

# Non-Native Invasive Thistles

## Musk thistle (*Carduus nutans*)



**Life Cycle:** Biennial  
**Height:** 1 - 6 ft.  
**Leaves:** Deeply segmented, spiny tips, relatively hairless  
**Stems:** Relatively hairless, single flower head  
**Bloom:** May - August; rose purple, 1.5 - 3 in. wide; flower heads nodding, layered with large, triangular tips spreading outward

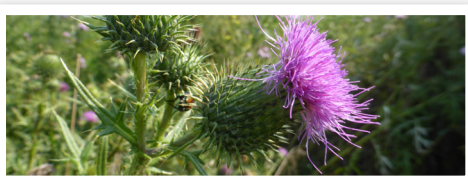
## Canada thistle (*Cirsium arvense*)



This thistle originates from Eurasia  
**Life Cycle:** Perennial  
**Height:** 1 - 4 ft.  
**Leaves:** Deeply lobed, spiny; underside may be hairy or hairless and white  
**Stems:** Erect, slender, branching, grooved, hairless to somewhat hairy with clusters of flower heads at each branch stem  
**Bloom:** June - August; pink or purple, ¾ in. wide; flower head has pointed tips but not spiny, and often purplish

## Bull thistle (*Cirsium vulgare*)

**Life Cycle:** Biennial  
**Height:** 3 - 6 ft.  
**Leaves:** Coarse on the top, soft on the bottom, deeply lobed with a long spine at the tip  
**Stems:** Several, vertical branched, sparsely to moderately hairy with spiny margined wings  
**Bloom:** July - September; rose - purple, 1.5 - 2 in. wide; flower head very spiny, spines curl towards the base



### CREDITS:

Content by Xerces Society staff: Sarah Nizzi, Jennifer Hopwood and Sarah Foltz Jordan. Design by Iowa DNR. Thank you to Dr. Thomas Rosburg, John Pearson, Mary Damm, PhD., Stephanie Shepherd, Kelsey Fleming, Holly Giombi and James Cronin for their external reviews.

Photos: James Eckberg, Jennifer Hopwood, Jeremy Brozek, Jim Kennedy, Justin Miessen, Matt Lavin, Rob Routledge, Sarah Foltz Jordan and Sarah Nizzi

### RANGE MAP DATA:

Range maps display counties where species are recorded, and were created using the latest data from Iowa DNR’s natural areas inventory <https://programs.iowadnr.gov/naturalareasinventory/pages/Query.aspx> and Prairie Plants of Iowa <http://uipress.lib.uiowa.edu/ppi/index.php>. Range maps may be incomplete.

### RESOURCES:

**Native Thistles: A Conservation Practitioner’s Guide**  
<https://xerces.org/publications/guidelines/native-thistles-conservation-practitioners-guide>

**Minnesota Wildflowers: A field guide to the flora of Minnesota**  
<https://www.minnesotawildflowers.info/>

**Control of Canada Thistle in CRP and Other Noncrop Acreage**  
<https://www.extension.purdue.edu/extmedia/FNR/FNR-436-W.pdf>

**Iowa Weed Commissioners Association**  
<https://iowaweedcommissioners.org/>



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# A GUIDE TO Iowa’s Native Thistles



Native thistles are wildflowers in the genus *Cirsium*. They occur in a broad range of habitats- pasture, grasslands, native prairie remnants, roadsides, old fields, open woodlands, savannas and wetlands - where they play a vital role in ecosystems. The seed of native thistles helps sustain vast flocks of songbirds each year, including Iowa’s state bird, the American goldfinch (*Spinus tristis*). Goldfinches line their nests with the fluffy material of the seed head, and feed the seeds to their young. The nectar and pollen of these plants provide food for countless pollinators, including the federally endangered rusty patched bumble bee (*Bombus affinis*). Native thistles fill a critical bloom gap in late summer and fall when other native species may not be in flower.

Iowa is home to six species of native thistles, three of which are uncommon or rare within the state and are listed as species of special concern (*C. muticum*, *C. pumilum* var. *hillii* and *C. undulatum*). Native thistles are often misunderstood and wrongly maligned, mistaken for introduced nonnative thistles that are highly problematic noxious weeds. Unlike introduced species, native thistles are not aggressive invaders and do not dominate and degrade ecosystems.

All native thistles are currently considered noxious weeds under the state noxious weed list, but as of early 2019 native thistles no longer require control under the Chapter 58 Noxious Weeds Amendment. This rule change relieves landowners and land managers of the requirement to control native thistles on their property. This is a milestone for the conservation of biodiversity in the state of Iowa.

All nonnative thistles in the genera *Cirsium* and *Carduus* are listed as Class B noxious weeds and do require control. The key to controlling nonnative thistles is to prevent seed production by not allowing flowers to go to seed. Multiple management tools (e.g., mowing and spot spraying) may be necessary for control and must be timed appropriately to be most effective. In some cases, control efforts may take multiple seasons to result in a reduction or elimination of nonnative thistles.

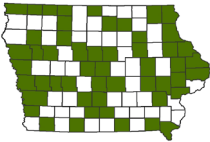
Here, we describe Iowa’s native and nonnative thistles and provide guidance on recognizing the different species and their distinct features.



# Iowa’s Native Thistles

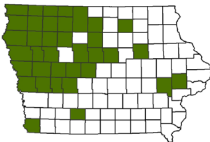
## Tall thistle (*Cirsium altissimum*)

**Abundance:** Common  
**Life Cycle:** Biennial to short-lived perennial (only flowering once)  
**Habitat:** Pastures, open woodlands, roadsides, remnants  
Soil moisture: Mesic to wet - mesic  
**Height:** 3 - 10 ft.  
**Leaves:** Unlobed, coarsely toothed or shallow-lobed, leaf margin spines; underside with dense, pale felt-like hairs  
**Stems:** Sparsely to moderately hairy with long, soft hairs  
**Bloom:** July to September; pink - purple, 1 - 2 in. wide; flower heads with needle-like spines sticking straight out



## Flodman’s thistle (*Cirsium flodmanii*)

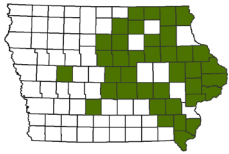
**Life Cycle:** Perennial  
**Habitat:** Wet or dry upland prairies, roadsides  
Soil moisture: Wet - mesic to mesic  
**Height:** 2 - 5 ft.  
**Leaves:** Lobed or non-lobed (can be wavy); underside with dense, pale felt-like hairs; upperside green with thinly matted hairs to somewhat hairless  
**Stems:** dense, pale felt-like hairs, cobweb-like  
**Bloom:** Late June to early August; reddish purple to rose, 1 - 2 in. wide; flower heads with spreading spines



## Hill’s thistle (*Cirsium pumilum* var. *hillii*)

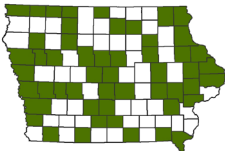


**Abundance:** Uncommon to rare  
**Life Cycle:** Biennial to perennial (only flowering once)  
**Habitat:** Pastures, open woodlands, and oak savannas  
Soil moisture: Mesic to dry  
**Height:** 1 - 2 ft.  
**Leaves:** Lobed with wavy edges, short dense spines on edges, 6 - 8 in. length; soft hairs on center of leaf; underside dense with pale hairs  
**Stems:** Stout; dense, long, soft hairs; single flower head  
**Bloom:** Mid June to mid July; rose - purple, sometimes white, 1.5 - 3 in. wide; erect spines on flower head



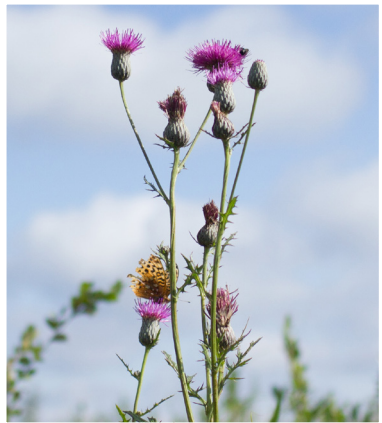
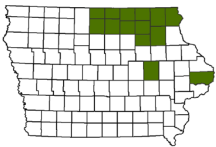
## Field thistle (*Cirsium discolor*)

**Abundance:** Common  
**Life Cycle:** Biennial, sometimes perennial  
**Habitat:** Open woodlands, roadsides, disturbed sites  
Soil moisture: Mesic to dry  
**Height:** 3 - 6 ft.  
**Leaves:** Often deeply lobed more than halfway to the center of the leaf, leaf margins curl downward; underside with dense, pale felt-like hairs  
**Stems:** Bristly hairs to hairless, single flower head  
**Bloom:** Mid August to mid September; purple - pale pink to white, 1.5 - 2 in. wide; flower heads with spines similar to tall thistle, white stripes resemble fish scales



## Swamp thistle (*Cirsium muticum*)

**Abundance:** Uncommon to rare  
**Life Cycle:** Biennial  
**Habitat:** Edges of marshes, fens, prairie swales  
Soil moisture: Wet to wet - mesic  
**Height:** 1 - 7 ft.  
**Leaves:** Deeply lobed, lobes sparsely toothed with short spines, green in color due to thin, matted pale hairs; thinly hairy or hairy mainly on the veins  
**Stems:** Slender with dense long, soft hairs, sparsely hairy or somewhat thinly matted  
**Bloom:** July to September; pink to pinkish purple, 1.5 in. or less wide; flower heads often spineless, with white vertical stripes and cotton-like webbing



## Wavyleaf thistle (*Cirsium undulatum*)

**Abundance:** Uncommon to rare  
**Life Cycle:** Perennial  
**Habitat:** Dry prairies  
Soil moisture: Dry to mesic  
**Height:** 1 - 3 ft.  
**Leaves:** Margins of leaves often wavy and sometimes toothed, yellow spines; underside has dense, pale felt-like hair  
**Stems:** Dense, pale felt-like hairs cover stem  
**Bloom:** June - August; numerous purple flowers, 1 - 2 in. wide; flower heads have tipped short spines

