

# Garlic Mustard

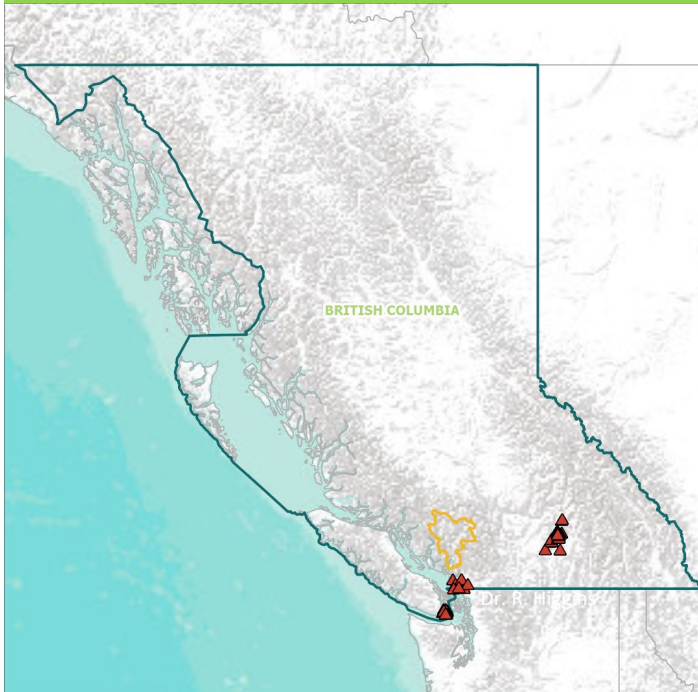
*Alliaria petiolata*

(AKA Hedge garlic)

FACT SHEET

Squamish: Prevent | Whistler: Prevent | Pemberton: Prevent

## DISTRIBUTION



**Origin:** Garlic Mustard is native to Eurasia, and widespread from Sweden all the way to India. It was originally brought to North America by European settlers, and believed to have arrived on Long Island in the 1860's for culinary use. It was first recorded in British Columbia in 1948.

**Habitat:** Garlic Mustard prefers shaded environments, though it will also survive in full sun. It prefers rich, moist forest floors or wooded stream banks and thrives in medium heat and high moisture. Garlic Mustard grows in a wide range of habitats and spreads quickly along roadsides, trails, and fence lines.

**Reproduction:** Garlic Mustard reproduces by seed and can also re-sprout from its root crown. Each plant can produce upwards of 500 seeds, which remain viable in the soil for 5-10 years. Garlic Mustard can also self-pollinate.

## IDENTIFICATION



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Garlic Mustard is a biennial plant from the mustard family (Brassicaceae).

**Flowers:** Small, numerous and white, with four petals.

**Leaves:** Younger leaves tend to be heart-shaped, while mature leaves are triangular and toothed. Leaves are 5 - 8 cm across, grow in an alternate pattern along the stem, and smell like garlic or onion when crushed.

**Stems:** In its first year, Garlic Mustard takes the form of a low-growing carpet which remains green over winter. Second-year flower stalks are 15 - 75 cm tall, with flowers on top. The base of the stems is purple.

**Roots:** Fibrous white taproot that is typically s-shaped.

**Fruits:** Several, slender seedpods that are 4 - 6 cm long, and contain black seeds.

### Similar Species:

- **Native:** Wild Violet (*Viola spp.*), Fringecup (*Tellima grandiflora*), Piggy-back Plant (*Tolmiea menziesii*), Sweet Cicely (*Osmorhiza berteroi*), Stinging Nettle (*Urtica dioica*).
- **Invasive:** Purple Dead Nettle (*Lamium purpureum*)

The best way to distinguish Garlic Mustard from other plants is to crush the leaves, which emit a garlic smell.

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**Vectors of Spread:** Garlic Mustard seeds are commonly dispersed by animals, water, and humans, as seeds stick to boots, clothing or fur. The seeds' ability to survive in the soil for several years also aids in the plant's dispersal.

#### WHAT CAN I DO?

**Garlic Mustard is not yet found in the Sea to Sky Region, so PREVENTION of further spread is key:**

- Regularly monitor properties for weed infestations.
- Ensure soil and gravel are uncontaminated before transport.
- Don't unload, park, or store equipment or vehicles in infested areas; remove plant material from any equipment, vehicles, or clothing used in such areas and wash equipment and vehicles at designated cleaning sites before leaving infested areas.
- Minimize soil disturbances (e.g. use grazing plans that prevent soil exposure from overgrazing), and use seed mixes with dense, early colonization (e.g. alfalfa or barley) to re-vegetate exposed soil and resist invasion.
- Ensure plants (particularly flowering heads or root fragments) are bagged or covered to prevent spread during transport to designated disposal sites (e.g. landfill). **Do NOT compost.**

#### Garlic Mustard can be controlled by:

- **Mechanical Control:** Hand-pull small infestations. At least the upper half of the roots must be removed in order to stop buds at the root crown from sending up new stalks. Alternatively, Garlic Mustard can also be mowed to the ground before it flowers, but this method will only suppress the plant in the short-term, so remember to revisit the site to control for re-growth. Treatments may need to occur repeatedly until the seedbank is depleted.
- **Chemical Control:** Glyphosate, 2,4-D, triclopyr and metsulfuron have proven effective for Garlic Mustard control, where permitted. They work best if applied in early spring or fall. We recommend that any herbicide application is carried out by a person holding a valid BC Pesticide Applicator Certificate. Before selecting and applying herbicides, you must review and follow herbicide labels and application rates; municipal, regional, provincial and federal laws and regulations; species-specific treatment recommendations, and site-specific goals and objectives.
- **Biological Control:** There is no biocontrol available for this plant.
- **Cultural Control:** Foraging could also contribute to Garlic Mustard control, as the leaves are edible and have a mild garlic taste. Young leaves can replace basil in pesto recipes and the roots are sometimes used as a substitute for horseradish.

**If you suspect you have found Garlic Mustard anywhere in the Sea to Sky region:**

**Contact** the Sea to Sky Invasive Species Council to report and for the most recent, up to date control methods. All reports will be kept confidential.

**References:** City of Victoria, District of Saanich, Fraser Valley Invasive Species Society, Government of BC, Invasive Species Centre, Invasive Species Council of BC, Metro Vancouver, Michigan State University, Nature Conservancy Canada, Ontario Invasive Plant Council.

## IMPACTS

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#### Ecological:

- Forms dense monocultures that reduce biodiversity.
- Has long-lasting effects on ecosystems; may permanently alter forests, even after removal.
- Releases allelopathic chemicals that change soil chemistry and prevent growth of other plants.
- Outcompetes and displaces native woodland plants.

#### Economic:

- Carries diseases like mosaic viruses which may affect other garden plants or crops.
- Reduces the aesthetic value of natural areas (by reducing biodiversity).
- Gives dairy cows' milk an undesirable garlic flavour if they graze on it.



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## REPORT SIGHTINGS

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