

TACKLING Garlic Mustard

(*Alliaria petiolata*)

Invasive species have significant impacts on the environment, human health, infrastructure and the economy in the Metro Vancouver region.

Garlic mustard is one of the fastest spreading invasive plants in woodland and disturbed habitats in North America. It was introduced from Europe in the mid-1800s as a medicinal and culinary herb. It is easily confused with other plants but it has a distinctive garlic odour when crushed.

IMPACTS

Garlic mustard is a serious threat to natural areas where it competes with native plants and limits food sources for wildlife. It produces toxins that prevent other plants from growing and can disrupt the reproduction of several native butterfly species. In the absence of suitable native plants, butterfly eggs laid on garlic mustard leaves will die before hatching.

IDENTIFICATION

- **Lifecycle:** In the first year, clusters of leaves (rosettes) grow close to the ground; in the second year, rosettes that survive the winter produce flowering stems
- **Stems:** Flowering stems are thin, hairy, and 5-150 centimetres tall
- **Leaves:** First-year leaves are heart-shaped with scalloped edges; second-year leaves are triangular-shaped with jagged edges that become smaller towards the top of the stem
- **Flowers:** Clusters of white flowers with four petals grow at the top of stems and bloom from February to May
- **Seeds:** Long, narrow seed pods contain 10-20 small, brownish-black seeds
- **Roots:** Thin, white taproot with a distinct 'S' shape at the top of the root



First-year leaves (rosette)

CREDIT: ISCMV



Second-year leaves

CREDIT: F. STEELE



Flowers and immature seed pods

CREDIT: ISCMV



Seedling with an S-shape at the top of the taproot

CREDIT: ISCMV

CONTROL METHODS

To prevent further spread across the region and beyond, it is best not to purchase, trade, or grow garlic mustard. Effective invasive plant management typically involves a variety of control methods. The following table summarizes the recommended techniques for controlling garlic mustard on private property or where permission has been granted by the land owner or manager. Other methods may be used by professionals. It is important to control both rosettes (first-year plants) and flowering plants (second year or older), which will require the use of multiple methods.

CONTROL METHOD	TECHNIQUES	SUITABLE SITES	NOTES
Manual	Hand pulling flowering stems (second year or older plants)	Individual flowering plants (not rosettes) and small sites when the soil is loose or wet	<ul style="list-style-type: none">• Pull plants after they begin producing flowers and continue while seed pods are still green (April to June)• Grab the plant low down, where the root meets the stem, and ease the roots out of the ground to avoid breakage
	Repeated cutting of flowering stems	Flowering plants	<ul style="list-style-type: none">• Most effective when plants are in full bloom• Cut plants as close to the ground as possible• Repeated cutting will be required
	Digging	First-year rosettes and small sites of flowering plants	<ul style="list-style-type: none">• Remove as much of the root as possible

Garlic mustard plants will continue to grow, flower and produce seeds even after removal, so plants should be bagged and removed from the site. After using the control methods noted above, the soil should be packed down to minimize the spread of seeds. Garlic mustard seeds can remain viable in the soil for many years, so sites should be regularly monitored for at least ten years after the last plant is observed.

How Can You Help?

- Before harvesting garlic mustard plants, confirm their identity with an expert. Remove any seeds or plant parts from clothing, pets, buckets, tools, etc. to reduce the risk of spread.
- Control invasive plants and replace them with a non-invasive alternative. Check out growgreenguide.ca for suggestions.
- Do not place invasive plants in your backyard composter as the temperature will not become hot enough to destroy the seeds and roots.
- To reduce the spread of invasive species, dispose of yard waste and infested soil appropriately. Visit your municipality's website for more information.
- Download the '[Report Invasives BC](#)' app to identify and report invasive species.
- Join a stewardship group and help remove invasive species from local parks.

For the complete set of best management practices for garlic mustard, and other key invasive species, visit MetroVancouver.org and search 'Invasive Species'.



Garlic mustard growing along a trail