



What is curly-leaf pondweed?

Curly-leaf pondweed is a non-native, invasive submersed aquatic plant that was first observed in Minnesota in about 1910.

Distribution in Minnesota

Curly-leaf pondweed is known to be present in more than 750 lakes in 70 of the 87 counties in Minnesota.

How to identify it

Curly-leaf is similar in appearance to many native pondweeds commonly found in Minnesota waters. It can be distinguished from other pondweeds by its unique life cycle. It is generally the first pondweed to come up in spring and dies in mid-summer. Leaves have undulating and finely serrated edges.



Why is it a problem?

In spring, curly-leaf pondweed can interfere with recreational and other uses of lakes and rivers by producing dense mats at the water's surface. Matted curly-leaf pondweed can displace native aquatic plants. In mid-summer, curly-leaf plants usually die, and dying plants accumulate on shorelines.

In a number of Minnesota lakes, low water clarity and algal blooms are found in mid-summer after the curly-leaf pondweed dies. Recent research suggests that the invasive plant does not cause these conditions. Lake-wide treatments of curly-leaf done in multiple, consecutive years did not

lead to significant increases in water clarity or native submersed plants.

Where is it a problem?

In Minnesota, Curly-leaf pondweed has caused problems in lakes by producing extensive mats in 3 to 10 feet of water. The plant is often a problem in lakes with low water clarity, mid-summer Secchi depths of three feet or less. Curly-leaf pondweed has not caused extensive problems in every body of water where it is established.

When is it a problem?

Curly-leaf may grow to problem levels in a lake one year, but not the next. This appears to be due to the weather, which can cause variations from year to year in environmental conditions in lakes.

What can be done?

Problems caused by curly-leaf can be managed by treatment with herbicides or mechanical removal of plants (see adjacent fact sheet on Best Management Practices).

How does it spread?

Curly-leaf is believed to spread from one body of water to another primarily by the unintentional transfer of plant fragments, primarily on trailered boats.

What can be done to prevent its spread?

The most important action is to remove all vegetation from your watercraft before you move it from one body of water to another.

Regulatory classification

Curly-leaf pondweed is classified as *prohibited invasive species* in Minnesota. It is illegal to possess, buy, sell, transport, and introduce a prohibited invasive species.



What can be done to manage curly-leaf pondweed?

Past experience in Minnesota and elsewhere has shown that eradication or elimination of curly-leaf pondweed from lakes is not a realistic goal. Problems caused by curly-leaf can be managed using available methods of control. Dense mats of curly-leaf that interfere with use of a lake can be reduced by mechanical harvesting or treatment with herbicide.

Can control of curly-leaf pondweed increase water clarity or native aquatic plants?

In the past, it was suspected that the plant was one cause of reduced clarity and algal blooms seen after the plant dies in midsummer. In attempts to increase water clarity and native plants in such lakes, the DNR and numerous partners used herbicides of curly-leaf pondweed in more than ten lakes from 2003 to 2012. Treatments reduced growth of the plant and disrupted reproduction, but water clarity was not consistently improved. Curly-leaf was reduced lake-wide, but a matching increase in native plants was not observed. In lakes with low water clarity, lake-wide control of curly-leaf pondweed in most cases appears more likely to reduce the amount of vegetation.

Mechanical control of curly-leaf

Mechanical control means to cut or pull by hand or with equipment such as rakes, cutting blades, and hand-operated or motorized trimmers. Mechanical control of large areas often uses floating, motorized harvesting machines that cut the plants and remove them from the water.

Use of herbicide to manage curly-leaf pondweed

Most treatments of curly-leaf pondweed are done with endothall herbicide. To selectively control the invasive plant, the goal is to have treatments done early in spring when water temperatures are between 50 and 60° F and are increasing.

Current BMP for curly-leaf pondweed

The most successful and cost-effective control projects involve partial-lake treatments. These treatments usually are focused on enhancement of recreational use.

Permits and technical assistance

If you would like more information on management of milfoil or other aquatic invasive species, contact the nearest Invasive Species Specialist. These staff can also help with permit applications to manage invasive aquatic plants.

Northwest MN

Park Rapids	218-699-7293
Fergus Falls	218-739-7576 ext. 254

Northeast MN

Grand Rapids	218-999-7805
Brainerd	218-833-8645

Central MN

Sauk Rapids	320-223-7847
St. Paul	651-259-5828

Southern MN

Hutchinson	320-234-2550 ext. 238
Waterville	507-362-8786

Statewide

Saint Paul	651-259-5100
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