

Garlic Mustard: *Alliaria petiolata*

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What is Garlic Mustard?

Garlic Mustard (*Alliaria petiolata*) is a non-native, invasive species found on Nantucket is native to Europe and some parts of Asia. First documented in the US in 1868 at Long Island, New York, it is believed that this species was intentionally introduced into North America for food and medicinal purposes. **The population has grown exponentially at 4,000 sq. miles/year** and is now present in the Midwest, Southeast, Western states, Alaska, and Canada. This species is primarily found in forest habitats, forest edges, floodplains and disturbed areas. Garlic mustard thrives in shady undergrowth making it one of the very few non-native plants to successfully invade forest understories.

Garlic mustard is a biennial herbaceous species meaning that it takes two years to fully mature and produce seeds. The first year upon germination is spent as a basal rosette characterized by dark-green, kidney shaped leaves with scalloped edges (Fig. 2). During mid-spring of the second year, plants bolt 1-4 feet and produce single or multiple stalks that have heart-shaped leaves with pointed tips (Fig. 1). **Although the plant dies after flowering, the remaining seed pods still hold viable seeds throughout the summer.**

Why Is It a Problem?

Garlic mustard has been classified as a “noxious weed” in 6 states, and is known as an “invasive” in several others (including Massachusetts). This species can tolerate the sandy, nutrient poor soils and competes for light and space with many native wildflowers and tree seedlings. **Garlic mustard is extremely successful here on**

Nantucket because the fungi, insects, and browsers that would normally feed on it are not present in North America. In Europe, where garlic mustard originally came from, there are over 30 insects that eat the stems, leaves, and seeds. Here on Nantucket, there are no active biocontrols that manage the garlic mustard. Garlic mustard has an advantage over native plants due to its ability to germinate very early in the spring, rapid growth during its second year, and high seed production. **Each plant produces approximately 350 seeds, meaning over 100,000 seeds per square foot!** Garlic mustard also undergoes a rapid growth period in the late fall to early spring, a time when most native plants are dormant.



Figure 1: Mature flowering stalks of garlic mustard located on Vesper Lane. Mature plants have heart shaped leaves.



Figure 2: Basal leaves of a first-year garlic mustard plants have kidney shaped leaves.



Figure 3: Seedpods, or siliques, of the mature garlic mustard plant.

Why Should I Care?

While it may seem unimportant to be concerned about invasive plant species, they can cause serious biological, environmental, and even economic damage to both undisturbed areas and your own backyard. By hand pulling the garlic mustard in your yard before seed production in May, you can eliminate the constant mowing, pulling and digging that you would have to do if you let it reach the flowering stage (where thousands of seeds can be dispersed).



yard work, removing garlic mustard and other invasives is in your best interest!

What Should I Do?

Here on Nantucket, you may have noticed garlic mustard's presence in shrubby areas, near roads, or even in your own backyard. Worry not, there are ways to deal with this invasive herb! Hand-pulling is the best method for managing garlic mustard because this aggressive species does not spread by underground roots. By removing the plant and root each year before seed production populations can be reduced or even eradicated. Effective management requires a long-term effort because garlic mustard



Figure 3: Hundreds of stalks of garlic mustard that were pulled in May 2017.

seeds can survive over 5 years in the soil.

Garlic mustard seeds and roots often spread in loam, compost and yard waste so if you do decide to pull in your backyard, be sure to dispose of them correctly. Hand pull the entire stalk and root, bag them up and bring them to the dump, where there is an Invasive Species Dumpster.

Not only will you eliminate the hard work of managing these species later in the summer, but you will also make your yard safer for your pets and children. **Recent studies have shown that invasives host a higher density of ticks than native species¹.** Because these plants start leafing early and usually have a higher humidity in their understory they create a perfect habitat for ticks. The chemicals present in garlic mustard also deter the deer which means they focus on eating native plants instead. These allelopathic chemicals also inhibit growth of surrounding plants. If you like native plants, hate ticks and

Follow these three easy steps to eliminate garlic mustard in your yard!

- 1. Hand-pull the garlic mustard stalks making sure to remove entire root. Do not leave pulled plants behind as they can still hold viable seeds**
- 2. Put your pulled plants in a contractor bag, be sure NOT to dispose of pulled plants in your compost or regular household garbage**
- 3. Bring the pulled plants to the dump, where there is an Invasive Species Dumpster!**

Have Questions?

Reach out to the Invasive Plant Species Committee where trained professionals can answer your questions! For questions, and to learn about other invasive species efforts being done around Nantucket, email Kelly Omand (komand@nantucketconservation.org) or Sarah Bois (stbois@lnf.org).



¹ Keesing, Felicia. "Effects of Garlic Mustard (*Alliaria Petiolata*) on Entomopathogenic Fungi." *BioOne*. EcoScience, 2011.