

# Invasive Reed Canary Grass

(*Phalaris arundinacea* subsp. *arundinacea*)

Best Management Practice Technical Document for Land Managers

March 2017

## - DISCLAIMER -

The intent of this document is to relay specific information relating to invasive plant control practices that have been advised by leading professionals across Ontario. This document contains the most up-to-date research and knowledge available at the time of publication and reflects current provincial and federal legislation regarding pesticide usage. It is subject to change as legislation is updated or new research findings emerge and is not intended to provide legal advice. The timing suggested will differ throughout Ontario and should be tailored to your region.

**Use this document after** you have performed monitoring, assessed your priority areas and made sure that the control options listed in this document are allowed and appropriate on your site. For more information, please refer to the Ontario Invasive Plant Council's Best Management Practices document for invasive reed canary grass.

## Strategy and Cautions

- Reed canary grass is difficult to control due to its persistent rhizome system and its ability to reproduce by both seeds and rhizomes. Burning, mowing or cutting can actually stimulate additional stem production.
- Remove the outlying, smaller populations (isolated plants or satellite populations) first to prevent further spread.
- Small populations ( $\leq 10 \text{ m}^2$ ) and populations in areas where herbicides are not allowed can be effectively controlled by digging them out.
- For large populations ( $> 10 \text{ m}^2$ ) where chemical treatment is allowed, herbicide application early in the growing season can be effective.

**Caution:** When applying manual control, the entire root must be removed to prevent re-sprouting.

### Management of Small Populations ( $\leq 10 \text{ m}^2$ )

Small populations and populations in areas where herbicides are not allowed can be effectively controlled by digging out and removing the entire root mass. This can be done at any time of the year but is easiest after a rain when the soil is soft and pliable. **Note:** The entire root mass and rhizomes must be removed or re-sprouting will occur.

### Management of Large Populations ( $> 10 \text{ m}^2$ )

A foliar application of a glyphosate-based herbicide is recommended for large populations. Combining herbicide treatment with a manual control can also be effective. Remove the above-ground dead material by mowing or burning and then allow the plants to regrow to about 15 cm in height before applying the herbicide. This will result in better herbicide coverage and reduce total herbicide use. Treatment may be necessary for several years to ensure complete control. Pesticide drift may prohibit pesticide use near water.



## Legal Considerations and Regulatory Tools for Chemical Control

Herbicides must be applied in accordance with the federal *Pest Control Products Act*, the Ontario *Pesticides Act*, Ontario Regulation 63/09 and in accordance with all label directions. Ensure you have the most current label and are aware of any re-evaluation decisions. The easiest way to find a chemical label is by using the PMRA's label search tool, which can be found by searching "PMRA label search" in any major search engine. Only licensed pesticide applicators are legally allowed to apply restricted pesticides in Ontario.

Ontario's *Cosmetic Pesticides Ban Act* prohibits the non-essential use of prescribed pesticides (Class 9) on land. Exceptions exist to allow the use of these herbicides for control of plants, such as invasive reed canary grass, that are detrimental to the environment, economy, agriculture and/or human health. To qualify for these exceptions specific criteria must be met and appropriate ministry approval is required.

**Table 1:** Exceptions to the Ontario *Cosmetic Pesticides Ban Act* which may be applicable for control of invasive reed canary grass.

<b>Public health or safety:</b>	Infestations can clog drains, ditches, wetlands and waterways which can lead to increased flooding.
<b>Forestry:</b>	Invasive reed canary grass grows densely, preventing or crowding out natural regeneration of wetland trees and shrubs. This exception therefore applies to treed areas greater than 1 hectare.
<b>Natural resource:</b>	Invasive reed canary grass aggressively displaces native wetland species and changes the hydrology of natural water systems.

For more information on these exceptions and applicable procedures, please refer to the Ontario Invasive Plant Council's Best Management Practices document for invasive reed canary grass.

## Herbicide Selection and Application

Professionals consulted for this document recommend using a glyphosate-based herbicide. Herbicide application needs to be applied annually until the seedbank is exhausted and/or other vegetation is sufficiently established.

**Table 2:** Chemical control techniques recommended by experts for invasive reed canary grass.

Chemical Control Method	Chemical and Concentration	Timing and Application	Details
<b>FOLIAR</b>	Glyphosate (6% solution*).	Summer to early fall.	Must have growing leaves present to be effective.

\*Based on a product containing 540 g/l of chemical. Please read the label in full before use to ensure that these recommendations meet the requirements of the herbicide you have selected.

## Disposal

Do not compost viable plant material (rhizomes, stems and seeds) at home or send to landfill. If your municipality has a high-heat compost program, plants can be sent there. Alternatively, solarize viable plant material by placing it in sealed black plastic bags and leaving them in direct sunlight for 1-3 weeks. Alternatively, place in yard waste bags, cover with a dark-coloured tarp and leave in the sun for 1-3 weeks. Non-viable plant material can be burnt.

## Rehabilitation and Monitoring

Reed canary grass can outcompete native species in wetlands with high nitrogen content and excess nutrient run-off. Reducing the nitrogen entering the wetland system may better allow native species like Sedges (*Carex* spp.) to compete. This can be done through the addition of carbon or sawdust mulch, reducing run-off or changing farm practices/timing of fertilization. Avoid using fertilizer within 30 m of wetlands. Planting a buffer of native trees and shrubs at least 20 m in width around a wetland will help to shade out the reed canary grass. Alternatively, reduce the dominance of invasive canary grass by mulching the colony with finely ground woodchips or sawdust to reduce nitrogen availability, followed by planting of competing native species. Follow-up monitoring and removal of new growth is crucial for the following 10 years.