

## A guide to identification and control of invasive **PURPLE LOOSESTRIFE**

### What is Purple Loosestrife?

Purple loosestrife is a plant native to Europe and Asia where native insects and diseases have kept it in check. Introduced to North America as a garden plant, purple loosestrife has since spread to wild areas and depleted natural habitat for native plants and animals. Cultivars of loosestrife are still sold as garden plants in some parts of the United States. Some plant producers claim to have sterile varieties of purple loosestrife. It appears that cultivars are capable of producing seeds if they cross-pollinate with another loosestrife plant.

### Purple Loosestrife Identification



**Fruit and Seeds:** Seed pod, small, abundant seed production (2 million seeds per plant).

**Flowers:** Numerous, purple clusters of two to several, 5-7 petals; blooms July through September.

**Leaves:** Pointed or linear shape; opposite or spiraled around stem; flat to somewhat curved; 1-4"; larger leaves at the base.

**Stems:** Squarish, 4-6 sided, smooth or fine-haired with nodes evenly spaced. Becomes woody as plant matures.

### The cycle of problems caused by **PURPLE LOOSESTRIFE**

Leaves decompose faster and earlier than native species

Nutrients are flushed from wetlands faster and earlier

Reduction in habitat and food

Decrease in species diversity and species richness

Decrease in pollination of native plants

Decrease in seed production

Fish and wildlife habitat diminishes

## Develop a long-term plan

1. **Focus** your efforts on preventing spread by removing isolated plants and small populations outside of main infested site
2. **Concentrate** on high-priority areas (most productive or sensitive part of an ecosystem)
3. **Dedicate** a certain time of each year to control efforts, and make it a joint effort with your neighbors
4. **Replant** native plants once purple loosestrife population is eradicated.

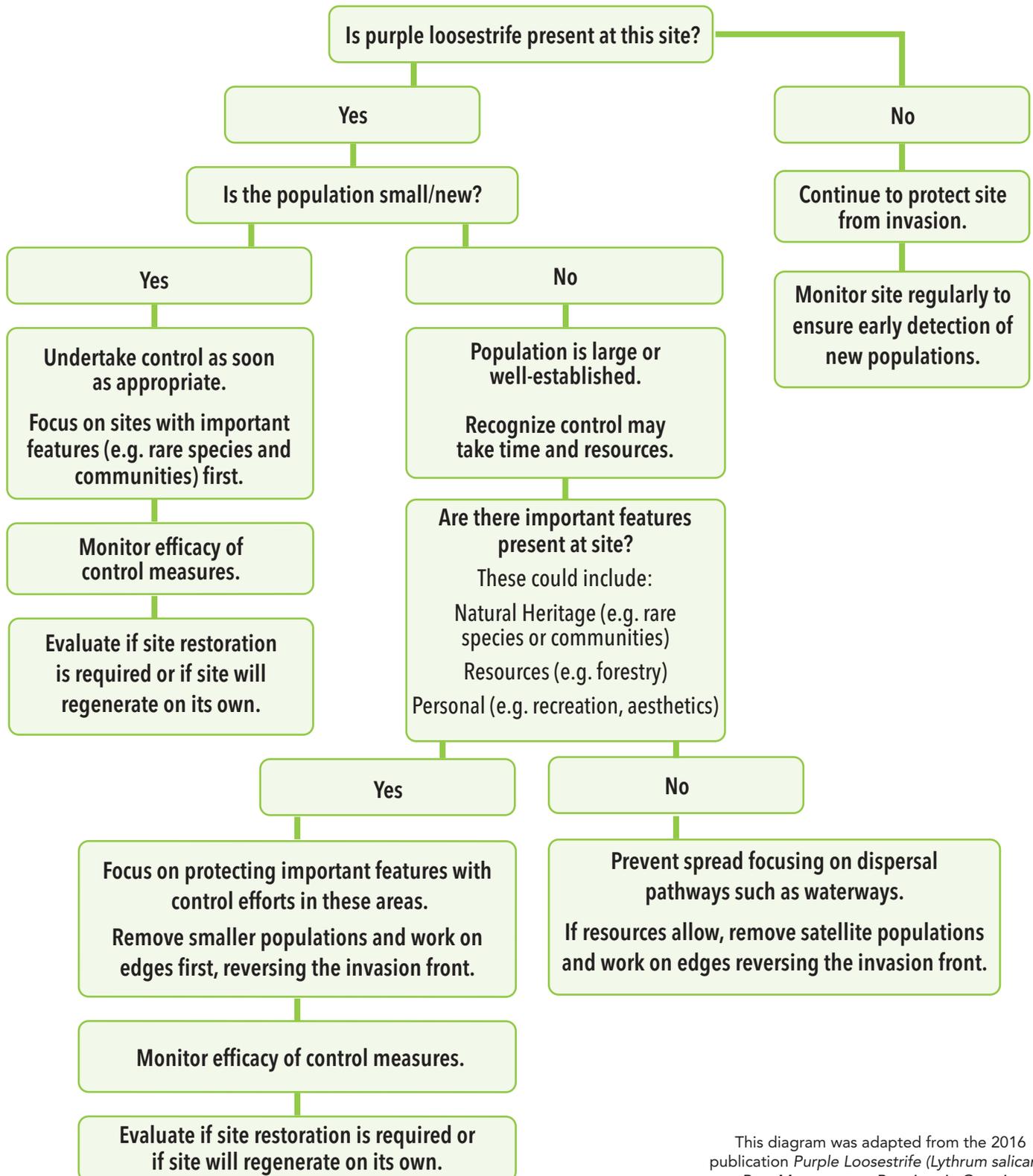




Photo: Polk County, WI (www.co.polk.wi.us)

## Choosing the Best Control Method

Choosing the best control method when managing for purple loosestrife is extremely important. Incorrect removal methods can cause more growth of the plant and it may spread easier. There are three broad categories in which invasive plants are controlled: mechanical, chemical, and biological. While each of these techniques may be effective individually, a multi-faceted approach to controlling purple loosestrife may be preferred.

**Mechanical:** Mechanical control is the physical removal of plants from the environment through cutting or pulling.

**Chemical:** Chemical control kills plants and inhibits regrowth by using herbicides.

**Biological:** Biological control uses natural enemies of the invasive plant to help control the plant. These can include plant diseases or insect predators.

[https://extension.unh.edu/resources/files/resource000988\\_rep1135.pdf](https://extension.unh.edu/resources/files/resource000988_rep1135.pdf)



## Suggested purple loosestrife control measures according to infestation size and infested area density.

Percent of Area Covered with Purple Loosestrife	Size of Area to be Managed			
	Isolated Plants	Small Infestation <0.5 hectare / 1 acre	Medium <0.5 - 2 hectares / 1-4 acres	Large > 2 hectares / 4 acres
1-10%	<ul style="list-style-type: none"> <li>Mechanical</li> <li>Chemical</li> </ul>	<ul style="list-style-type: none"> <li>Mechanical</li> <li>Chemical</li> </ul>	<ul style="list-style-type: none"> <li>Biological</li> </ul>	<ul style="list-style-type: none"> <li>Biological</li> </ul>
10-25%	<ul style="list-style-type: none"> <li>Mechanical</li> <li>Chemical</li> </ul>	<ul style="list-style-type: none"> <li>Mechanical</li> <li>Chemical</li> </ul>	<ul style="list-style-type: none"> <li>Biological</li> </ul>	<ul style="list-style-type: none"> <li>Biological</li> </ul>
25-50%	<ul style="list-style-type: none"> <li>Mechanical</li> <li>Chemical</li> <li>Biological</li> </ul>	<ul style="list-style-type: none"> <li>Mechanical</li> <li>Chemical</li> <li>Biological</li> </ul>	<ul style="list-style-type: none"> <li>Biological</li> </ul>	<ul style="list-style-type: none"> <li>Biological</li> </ul>
>50%	<ul style="list-style-type: none"> <li>Biological</li> </ul>	<ul style="list-style-type: none"> <li>Biological</li> </ul>	<ul style="list-style-type: none"> <li>Biological</li> </ul>	<ul style="list-style-type: none"> <li>Biological</li> </ul>

This table was adapted from the 2016 publication *Purple Loosestrife (Lythrum salicaria) Best Management Practices in Ontario*.

# Treatment Options

## Control Measures Summary

Method	Population Characteristics	Purpose of Control	Notes
<b>Pulling and Digging</b>	<ul style="list-style-type: none"> <li>• Small</li> </ul>	<ul style="list-style-type: none"> <li>• Remove all plants</li> </ul>	<ul style="list-style-type: none"> <li>• Roots must be removed</li> <li>• Best in late June-early August (in flower, before going to seed)</li> </ul>
<b>Mowing/Cutting</b>	<ul style="list-style-type: none"> <li>• Small to medium</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce seed production and plant density, depletion of root reserves</li> </ul>	<ul style="list-style-type: none"> <li>• Not ideal for wet habitats</li> <li>• Non-selective</li> <li>• Must be done before going to seed</li> </ul>
<b>Flooding</b>	<ul style="list-style-type: none"> <li>• Medium to large</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce seed production and plant density</li> </ul>	<ul style="list-style-type: none"> <li>• Must flood deeper than 30 cm</li> <li>• Non-selective</li> </ul>
<b>Tillage</b>	<ul style="list-style-type: none"> <li>• Medium to large</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce growth and seed production</li> </ul>	<ul style="list-style-type: none"> <li>• For use on agricultural land</li> </ul>
<b>Chemical</b>	<ul style="list-style-type: none"> <li>• Small to medium</li> </ul>	<ul style="list-style-type: none"> <li>• Eradication of plants</li> </ul>	<ul style="list-style-type: none"> <li>• Must be re-applied annually, as plants quickly grow from seed bank</li> <li>• Non-selective (unless hand wicking individual stems)</li> <li>• Dry ground only</li> </ul>
<b>Targeted Grazing</b>	<ul style="list-style-type: none"> <li>• Medium to large</li> </ul>	<ul style="list-style-type: none"> <li>• Removal of top growth, depletion of root reserves</li> </ul>	<ul style="list-style-type: none"> <li>• Grazing could stimulate colonization by native species</li> <li>• Non appropriate for all habitats</li> </ul>
<b>Biocontrol</b>	<ul style="list-style-type: none"> <li>• Medium to large</li> </ul>	<ul style="list-style-type: none"> <li>• Re-establish an ecological balance</li> </ul>	<ul style="list-style-type: none"> <li>• Selective</li> <li>• Provides long-term control but not eradication</li> </ul>

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## Disposal

Proper disposal of purple loosestrife is vital in preventing further spread or growth of the plant. To do so, carefully place reproductive material in a black plastic trash bag. Seal the bag tightly and leave it in direct sunlight for 1-3 weeks; this kills any living plant material. Check the bag to ensure all plant material has died and then deposit in the landfill.

## Report Invasive Species

Report ANY invasive species (plant or animal).

**MISIN** Midwest Invasive Species Information Network  
[www.misin.msu.edu](http://www.misin.msu.edu)



[www.stewardshipnetwork.org/cake-cisma](http://www.stewardshipnetwork.org/cake-cisma)

Phone: (231) 533-8363



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