

Pitcher's Dune Thistle: A Critical Part of the Dunes

What is it?

Pitcher's thistle (*Cirsium pitcheri*) is a rare plant found only on the dunes of the Great Lakes, with most of the population on the shores of Lake Michigan and the remainder on Lakes Superior and Huron. This species is federally and state threatened. It is named after Zina Pitcher (a physician) who discovered it in the early 1800s. This plant is a perennial (it comes up every year), but dies after blooming a single time. It can live for 3-12 years before it reaches a size where it can bloom. Pitcher's thistle reproduces only by seed, so populations are dependent on successful flowering in order to survive.



Why is it rare?

Pitcher's thistle is rare due to a wide variety of threats, outlined below:

Shoreline Development

This threat is more common in Michigan than Wisconsin. Occasionally, beach resorts are constructed which lead to the destruction of the dunes to allow easier access to the water by swimmers and sunbathers. This leads to direct loss of plants as well as reduction of habitat for offspring.

Dune Destruction

Destruction of the dunes can occur from a few causes. One of these is development, but more often, it is because excessive use of the dunes leads to a breakdown of their structure and they begin to erode away. This leads to the loss of the dune and a change in the local beach.

Invasive Plants

Plants like spotted knapweed, baby's breath, and Asian bitterweet are major threats to the dune ecosystem. These species form dense stands which decrease the ability of Pitcher's thistle, as well as other plants, to survive. In addition to overcrowding, spotted knapweed gives off chemicals in the soil that damages and even kills surrounding plants. This makes it difficult for anything other than knapweed to survive once they have taken over a site.



Climate Change

As the climate changes, the ability of Pitcher's thistle to survive in the southern parts of its current range will decrease. It will need to move north and expand to the east in order to thrive. Because this plant does not readily spread, this migration will be difficult. Human intervention may be necessary to help this species reach areas where it can survive in our warmer world.

Invasive Weevils

This is a recent threat to Pitcher's thistle and is very troubling. There are a few weevils involved throughout the thistle's range, but in Door County, only one has been found.

The three weevils are *Larinus planus* (Canada thistle bud weevil),

Rhinocyllus conicus (thistle head weevil), and *Cleonis piger* (large thistle weevil). Note that these common names apply to several weevil species, so it may be difficult to find information online without using the scientific name. Of these three, the only one known to be present in Door County is *Larinus planus*. This species lays eggs into the flowering head of Pitcher's thistle. When these eggs hatch, the larvae eat the seeds of the plant. Because the plant



reproduces only by seed, this decreases the number of offspring that can be produced. Over time, this reduction may lead to the extinction of a local population.

Larinus planus. The species varies in color from black to mottled yellow depending on time of year.

Why should I care?

Pitcher's thistle really is one of a kind. It is an important indicator of dune health. Having healthy dunes is good news for landowners and the wildlife and plants that live on them. During the time that it blooms, Pitcher's thistle is the



dominant flower available for pollinators. It supports a diverse community of bees and butterflies. With the declines of bee populations, support of pollination resources is important because humans over 30% of the food and drinks that people consume are pollinated by bees. In addition, 70% of all plants are bee pollinated. Bees are

important not only for our dietary needs, but to make sure that we still have wildflowers and other plants.

Pitcher's thistle is a threatened species under federal and Wisconsin law. However, maintaining healthy populations is one of the steps in eventual delisting of this species. Door County is the stronghold of the thistle in Wisconsin, and we are lucky to have large and strong populations here. As a landowner with this species on your property, you should be proud that this rare and important species calls your dunes home.

Pitcher's thistle is part of Wisconsin's natural heritage. The thistle moved into Wisconsin when the glaciers of the last ice age receded and has lived here ever since. With all the threats that the wildlife and plants of the state face, it is important to maintain what we can.

What can I do?

As a landowner, there are a few important things you can do to help in the effort to save this species.

Limiting Dune Erosion

Eliminating actions that destroy the dunes will benefit the thistle by maintaining the habitat it needs to live. In addition, this will help maintain the dunes so that you can enjoy them well into the future.

Removal of Invasive Plants

Removing spotted knapweed from your property is helpful not only in protection of Pitcher's thistle, but also helping the other species that call the dunes home. Another common invader is Asian bittersweet.



Bittersweet is a common fall decoration, and is easiest to identify at that time. You could decorate your house and help Pitcher's thistle at the same time. However, you may want to check to see if you have Asian or American bittersweet before eliminating the plant (see Further Resources). We only ask that you dispose of any invasive plants that you remove in the trash, rather than into a compost pile. This minimizes the threat of spreading seeds to new areas.

Removal of Invasive Insects

If you have the patience and desire to remove *Larinus planus* from the buds, this is one of the best things you can do to help Pitcher's thistle. These weevils can be removed from the time they emerge in May through the second week in July, with earlier removal being better for the plant. We recommend that you remove and kill them as you see fit. Knocking them into a bowl of soapy water is easy and will do the trick.

Further Resources

Fish and Wildlife Service Factsheet:

<http://www.fws.gov/midwest/endangered/plants/pitchers.html>

***Cirsium pitcheri* Restoration Project:**

<http://www.pitchersthistle.org/>

Fish and Wildlife Service Recovery Plan:

http://ecos.fws.gov/docs/recovery_plan/020920b.pdf

Spotted Knapweed Information:

<http://dnr.wi.gov/topic/invasives/fact/spottedknapweed.html>
http://ipcm.wisc.edu/download/weeds/spotted_knapweed_WI.pdf

Bittersweet Identification Guide:

http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_017307.pdf



Photo Credits (order of appearance):

USFWS

Lawrence Gilliam, USDA

Kayri Havens, PhD, Chicago Botanic Garden

Bruce Marlin, BugGuide

Michael Butler, BugGuide

Les Mehrhoff, Discover Life

USFWS