Invasive *Phragmites* Control Efforts at Rondeau Provincial Park and Long Point area

June 21, 2017

2016 Pilot Project

MNRF approved for Emergency Registration (ER) by Pest Management Regulatory Agency (PMRA) to control Phragmites in wet areas at Rondeau Provincial Park and Long Point area using Roundup Custom.

Summary of Highlights

- Aerial and ground treatments (500 ha) between September 6 and 23, 2016
- First time a project of this scale undertaken in Canada to control Phragmites
- Environmental monitoring with University of Waterloo to assess the project.
- Supported by;
  - Nature Conservancy of Canada , Ducks Unlimited Canada, Long Point Waterfowlers' Association, Bird Studies Canada, Long Point Company
  - Local Community and First Nations
  - Neighbouring jurisdictions (States of Michigan and Ohio)

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What is Phragmites?

- Canada's "worst" invasive plant
- Perennial grass creates dense impenetrable stands
- Ecological impacts
  - Contributing to the decline of **> 25%** of Ontario's SAR
  - Allelopathic
  - High biomass inhibits light penetration to other plants
  - Reduces shelter and foraging access for wildlife
- Economic impacts
  - Affects hydrology, agricultural drains, highway road sides
  - Affects recreation, and property values

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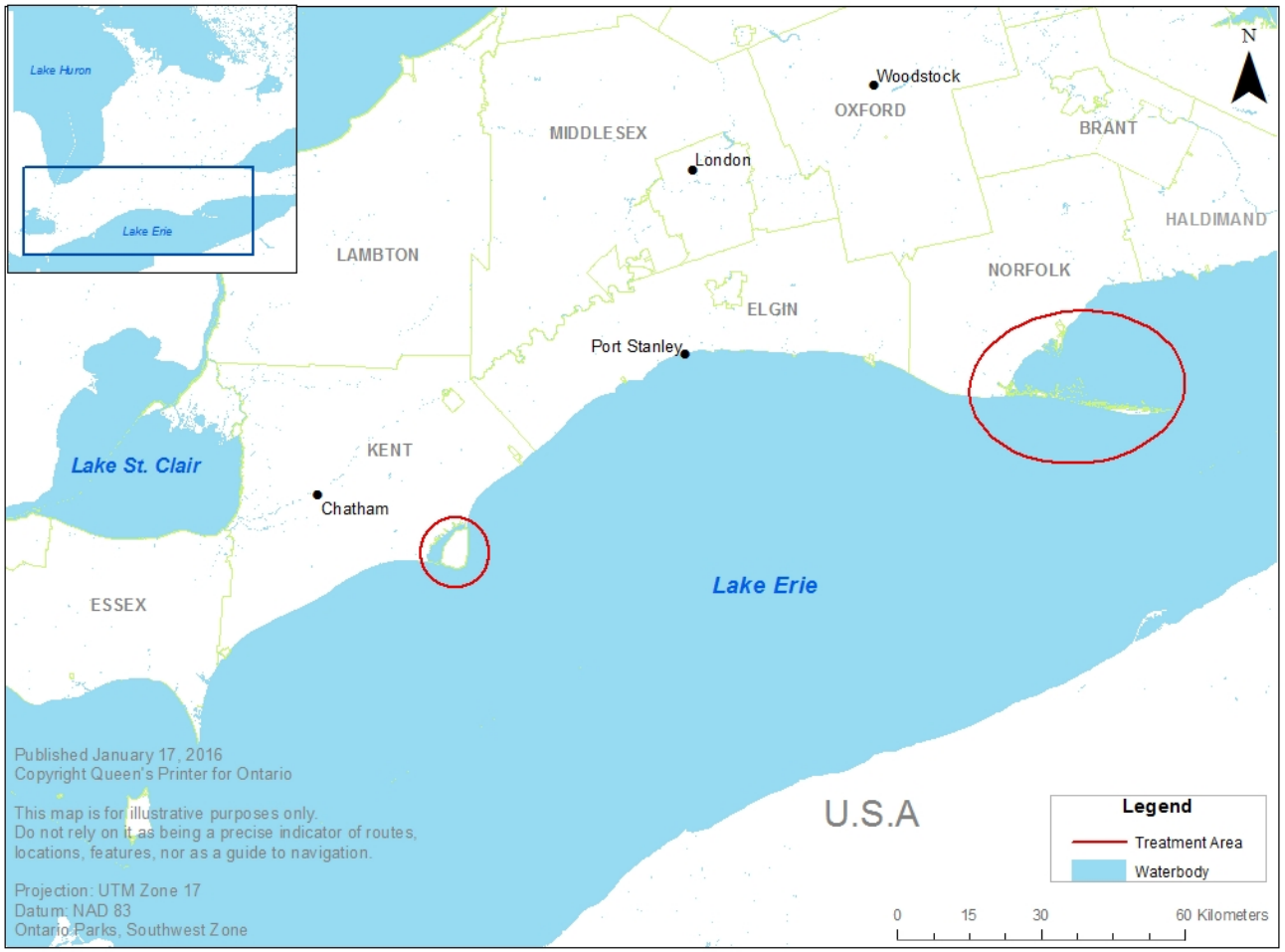
Project Locations



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Rationale for the ER at Long Point and Rondeau

Ecological Significance

- Global, national and provincial designations (i.e. UNESCO Biosphere Reserve, Earth Science and Life Science Areas of Natural & Scientific Interest, Provincially Significant Wetland, RAMSAR Site, Important Bird Area, etc.)
- Habitat for wetland species, including **23 species at risk**, and many provincially rare species

Threat From Phragmites

- Phragmites expansion poses an imminent threat to SAR and their habitats
- Long Point and Rondeau are at an ecological tipping point. If action is not taken these values are at risk of becoming critically imperilled.



Steps to Implementation in 2016

Developing the Rationale

(Feb' 15 – Jan'16)

Letters of Support from MOECC, and the Registrant

Involving Key Partners

MNRF Class Environmental Assessments

Communications

Stakeholder Engagement

First Nations (10 communities)

Public Notifications

Authorizations

PMRA – Emergency Registration

DFO – Fisheries Program Review and SAR Permit

MOECC Permits to Perform an Aquatic Extermination

Implementation

Aerial and ground herbicide treatment(s)

Rondeau (100ha)

Long Point (400ha)

Rolling/and prescribed burn

planned Feb 2017

Monitoring and Evaluation

Herbicide efficacy

Fate of herbicide

Effects on sensitive communities

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Aerial Application (440ha)

Application:

- Eurocopter A-Star
- Equipped with GPS guidance and mapping (Ag-Nav), Auto-booms, Accu-Flo nozzles
- RoundUp Custom applied at 8.77 L/Ha
- Aquasurf non-ionic surfactant added at 0.85% v/v
- Aircraft calibrated to consistently deliver droplets in the ASAE coarse to very coarse range
- Maximum helicopter speed while spraying was 60km/hour, 3m above plants

Wind and Weather Conditions:

- No rain or forecasted for 12 hrs, no morning dew
- Winds less than 16km/hour

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Ground Application: Long Point Area

Total ground treatment: ~40ha

"The Marsh Master"

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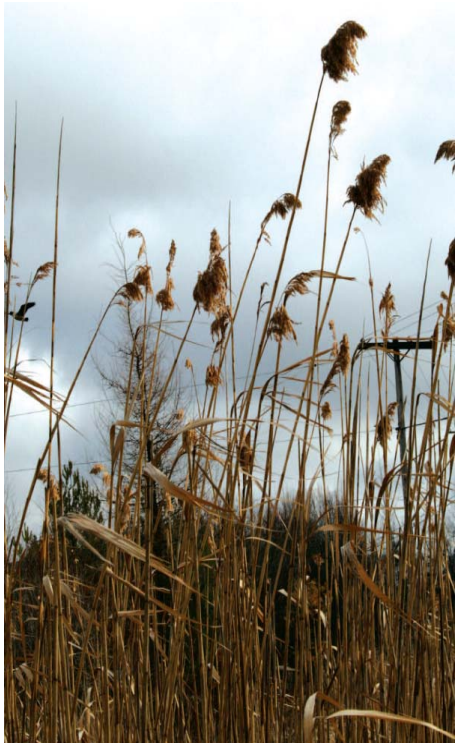
Environmental Mitigation

Application

- Herbicide application followed all requirements outlined by PMRA, MOECC and product label
- Weather conditions ensured minimal off-target deposition
- Application occurred during vulnerable life stages of *Phragmites*



Reducing non-target impact to wildlife and plants:

- Herbicide application occurred over dense Phragmites stands
- Timing window factors
  - Outside of bird breeding/nesting window
  - Critical insect life stages complete
  - Most native plants have senesced
  - Amphibians and reptiles will be staging
  - Outside of hunting days

Environmental Monitoring

- MNRF is partnering with the University of Waterloo to monitor the pilot:
  - Efficacy of herbicide treatment
  - Effects of the control on sensitive communities
  - Fate of glyphosate, AMPA and the adjuvant in water and sediment at the treatment sites, and their dispersal from treatment sites

- MNRF also conducted additional monitoring as part of permit conditions
  - Glyphosate concentrations in ambient water samples within 800m of shoreline residences adjacent to the treatment area at Long Point
  - Effects of the control activity on fish and fish habitat


Photo: Rebecca Rooney (UW)

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Post-Treatment Activities

Following herbicide application:

- MNRF's BMP recommends follow up controls (e.g. rolling and prescribed burn) in winter.
- Approach dependent on site conditions

Long Point

- Combination of rolling and cutting were applied in treated areas in Feb/Mar 2017
- Prescribed burn not possible

Rondeau

- Site conditions not conducive in 2017. Planned for 2018

June 2017

- Assessment of efficacy and areas for retreatment/expansion.

Post Treatment Activities

March 2017 – Cutting

Apr 2017 –Northern pike spawning in cut Phragmites

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Next Steps

Pilot provides the foundation for restoring Rondeau and Long Point

- Control must continue within these sites to ensure investments are not lost
- Control is consistent with MNRF's Best Management Practices for Phragmites.

Control of Phragmites consistent with government commitments

- E.g. Ontario Invasive Species Strategic Plan, Government Response Statements for SAR, Wetland Conservation Strategy

Strong public support for continued efforts at Long Point and Rondeau (and elsewhere) in the province

Much of the groundwork has been laid for 2017

- Monitoring, implementation and notification plans have been developed
- Permitting processes have been clarified
- Pilot provides opportunity to continue research and environmental monitoring

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Partners and Acknowledgments

- MNRF Project Team: Aylmer District, Ontario Parks Southwest Zone, Natural Resources Conservation Policy Branch, Aviation Forest Fire and Emergency Services, Crown Forests and Lands Policy Branch
- Monsanto Canada
- Nature Conservancy of Canada
- Ducks Unlimited Canada
- University of Waterloo
- Long Point Company
- Bird Studies Canada
- Ontario Invasive Plant Council
- Long Point Waterfowlers' Association
- Rondeau Bay Waterfowlers
- Long Point Ratepayers' Association
- Norfolk County
- Haldimand-Norfolk Health Unit

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Thank you!
Photo: Ontario Invading Species Awareness Program

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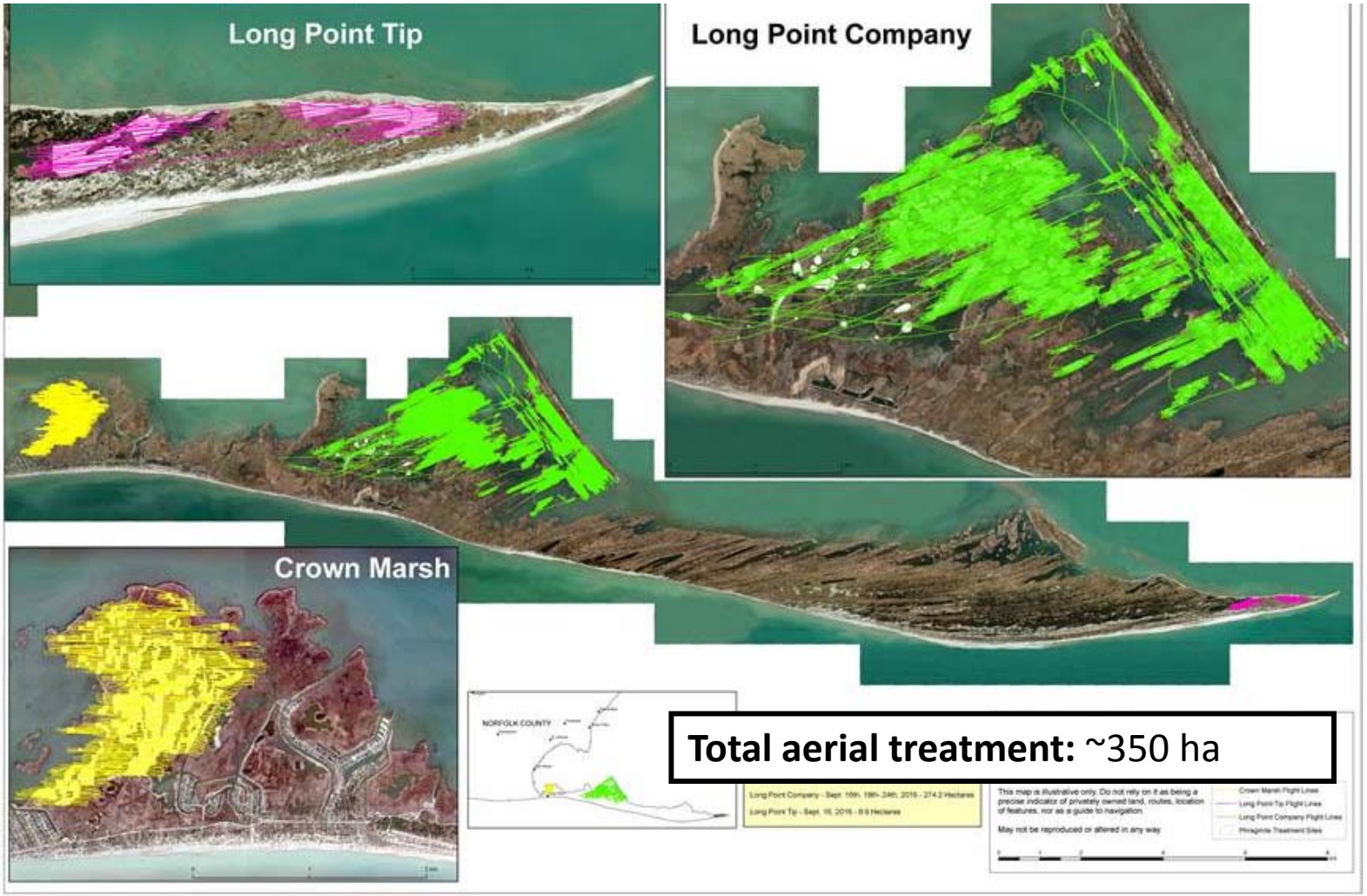
Flight Summary: Long Point Region



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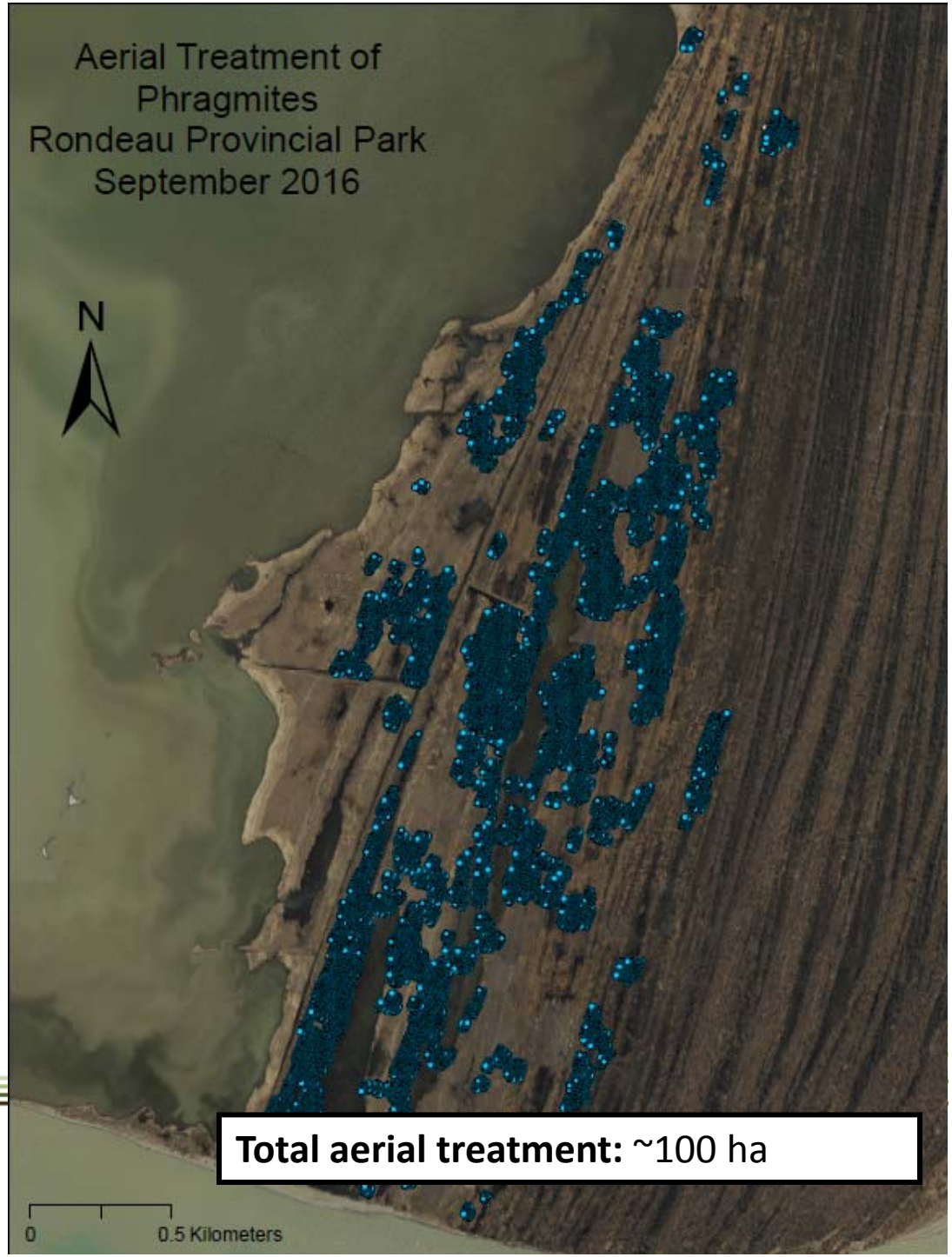
Flight Summary: Rondeau Provincial Park



Total aerial treatment: ~100 ha