

European Common Reed (*Phragmites australis*)

- *Phragmites australis* is a robust perennial grass capable of developing into large mono-dominant stands
- In 2005 it was recognized as Canada's worst invasive plant
- *Phragmites* colonizes new sites via seeds, rhizomes, and stolon dispersal
- Seeds can be dispersed by winds, up to a ~ 10 km radius
- Seeds, rhizomes, stolons and stems can be dispersed by flowing water
- Disturbed sites are most vulnerable to colonization
- Once plants become established expansion is exponential via stolons and rhizomes
- Roadside ditches are the primary spread vectors
- Humans spread *Phragmites* throughout the province via movement of contaminated heavy equipment
- Spread is also increasing due to ATV and other off road vehicle use



Contributors

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The **Ontario *Phragmites* Working Group** (OPWG) is non-profit and volunteer based. OPWG was established in 2011, and is composed of dedicated people working together to facilitate effective, efficient and environmentally responsible management of invasive *Phragmites* in Ontario.

OPWG became a committee of the Ontario Invasive Plant Council in October 2013.

More information about OPWG can be found at:
<http://www.opwg.ca>



Smart Practices for Controlling Invasive *Phragmites* in Ontario's Roadside Ditches



Boom sprayer used to control roadside invasive *Phragmites*

Negative Impacts

- Phragmites is a strong competitor for nutrients and can survive, and even thrive, in a wide variety of conditions
- Phragmites is allelopathic, exuding chemicals from its roots that harm other plants
- There are no natural controls to keep Phragmites in check
- Its typical growth habit is to develop into dense, mono-culture cells
- Native plant species cannot effectively compete against Phragmites
- Wildlife may use the edges of a Phragmites cell, but the interior sections are effectively dead zones
- A high number of Species at Risk are negatively impacted by Phragmites
- Phragmites can grow so tall and thick that cells become effective barriers along shorelines, impacting recreational access, aesthetic enjoyment and property values
- During the dormant period the standing dead biomass presents a significant fire hazard to infrastructure and residential areas
- Phragmites plugs agricultural drainage ditches and tiles creating flooded conditions and impacting crop yields
- Phragmites blocks site lines along roads creating safety hazards



Control Methods

Mowing/Cutting

- Cutting will not cause Phragmites mortality, but it may slow growth, reduce stand density and reduce seed head development
- The entire cell should be cut, and a regular cutting regime must remain in place for perpetuity since the plants can grow quite rapidly and dense cells can re-establish once cutting discontinues
- In areas where conventional riding mowers are currently being used, Phragmites will need to be cut in the spring before attaining a height that prohibits mowing
- Cutting should be done early and often to stress plants, and sites will require frequent cutting throughout the growing season, since Phragmites growth is fairly rapid even during hot, dry periods



Boom mower cutting invasive Phragmites along a road

Excavation

- If an infested ditch is to be excavated, it is highly recommended that the Phragmites be sprayed at least three weeks prior to this work being undertaken
- Options for disposing of contaminated spoil include composting, burying, burning or disposal in an open field where emerging plants can be treated
- Excavated Phragmites material must be contained, to ensure seeds or other viable plant parts do not escape while on route to the disposal site

Herbicide Application

- Only Integrated Pest Management (IPM) certified operators may apply herbicides in Ontario
- With proper timing, concentration and application methods, Phragmites can be brought under control using herbicides effectively, efficiently and environmentally responsibly
- Currently only two products are legally available in Canada to control Phragmites australis; Weather-MAX® and VisionMAX; neither product can be applied over water
- The recommended concentration of either product for the control of Phragmites is 4.5% - 5%.
- The surfactant MSO Concentrate Methylated Seed Oil should be added (1% concentration) to increase plant uptake and improve herbicide efficacy
- The entire cell should be treated, followed by touch-up spot spraying after 3 weeks
- Treatment should occur when plants are ~1.5 m tall with sufficient leaf surface to intercept the spray, up until the first heavy frost
- New Wet Blade technology has recently been used to control Phragmites within sites that cannot be sprayed using conventional herbicide application equipment
- The Diamond WetBlade system applies herbicide, directly to the cut stems simultaneously while mowing,



A Diamond WetBlade System