

# Managing introduced Phragmites as communities and drone scouting other invasives

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# **Invasive Species: Introduction**

The risks they pose

- Invasive species: introduced + causes harm
  - Ecosystem
  - Economy
  - Human health
- Reproduce aggressively, for plants often vegetatively
- Often spread/introduced accidentally by us
- Common invaders, emerging threats, and high priority





Phragmites australis subsp. australis

The spread of European Common Reed

- Grass introduced from Europe unintentionally, likely

shipping ballast

Spread today by construction transport corridors, accident

Plant methods of spread:

- Seeds

Rhizomes

Stolons

Adventitious roots

Fragments



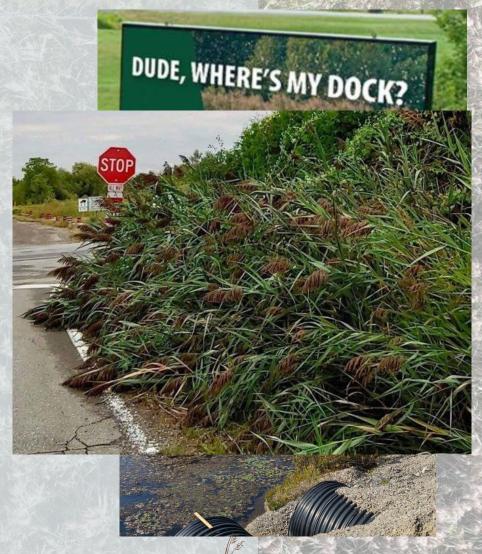
regetative



### Phragmites australis subsp. australis

The impacts of European Common Reed

- Problematically grows dense, tall, and quickly into monocultures
  - **Ecosystem**: displaced native plants, stuck turtles, lower water table, habitat loss for species at risk
  - Economic: lowered property value, management costs, agricultural losses
  - **Human**: can impede drains, block infrastructure access, block sightlines, impede recreational activities, fire hazard





#### **Methods of Control**

The tools in our toolbox to address Phragmites

- Phragmites does not respect property lin
- Invasive Phragmites Best Management P
- For the goal of eradication:
  - Herbicide
  - Cut-to-drown
  - Spading
- For the goal of suppression:
  - Biological control





## Addressing the Threat as a Community

How OPA is facilitating a landscape approach

- Ontario Phragmites Action (OPA) is establishing Phragmites
   Management Areas (PMAs)
  - Forming communities for collaboration, share resources, overcome jurisdictional boundaries
  - Can be defined by any number of features
- Consider unique regional strengths, challenges, needs
- 3-year program funded by the Ontario Ministry of Natural
   Resources which began in 2024









## **Ontario Phragmites Action**

Results and resources

- PMA successes
  - Mapping data
  - Treatment along roads
- OPA resources
  - Invasive Phragmites Control Fund
  - Genetic testing
  - Training events, resource development
  - Biocontrol development



**Control Fund** 

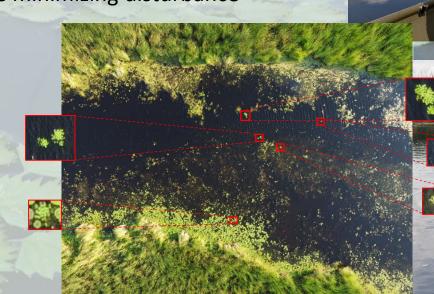
**Ontario Phragmites Action** 



# **Drone-driven invasive mapping**

Developing an AI tool to make detection streamlined

- European Water Chestnut: invasive floating plant
  - Forms dense mats, can cause fish kills, has sharp seedpods
- Drone imaging facilitates scouting while minimizing disturbance
- Image processing time-consuming
- DUC partnership with Saiwa Inc.
  - Development of Al tool
  - Much faster image turnaround





# **Drone mapping future**

Expanding DUC's tool to emerging threats

- Water Soldier: a new threat
  - Dense mats crowd out other plants, alters water
     chemistry, serrated leaves can cut swimmers
- Recently found in Lake Simcoe: huge risk for spread from human activity
- Expanding use to new invasive species to facilitate rapid
   response to new threats









#### **Actions You Can Take**

For Phragmites and other invasive species

#### - Prevention:

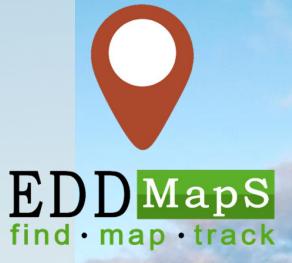
- Don't buy invasive plants or gift them to neighbours
- Don't move firewood or disturb invasive species
- Clean, drain, and dry watercraft & clean your hiking boots

#### - Mapping and sightings:

- OFAH Invading Species Hotline
- EDDMapS
- iNaturalist (with Seek)
  - Protect native lookalikes

#### Active removal:

- Organize a volunteer removal with your lake association
- Join a local PMA or participate in PMA-organized events





Invading Species Hotline

1-800-563-7711

#### Get Involved with a PMA

**OPA Regional Coordinator Contacts** 

North Region – Derissa Vincentini dvincentini@invasivespeciescentre.ca

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

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