



Invasive Species of the Month for April 2019

Musk Thistle (*Carduus nutans*)

Origin: Europe and the Mediterranean

Introduction: Probably first introduced accidentally from ship ballast water around 1852

Interesting Fact: Thistles can be difficult to identify to the species level. If possible, make sure to avoid harming the native Field Thistle (*Cirsium discolor*), which is a great plant for pollinators. Field Thistle can be distinguished by its stark white undersides to its leaves.

Description: Musk Thistle, also known as Nodding Thistle, is a biennial plant in the Aster family and can grow up to 6 ft. tall and 2 ft. wide. It overwinters as a basal rosette of glossy, spiny leaves and will bolt around early to mid-summer, producing numerous pink-purple flowerheads.

Defining Characteristics:

- Alternate, divided leaves with numerous spines and a glossy appearance
- Nodding, Pink-purple flowerheads up to 2 in. long, made up of many flowers
- Purple phyllaries when flowers are blooming
- Large taproot

Botanical Terminology:

Basal Rosette – the initial stage of a biennial plant that consists of a clump of leaves near the ground

Biennial – a plant that takes two growing seasons to complete its life cycle.

Phyllaries – the bracts subtending the flowering head of an Aster species



Left Image: The flowers of Musk Thistle (note the nodding head, not straight up towards the sun)

Center Image: Musk Thistle stems and leaves

Right Image: Musk Thistle seeds



Habitat: Roadsides, old fields, open areas, pasturelands, and other disturbed areas



Above Image: Musk Thistle basal rosettes in Spring at Fox Ridge Nature Park.

Ecological Threat: Musk Thistle produces many seeds, which are wind dispersed. These seeds germinate in the late summer to late fall and can persist in the soil for a couple years. Because of its spines, most herbivores tend to avoid Musk Thistle. A single plant can produce up to 11,000 seeds, which create dense patches in disturbed soils over time. This severely impacts pasturelands in particular.

Control Methods:

- Manual: Severing the large taproot a couple inches below the soil surface can be effective. Consistent weekly mowing from the time the plant bolts for a 1 to 2 month period can exhaust a population and prevent them from producing seed.
- Chemical: A foliar application of 2,4-D* is generally effective and cost effective. Apply either in the fall or early spring before the plant bolts. Other herbicides that can be used include triclopyr*, clopyralid*, and glyphosate*. Populations may need to be treated a couple times as new plants sprout and develop.

*Always follow herbicide label instructions.

References

DiTomaso, J.M et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center, University of California. 544 pp.

Hilty, John. "Nodding Thistle." Illinois Wildflowers, 20 Dec. 2017, http://www.illinoiswildflowers.info/weeds/plants/nod_thistle.htm. Accessed 15 April 2019.

Kaufman, Sylvan R. and Wallace Kaufman. 2012. *Invasive Plants*. Stackpole Books. 518 pp.