

Spotted Knapweed (*Centaurea stoebe*)



Nantucket Biodiversity Initiative
Invasive Plant Species Committee
P.O. Box 13
Nantucket, MA 02554
508-228-2884
nantucketbiodiversity@gmail.com



What is Spotted Knapweed?

Spotted Knapweed (*Centaurea stoebe*) is a non-native, invasive species found on Nantucket and is native to Europe and Central Asia. Spotted knapweed first was introduced in 1800's to North America as a contaminant in alfalfa and also through discarded soil used as ship's ballast. It grows on heavily disturbed sites, roadsides, agricultural field margins, undisturbed dry prairies, oak and pine barrens, rangeland, sand dunes, and sandy ridges. Spotted knapweed is a serious problem on rangeland, especially in the western U.S.



Figure 2: Typical basal rosette of a first year spotted knapweed.



Figure 1: Mature flowering spotted knapweed.

Spotted knapweed 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 medium size leaves that are pale green with a silvery-grey color and are often deeply lobed and sparse. (Fig. 2). During mid-summer of the second year, plants bolt 2-5 feet and produce single or multiple stalks that have a pink or purple color flower (Fig. 1). Located under the flower is the "bract" which will have black triangular spots. (Fig. 3). **Although the plant may die after flowering, about 90% of seeds remain viable for up to 5-8 years in the soil.**

Why is it a Problem?

Spotted knapweed has been classified as a "noxious weed" in 16 states, and is known as an "invasive" in 26 states (including Massachusetts). It forms deep taproots allowing it to capture moisture and nutrients and spreads rapidly, displacing native vegetation and reducing the forage potential for wildlife. **Spotted knapweed is extremely successful here on Nantucket because it invades open habitats, preferring full sun. It can tolerate nutrient poor soils, harsh dry conditions, thrives on disturbance.** On Nantucket, there are no active bio-controls that manage the spotted knapweed and it 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 500 seeds, meaning over 4,000 seeds per square foot!** If this plant wasn't controlled it would take over our sand dunes and our native sandplain grassland, outcompeting many precious native and rare plants on the island.



Figure 3: The spotted "bracts" (left) & pink flower head (right)

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 digging the spotted knapweed in your yard before seed production, you can reduce the spread of this invasive. Thousands of seeds can be dispersed and carried to new locations by mowing and wind. Flowering begins in late June on Nantucket, so it is best to remove plants as early as possible. 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.. Toxic chemicals present in spotted knapweed also deter the deer which means they focus on eating native plants.

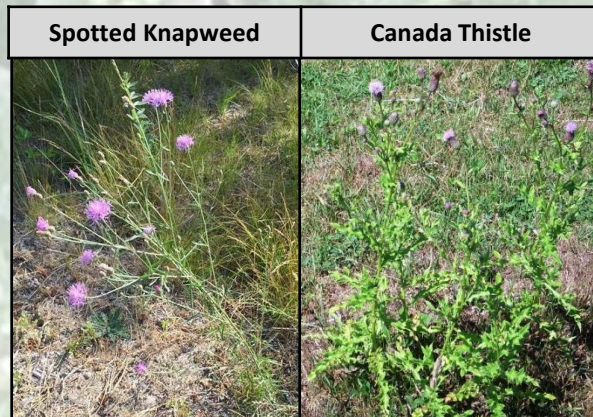


Figure 4: Comparison of Spotted knapweed (left) and Canada thistle (right).

What Should I Do?

Here on Nantucket, you may have noticed spotted knapweed along bike paths and road edges, by the beach, or even in your own backyard! Beware, spotted knapweed is often confused with Canada thistle (*Cirsium arvense*) (Fig. 4). To help with identification just remember if it has prickles it's not spotted knapweed. The best method for removing this aggressive species is by digging and making sure to remove the entire tap root. Make sure to wear **GLOVES** to protect from toxins that can irritate your skin. Digging this species each year before it goes to seed can effectively reduce the population and can one day lead to total eradication.



Spotted knapweed seeds often spread in loam, compost, and yard waste and can be moved great distances by people, wildlife, and vehicles. If you have knapweed in your yard, avoid mowing when the plants are flowering and be sure to dispose of removed plants correctly.

Follow these three easy steps to eliminate spotted knapweed in your yard!

- 1. WEAR GLOVES & dig the spotted knapweed making sure to remove entire tap root. Do not leave pulled plants behind as they can still hold viable seeds.**
- 2. Put your pulled plants in a trash bag, be sure NOT to dispose of pulled plants in your compost pile**
- 3. Bring the bagged plants to the Invasive Species Dumpster at the Nantucket Landfill! They will be composted at high temperature in the digester.**

Have Questions?

Reach out to the NBI Invasive Plant Species Committee (IPSC) where trained professionals can provide answers & information about other invasive species management efforts around Nantucket. For more information or to report an invasive species sighting on Nantucket, Contact: Sarah Bois (stbois@lnf.org) or Kelly Omand (komand@nantucketconservation.org)

