



Catalyst for research and response

SITE PRIORITIZATION TOOL FOR CONTROL OF INVASIVE PHRAGMITES

Population ID: _____	Date: _____
Location: _____	Observer: _____
GPS Coordinates: _____	Municipality: _____

1. Ecological Criteria

Value Score

1. **Local Abundance** – Is invasive *Phragmites* locally abundant in the general area (e.g. within 5 kilometers)?

Virtually absent locally (<10% infested).	10 points	
Moderate to low abundance (10% to 50% infested).	5 points	
Very abundant (>50% of similar habitat is infested).	1 points	

2. **Infestation Size** – How large is the invasive *Phragmites* infestation (approximate patch size)?

Less than 50 m ² .	8 points	
50 m ² to 0.5 ha.	6 points	
0.5 ha acre to 5 ha.	4 points	
Greater than 5 ha.	2 points	

3. **Linear Feature** – Is the infestation in a linear feature, such as a roadside ditch, drain, utility corridor, shoreline, etc.?

Yes – the infestation is in a linear feature.	9 points	
No – the infestation is not in a linear feature.	5 points	

4. Seed Source – Is the area acting as a potential seed source to non-infested areas?

The patch size is less than 0.5 ha AND the entire area will be treated.	8 points	
The patch size is less than 0.5 ha AND the entire area will NOT be treated.	1 point	
The patch size is more than 0.5 ha AND the treatment is on the edge of the infestation OR the entire area will be treated.	3 points	
The patch size is more than 0.5 ha AND the treatment is NOT on the edge of the infestation OR the entire area will not be treated.	0 points	

5. Habitat Suitability & Conservation Value – What is the habitat quality and conservation value relative to similar natural community types?

Excellent – This area is an excellent example of a natural community (e.g. Predominantly native species with high diversity, critical habitat for many provincially and federally risk species AND abundant wildlife features such as nesting, breeding or rearing areas).	7 points	
Good – Not excellent, but still a good example of a natural community (e.g. Good diversity of native species with a moderate amount of wildlife habitat features including nesting, breeding or rearing areas, no locally rare species observed).	5 points	
Poor – Degraded habitat, poor example of a natural community (e.g. Low diversity of native plant species with limited habitat features and sparse wildlife features such as breeding or rearing areas, no locally rare species observed).	3 points	

6. Proximity to Sensitive Areas – How close is the site to the nearest Provincial or National Park, Crown Land, Provincially Significant Wetland (PSW), Area of Natural and Scientific Importance (ANSI), or similar area of local natural history importance?

Sensitive area located within likely dispersal distance (<5km).	7 points	
Sensitive area located within plausible seed dispersal distance (<10km).	4 points	
No locally occurring sensitive areas, or proximity to of sensitive areas unknown .	1 point	

2. Human Values Criteria

Value

Score

1. **Aesthetics** – What is the severity of the aesthetic impacts of the invasive *Phragmites* infestation?

Severe – Entirely blocking shoreline views of water bodies, inhibiting public scenic road or waterway views, etc.	3 points	
Moderate – Some (but not entire) blockage of shoreline or other public scenic views.	2 points	
Mild – Little to no blockage of shoreline of shoreline or other public scenic views .	1 point	

2. **Community Impacts** – Is the invasive *Phragmites* negatively impacting community or recreational opportunities at this site?

Severely impacting recreation – Obstructed boat or walking access to water, limited use of the area by waterfowl or fish, limited visibility inhibiting bird watching, hunting, etc.	8 points	
Moderately impacting recreation – Reduced boat or walking access to water, reduced use of the area by waterfowl or fish, reduced visibility for bird watching, hunting, etc.	5 points	
Not impacting recreation – Little to no impacts on recreational activities.	1 point	

3. **Human Safety Hazard** – Is the invasive *Phragmites* infestation causing a human safety hazard?

Significant hazard – Blocking views along major roads and intersections, fire-prone dry thatch accumulated near homes & buildings, likely to block waterway causing floods, etc.	10 points	
Moderate hazard – Currently not, but has the potential to block views along roads and intersections, some dry thatch adjacent to buildings, could block waterways, etc.	5 points	
No apparent safety hazard.	1 points	

3. Feasibility & Coordination of Treatment Criteria

Value

Score

1. Ownership – Property ownership/location.

Single patch ownership – Population owned by one individual/organization.	5 points	
Shared patch ownership – Established working relationship.	5 points	
Shared patch ownership – No working relationship OR ownership unknown.	1 point	

2. Nearby Treatment Sites – invasive *Phragmites* control is most effective when coordinated between various sites. Are you aware of any nearby *Phragmites* treatment efforts (previous or future)?

Yes – This site is near (e.g. within 1.5 kilometer radius) another site where invasive <i>Phragmites</i> treatment is planned and will be conducted in synchronization with pooled resources, etc.	10 points	
Maybe – Unsure, at this point, if nearby treatment is being planned.	5 points	
No – The site is not near any other planned treatment sites.	1 points	

3. Difficulty of Treatment – How difficult would treatment be at this location?

Very easy – Easy access to the entire invasive <i>Phragmites</i> infestation, and you have access to the proper equipment. No apparent physical barriers (e.g. steep slope, high-traffic areas, etc.). Minimal impacts on non-target natural resources (e.g. native vegetation/habitat) due to use of invasive <i>Phragmites</i> Best Management Practices. Experience with permitting process (if necessary). Follow-up spot treatments (as needed) will be considered.	15 points	
Moderate – Easy to moderate accessibility to the infestation, and you have access to the proper equipment. Physical barriers (if applicable) to site are easily avoided. Using best management practices will minimize negative impacts to native vegetation/habitat. Limited experience with permitting process (if necessary). Follow-up spot treatments are unlikely or difficult.	10 points	
Difficult – Difficult or impossible to access the entire invasive <i>Phragmites</i> infestation or you do not have access to the proper equipment. Physical barriers (e.g. steep slope, high-traffic areas, etc.) present treatment complications. Treatment may cause excess damage to natural resources. No experience with permitting process (if necessary). Follow-up spot treatments are impossible.	5 points	

TOTAL SCORE – Combine Ecological, Human Values, and Feasibility & Coordination of Treatment Criteria.

User Guide

I. ECOLOGICAL CRITERIA

- 1. Local abundance** – This criterion is included to recognize how abundant invasive *Phragmites* is within nearby similar habitats. Greater local abundance would suggest that more potential seed sources are available to reinvade an area. A site which has few or no local infestations of invasive *Phragmites* may be expected to have a greater chance of remaining *Phragmites*-free after management.
- 2. Infestation size** – More points are awarded to smaller sites (e.g. satellite populations) as they are relatively easy to manage successfully. Smaller populations can grow in size very rapidly and soon become key sources of seed dispersal.

Approximate Size Comparisons	
50 m ²	1 mini school bus X 1 mini school bus
0.5 ha	Nearly 1 international soccer field (FIFA)
5 ha	Nearly 7 international soccer fields (FIFA)

Linear feature – The tool recognises that linear features (e.g. municipal drains, roadside ditches, utility corridors, etc.) are a conduit for rhizomal spread of invasive *Phragmites*, and advises their prioritization in management.

- 3. Seed source** – This criterion attempts to rank sites based on the probability that the population could act as a source of spread through seed dispersal, even after treatment. The probability that the entire infestation will be successfully managed is greater on sites where both the total patch size is smaller, and the entire area will be treated, thereby reducing the likelihood of further spread.
- 4. Habitat quality & ecological value** – This criterion requires the user to compare characteristics of the site’s habitat and ecological quality to similar (reference) communities. The user should have some ecological knowledge of the type of natural communities found across Ontario. Some of these characteristics the user should consider include:
 - Dominance and diversity of native plant species
 - Variation in plant growth forms (trees, shrubs, herbaceous)
 - Habitat features including hummocks, woody debris, open space & cover
 - Fish, wildlife, and waterfowl breeding, rearing & nursery areas
- 5. Proximity to sensitive areas** – Proximity to sensitive areas has been included to emphasize the importance of protecting potentially vulnerable habitats from an invasive *Phragmites* invasion. Studies have suggested invasive *Phragmites* seed can sometimes disperse as far as 10 km by wind dispersal, with more conservative estimates of wind dispersal sitting around 5 km. To limit potential spread of existing populations to *Phragmites*-free habitats we recommend being aware of any sensitive habitats located nearby. To find sensitive habitats (e.g. Areas of Natural and Scientific Importance, Provincially Significant Wetlands, etc.) use the Ministry of Natural Resources and Forests “Make a Map” web application by searching “OMNRF Make a Map”.

II. HUMAN VALUES CRITERIA

- 1. Ownership** – Ownership status (jointly owned, publically, privately, etc.) can change the complexity of creating an effective management strategy and limit or enhance opportunities to engage and promote the goal of the project. *An established working relationship may include previous collaboration on a similar project, strong understanding of each organizations strengths and abilities, or similar familiarity.*
- 2. Aesthetics** – *The aesthetics of a site can be severely impacted by tall, dense invasive Phragmites stands. Established populations can block and inhibit shoreline views along scenic roads. Those patches which have a greater impact on the aesthetic use of a site receive greater management priority in this tool.*
- 3. Recreational impacts** – *Infestations of invasive Phragmites can severely inhibit boating, walking, swimming, and hunting access to water bodies, reduce waterfowl and fish abundance in an area, and reduce visibility for bird watching, hunting, fishing, etc. Those populations with greatest impact to recreational land use receive greater management priority.*
- 4. Human safety hazard** – *There are very rare instances where infestations of invasive Phragmites can cause a potential human safety hazard. Most sites are ranked as “No apparent safety hazard”. However some examples of unique human safety hazards may include:*
 - *Invasive Phragmites infestations tall and dense enough to block sightlines at busy road intersections, potentially contributing to traffic accidents.*
 - *Large accumulations of fire-prone, dry invasive Phragmites thatch accumulated directly adjacent to homes, buildings, or other high-density features.*

III. FEASIBILITY/COORDINATION OF TREATMENT

- 1. Nearby treatment sites** – In order to maximize the efficacy of efforts for regional invasive Phragmites management, it is most effective to prioritize populations that are near each other. This encourages management of sites using similar treatment methods and equipment, (e.g. within 2 km of each other) often maximizing efficiency.
- 2. Difficulty of treatment** – *Effective treatment of some sites may be impeded by access, permitting, or other factors. To encourage control projects with a high likelihood of success, this tool favours invasive Phragmites management efforts on populations where treatment difficulty is low.*

Additional Web Resources for Phragmites Management:

[OIPC Phragmites BMP](#)

OIPC Phragmites Road BMP

[Ontario Phragmites Working Group website](#)

[Phragmites Fact Sheet link](#)

Frequently Asked Questions

1. What is the Site Invasive Prioritization Tool for Control of Invasive Phragmites?

The *Phragmites Management Site Prioritization Tool* was designed by the Ontario Invasive Plant Council to help land managers rank the treatment order for numerous invasive *Phragmites* populations. The Michigan Department of Environmental Quality is responsible for developing the concept, which was later modified for use in Ontario.

2. What are the limitations of the Site Prioritization Tool for Control of Invasive Phragmites?

The *Site Prioritization Tool for Control of Invasive Phragmites* is designed for those organizations who manage invasive *Phragmites* populations at the municipal, regional, or watershed level in Ontario. Although many of the guiding philosophies used to develop the tool may be important to managing invasive *Phragmites* at a smaller scale, using this tool at a small scale (e.g. 100 acre property) is not advised due to the scope of the questions it contains.

3. Who should use this tool?

Land managers managing larger parcels of land (e.g. Conservation Authorities, land trusts, regions, municipalities, etc.) should use this tool. Due to the limited availability of aquatic invasive *Phragmites* management options, use of this tool is only advised in terrestrial habitats.

4. Why should my organization use the tool?

Selecting the order to manage invasive *Phragmites* patches can be an intimidating challenge for a land manager. By ranking populations according to relative priority, this tool can help quantify which invasive *Phragmites* populations should be treated first in order to use resources efficiently.

5. I plan to treat only part of an invasive *Phragmites* population. Is this approach advised?

Although any action against invasive *Phragmites* is encouraged, numerous previous control projects have been undermined by not treating a patch in its entirety. Since invasive *Phragmites* can spread very quickly by vegetative growth, simply controlling part of a patch is strictly a temporary solution that is advised against. For further information on control specifics please consult the invasive *Phragmites Best Management Practices* (BMP).

6. How does the tool work?

The tool considers ecological, human, and project feasibility factors to determine relative management priority. We realize that dealing with invasive *Phragmites* is only one of many concerns on a land manager's radar, so this tool helps prioritize invasive *Phragmites* treatment efforts.

7. What should I do if my site includes standing water?

Currently in Ontario options are very limited when it comes to treating invasive *Phragmites* populations in standing water. At this time no chemical control options are available in Ontario to treat invasive *Phragmites* where standing water is present. Although difficult with sizeable populations, alternative control methods (e.g. drowning via the cut and flood method at depths >0.4 m) have proven effective. For further information on options available to treating standing water populations, please consult the invasive *Phragmites* BMP.

8. How do you define a site?

For the purpose of this tool, a site is defined as a continuous population of invasive *Phragmites* that would ideally be treated in a coordinated, continuous treatment effort. In some cases a site may include a small separate population that is not necessarily physically connected to the core population, but for simplicity sake may be included as part of the main population in management prioritization.

9. How should I interpret my score?

Invasive Phragmites sites that receive a higher score should be considered treatment priority and as such we recommend treating them first. Higher scoring sites tend to be smaller in size and sites that would yield the greatest return on control efforts. Although treating all invasive *Phragmites* sites is important in achieving landscape level control of this invasive plant, lower scoring invasive *Phragmites* populations should be treated once higher scoring sites have been managed.

10. What should I do once my invasive *Phragmites* populations have been scored?

The tool is intended to help a land manager rank the order in which invasive *Phragmites* populations should be treated. Once a population is selected for management, we recommend developing a management strategy by consulting invasive *Phragmites* BMP (available in the "Additional Resources" section).