

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



## What is Purple Loosestrife?

Purple loosestrife is a wetland plant native to Europe and Asia where native insects and diseases have kept it in check. Introduced to North America in the 1800s as a garden plant, purple loosestrife has since spread to wild areas and degraded habitat for native plants and animals.

### How to Identify Purple Loosestrife



SEEDS

Photo: K. Beyer, Tip of the Mitt Watershed Council



FLOWERS

Photo: K. Beyer, Tip of the Mitt Watershed Council



LEAVES

Photo: Leslie J Mehrhoff, University of Connecticut, Bugwood.org



STEM

Photo: K. Beyer, Tip of the Mitt Watershed Council

**Fruit and Seeds:** Seed pod, small, abundant seed production.

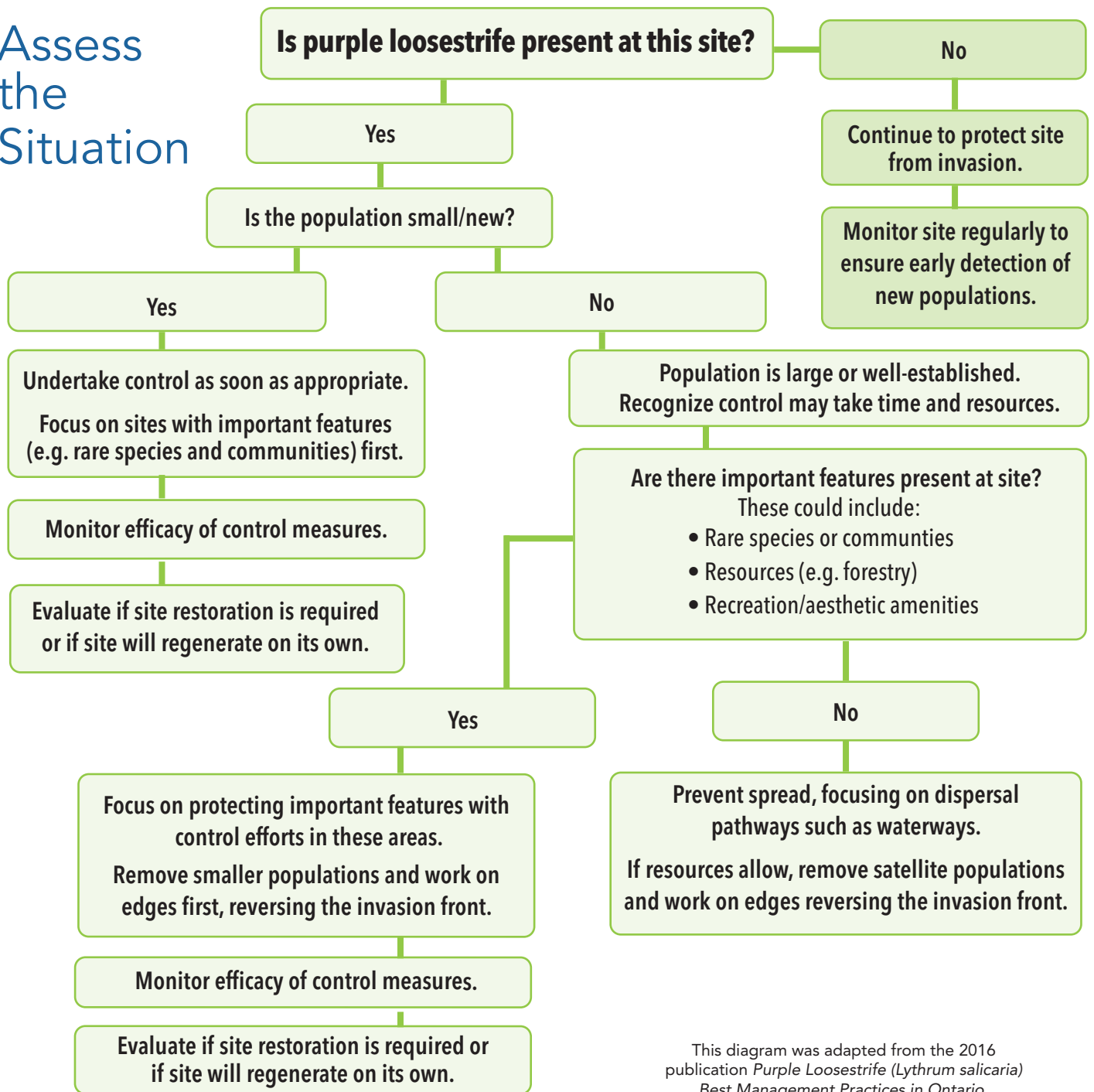
**Flowers:** Numerous, purple clusters of two to several, 5-7 petals; blooms July through September.

**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 leaves equally spaced along the stem. Becomes woody as plant matures.



# Assess the Situation



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

## Develop a long-term plan

Planning ahead allows you to evaluate the success of your efforts. Follow these steps to make the most of your management efforts.

- 1. Focus** your efforts on preventing spread by controlling isolated plants and small populations outside the primary infestation site.
- 2. Concentrate** on high-priority areas (most productive or sensitive part of an ecosystem, such as high-quality wetlands and undeveloped lakeshores).
- 3. Dedicate** a certain time of each year to control efforts, and coordinate with your neighbors and other groups to set and meet your management goals.
- 4. Replant** native plants once purple loosestrife infestation is reduced or eradicated. Minimizing the area of bare soil will help prevent any other invasive species from taking over.
- 5. Follow Up** by removing seedlings that may sprout after initial control efforts.



# Choose the Best Control Method

Choosing the best control method when managing for purple loosestrife is extremely important. Inappropriate methods can cause plants to grow more and spread easier. There are three broad categories in which invasive plants are controlled: mechanical, chemical, and biological.

Type of Control	What is it?	How to	Permit
<b>Mechanical</b>	Mechanical control is the physical removal of plants from the environment through cutting and digging.	Cutting the flower heads is the easier method, but digging is more effective. Be careful, as roots will grow more if left behind after digging. Cut the flower heads in late June to early August, before the plant goes to seed. Cut 1/3 of the top of the plant, so it does not sprout at the base. Dispose of cut purple loosestrife in 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 a landfill.	No permit is needed
<b>Biological</b>	Biological control uses natural predators specific to an invasive species. This method does not kill all plants, but rather renders populations manageable and keeps them from spreading.	The <i>Galerucella</i> beetle is typically released in Northern Michigan to eat the plants. Beetles should be released in the spring before plants flower, however, noting your purple loosestrife population's location, size, and density when it is still flowering the previous fall will help determine how many beetles are necessary.	Beetles can be moved within the State of Michigan without a permit. If you need additional beetles, contact the Watershed Council for ordering details at the beginning of each calendar year.
<b>Chemical</b> <i>Contact CAKE or Huron Pines before choosing herbicides. Chemical can be complicated. CAKE and Huron Pines can help with recommendations and treatment options.</i>	Application of herbicide typically kills plants.	Use The Nature Conservancy's "Bloody Glove Technique," to wipe the herbicide on the top third of individual plants.  <a href="https://www.invasive.org/gist/moredocs/lytsa01.pdf">https://www.invasive.org/gist/moredocs/lytsa01.pdf</a>	A Michigan Department of Environmental Quality Aquatic Nuisance Permit is required for use of chemicals in waters of the State.



Photo: Ned Heltinger (www.cofc.edu)

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

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>

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## Make Your Efforts Known

Report any invasive species (plant or animal) to the Midwest Invasive Species Information Network online at <https://www.misin.msu.edu/> or through their smartphone app (MISIN). You can also use your local Cooperative Invasive Species Management Area coordinator as a resource for help with costs, advice, and reporting invasive species.

### All of Michigan

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

### Northwest Michigan



**CAKE CISMA**  
 Phone: 231-533-8363  
 Email: [antrimcd.com/cake-cisma](mailto:antrimcd.com/cake-cisma)



Photo: Lesley J. Mehrhoff, University of CT, Invasive.org]

### Northeast Michigan



**Huron Pines**  
 Phone: (989) 448-2293 ext. 21  
 Email: [info@huronpines.org](mailto:info@huronpines.org)

**Orders for Galerucella beetles, a biological control method for purple loosestrife, can be obtained through Tip of the Mitt Watershed Council. For details, call (231) 347-1181.**



**TIP OF THE MITT WATERSHED COUNCIL**  
 426 BAY STREET, PETOSKEY, MI 49770  
 PHONE: (231) 347-1181

**[www.watershedcouncil.org](http://www.watershedcouncil.org)**  
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