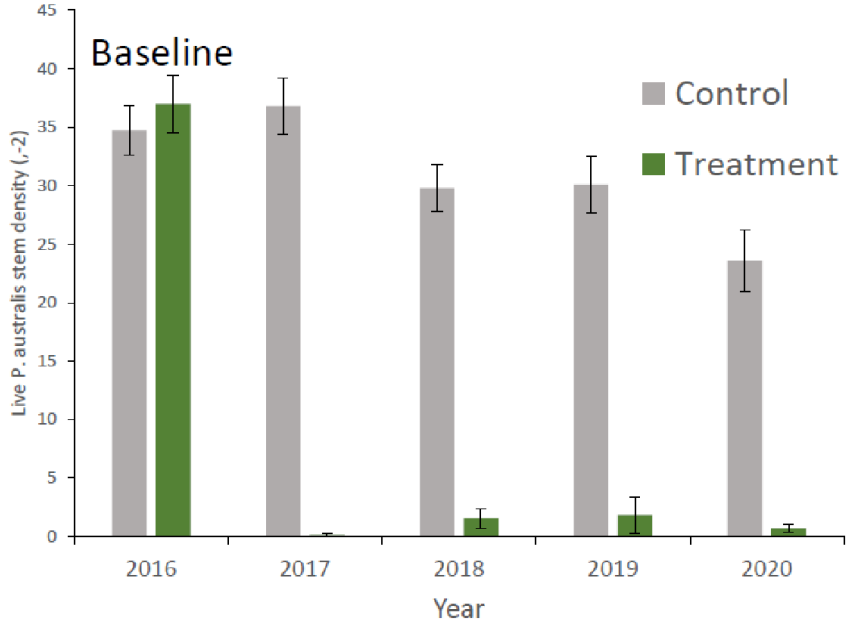

Photo and figure credits: Rooney Lab, University of Waterloo

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Long Point Crown Marsh – Next Steps

- **Resisting re-invasion of Phragmites**
  - Studying the seedbank; what native species can encourage resiliency in the wetland?
  - Understanding the role of water levels in invasion cycle
  - Continue long-term vegetation monitoring
- **Follow-up herbicide treatments**
  - Addressing regrowth of Phragmites with spot spraying with Habitat Aqua herbicide (imazapyr)* in aquatic areas as needed
  - Timing - August 15- October 31

Communities in control vs. treated plots

Treatment Plots natives: *Elodea canadensis, Myriophyllum* spp, *Najas flexilis, Potamogeton foliosus, Potamogeton zosteriformis, Sparganium* spp, *Zizania palustris*

* Habitat Aqua Herbicide (active ingredient imazapyr) was registered for use in Canada for control of Phragmites by Health Canada's Pest Management Regulatory Agency in March 2021.

Photo credits: Rooney Lab, University of Waterloo

Long Point Crown Marsh – 2021

Implementation

- Ground-based retreatments with Habitat Aqua will likely occur in similar locations as in 2020.
- Treatment sites will be small; focused on individual plants, and berms (<10ha)
- Timing: August 15-September 30
- Notification – Project updates will be posted at www.longpointphragmites.ca

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Thank you

For More Information:

Francine MacDonald

Senior Invasive Species Biologist

Biodiversity and Invasive Species Section

Ministry of Northern Development, Mines, Natural Resources and Forestry

Francine.macdonald@ontario.ca

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2021 PHRAGMITES CONTROL ON LONG POINT AND TURKEY POINT PROVINCIAL PARKS

Amy Hall, Assistant Ecologist, Ontario Parks, Southwest Zone

ONTARIO PARKS – PHRAGMITES PROJECT

Turkey Point, and Long Point Provincial Parks

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PHRAGMITES TREATMENT

- Past treatment with RoundUp Custom
- HabitatAqua registered for use over water in 2021

ONTARIO PARKS

TURKEY POINT: WORK COMPLETED TO DATE

- No 2020 over water treatment
- Past Treatment Methods
  - Ground applications
  - Stems rolled using specialized equipment
  - Prescribed burn attempted in March 2019
  - Remaining biomass cut/mulched

ONTARIO PARKS

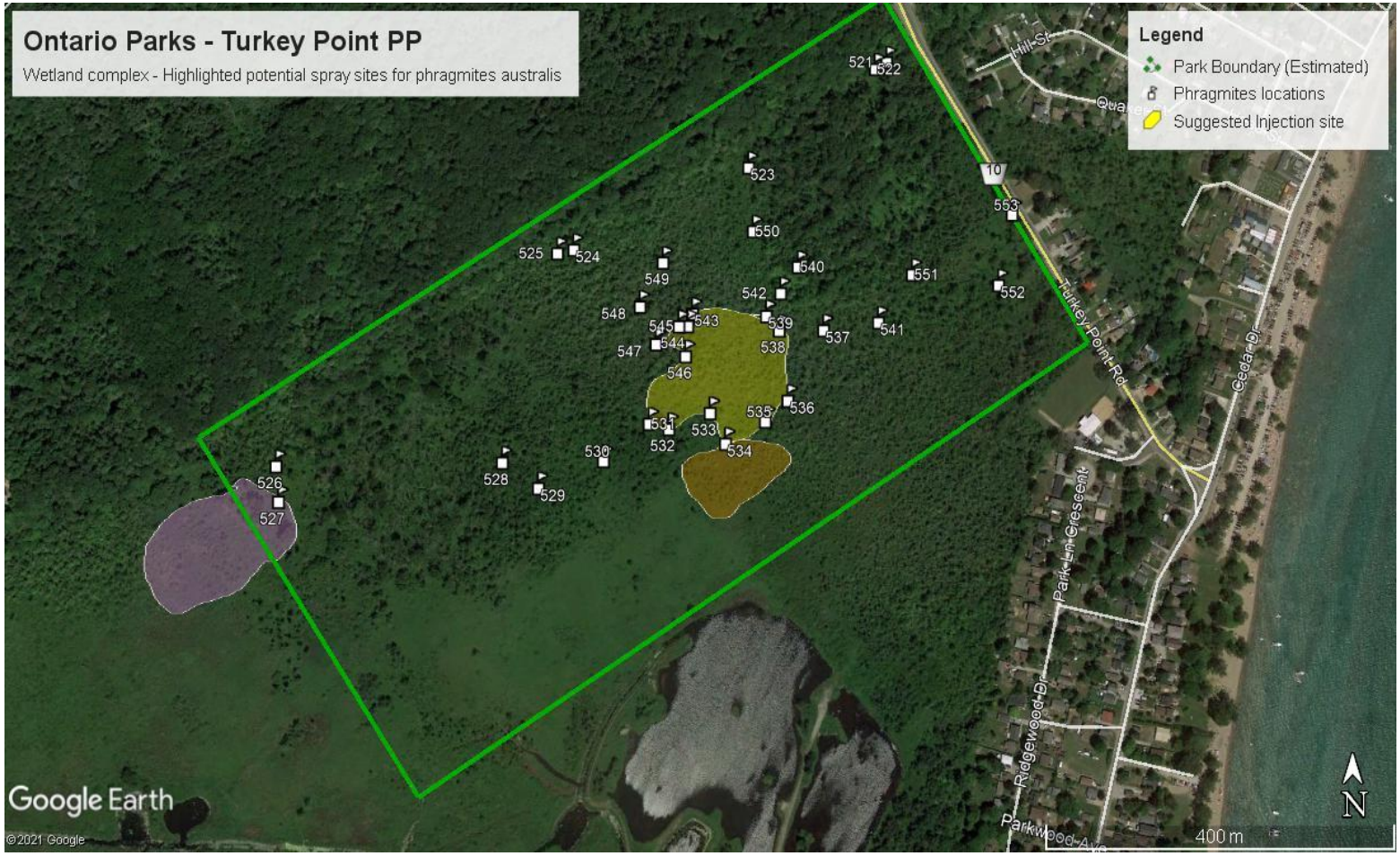
TURKEY POINT: WORK PLANNED FOR 2021

- Ground application
  - Backpack sprayers
- Marsh Master

ONTARIO PARKS

TURKEY POINT

- Total <2ha



LONG POINT:
WORK COMPLETED TO DATE

- 21.41 ha treated in 2020
- Past Treatment Methods
  - Aerial spraying
  - Rolling
  - Cutting
  - Boat/Ground application

ONTARIO PARKS

LONG POINT:
WORK PLANNED FOR 2021

- Estimated maximum 5-10% regrowth in previously treated areas
  - ~1-2 ha
  - Boat/Ground application
  - Marsh Master

Thank you,

Amy Hall, Assistant Ecologist
amy.hall@Ontario.ca

WRAP-UP & QUESTIONS