

Garlic Mustard: New insights into the ecology and management of an old adversary

Garlic Mustard is a non-native invasive herb that is common in forested habitats. It is thought to have been brought intentionally from Europe in the ~1860s as a food and medicinal plant. Garlic mustard has a biennial (two-year life cycle) with the first year as a basal rosette and the second year as a bolting plant. They are great competitors because they have early spring growth, high seed output, a persistent seed bank, and are allelopathic (alter soil chemistry against other plants and mycorrhizal growth).

IMPACTS OF GARLIC MUSTARD

- Reduced biodiversity due to their high competitive ability, especially along the forest floor.
- Can become dominant understory plant in as few as 5-7 years.
- Leaves legacy soil impacts (e.g. altered microbial community).

CONTROL METHODS AND MANAGEMENT

Types of control

- Physical and cultural (hand pulling, cutting, clipping, burning)
- Chemical (herbicides)
- Biological ("biocontrol")

Considerations for effective management

Management can be good for outreach, such as increasing community engagement and awareness, and limited control but is often labour-intensive, small-scale, and short-term. It is important to:

- (1) Prioritize sites and be realistic about what can be effectively managed with limited resources;
- (2) Sustain long-term (10+ years) management with objectives and quantitative monitoring; and
- (3) Consider what happens after control (fill the 'weed-shaped' hole).

1st year (rosette)



2nd year (bolted)



Photos: Dr. Michael J. McTavish

ADDITIONAL RESOURCES

- Learn more about garlic mustard and how to remove it on the Invasive Species Centre's '[Meet the Species](#)' page
- Read the Ontario Invasive Plant Council and Invasive Species Centre's '[Garlic Mustard: Best Management Practices in Ontario](#)' document
- Learn about biocontrol in The North American Invasive Species Management Association's [Garlic Mustard plant identification](#) and [biocontrol agents](#) factsheets
- Report garlic mustard sightings on the [EDDMapS website](#) or [App](#)