

Photo: Alain de Maximy

Controlling Canada's "worst" invasive plant species

THE PROBLEM

Phragmites australis is an invasive plant species that was introduced in Canada in the early 1900s. It can establish easily, spread quickly, and can fundamentally alter wetland ecosystems through accelerating carbon cycling, increasing standing nutrient stocks, blocking light, and altering temperature. It threatens 1 in 4 species at risk in Ontario and has economic and societal impacts such as impeding drainage of agricultural ditches, reducing property values, limiting recreation opportunities, and creating traffic hazards.

BIOLOGICAL CONTROL

Biological control ("biocontrol") of invasive plants uses living organisms that are natural enemies of the target plant. It is a cost-effective option that provides long-term, self-sustaining invasive species suppression. Agents are host-specific (no harm is done to non-target native plant species) and agents can travel to nearby populations to provide the same benefits.



Photo: Claire Schon

PHRAGMITES BIOLOGICAL CONTROL PROGRAM

- Development began in 1998 through research into *Phragmites* native range and possible biocontrol agent candidates
- Two species of stem-boring moths found: both feed on *Phragmites australis* and cause significant damage to *Phragmites*
- Eggs are laid on leaf sheaths of *Phragmites*, caterpillars hatch from eggs and then bore into the *Phragmites* stem
- In 2019, the stem boring moths were approved for Canadian release as invasive *Phragmites* biocontrol agents
- To date, ~24,000 insects were released in 30 sites across Ontario by researchers at University of Toronto and Agriculture and Agri-food Canada (along with help from an international team of collaborators), and research on the impact found that the agents reduce the health and vigour of invasive *Phragmites*
- Biocontrol has the potential to disrupt competitive dynamics between invasive *Phragmites* and native plants, allowing for plant community recovery

RESOURCES

- Read [publications](#) about invasive *Phragmites* and biological control methods, including this paper by [McTavish et. al \(2023\)](#).
- Learn more about invasive *Phragmites*: [Ontario Invasive Plants](#), [Great Lakes Phragmites Collaborative](#), [Invasive Phragmites Control Centre](#), and [Invasive Species Centre](#).
- Download the [information handout](#) and [watch the recording](#) of Janice Gilbert's Freshwater Stewardship webinar about invasive *Phragmites*.
- Join a local group working to remove invasive *Phragmites*, such as The Land Between's "[Phrag Fighter Program](#)".
- Learn about [The Natural Edge](#) and use the free, Canada-wide [Native Plant Database](#) to naturalize your shoreline.
- Report sightings of invasive species on [iNaturalist](#) and [EDDMaps](#).

Join the free Freshwater Stewardship Community!
watersheds.ca/freshwater-stewardship

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