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# **Invasive, non-native species** - Curly-leaf pondweed (*Potamogeton crispus*)

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## **What is curly-leaf pondweed?**

Curly-leaf is a submersed aquatic plant that is not native to North America. It generally grows in 3-10 feet of water. Curly-leaf tolerates low water clarity and will readily invade disturbed areas.

## **How can I tell if curly-leaf pondweed is in a lake?**

Curly-leaf (see picture) is similar in appearance to many native pondweeds commonly found in Minnesota lakes and streams. 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 back in mid-summer.

## **Where did curly-leaf pondweed come from?**

Curly-leaf was first noted in Minnesota about 1910. It probably was accidentally introduced to the state when common carp were intentionally brought to Minnesota. Curly-leaf has been in Minnesota so long that most people do not realize that it is a non-native species.

## **Why is curly-leaf pondweed a problem?**

In spring, curly-leaf pondweed can form dense mats that may interfere with boating and other recreation on lakes. Curly-leaf also can cause ecological problems because it can displace native aquatic plants. In mid-summer, curly-leaf plants usually die back, which results in rafts of dying plants piling up on shorelines, and often is followed by an increase in phosphorus, a nutrient, and undesirable algal blooms. Like other



**Curly-leaf Pondweed  
first found in Minnesota in 1910**

*Photo by Vic Ramey, University of Florida's Center for Aquatic and Invasive Plants*

aquatic vegetation, the abundance of curly-leaf varies from year to year depending on environmental conditions, such as winter snow depth, and spring water clarity, which can effect its growth.

## **How does curly-leaf pondweed spread?**

Curly-leaf is believed to spread from one body of water to another primarily by the unintentional transfer of turions, which are hardened stem tips, on plant fragments carried on trailered boats, personal watercraft, etc.

## **What can be done to prevent the spread of curly-leaf pondweed?**

The most important action that you can take to limit the spread of curly-leaf and other non-native aquatic plants is to remove all vegetation from your watercraft before you move it from one body of water to another.

## **What can be done about problems caused by curly-leaf pondweed?**

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Past experience in Minnesota and elsewhere has shown that eradication or elimination of curly-leaf pondweed from lakes is not a realistic goal. Nevertheless, problems caused by curly-leaf can be managed using available methods of control. Short-term control of dense mats of curly-leaf that interfere with use of a lake can be obtained using contact herbicides or mechanical harvesting. For information on regulations governing the use of herbicides and mechanical harvesting, please see the brochure entitled "Aquatic Plant Management: A lakeshore owner's guide to aquatic plant benefits and regulations for their control." Over the past few years, there has been an increase in the number of lake residents and associations requesting assistance with problems caused by curly-leaf pondweed. More specifically, people want to know whether control can:

1. Reduce the lake-wide abundance of curly-leaf pondweed for long periods of time,
2. Increase the abundance of native submersed aquatic plants, and
3. Improve water quality by reducing peaks in concentrations of phosphorous, and associated algal blooms

In response, the DNR has increased its efforts to 1) provide technical assistance to lake residents and 2) evaluate new strategies for control of curly-leaf pondweed. The evaluation of new methods has been focused on experimental lake-wide treatments of

curly-leaf, which are done early in the spring. Since these treatments require monitoring that is expensive in terms of both time and money, there are a limited number of them in Minnesota. Until the results from multi-year monitoring of current lake-wide treatments are available, it will remain unclear whether more such treatments should be undertaken.

More detailed information on experimental lake-wide treatments of curly-leaf pondweed may be obtained by reading the chapter on curly-leaf pondweed in the DNR's annual report on invasive species. This report can be found on the world wide web at: [http://www.dnr.state.mn.us/ecological\\_services/invasives/index.html](http://www.dnr.state.mn.us/ecological_services/invasives/index.html). Alternatively, please call the DNR's Division of Ecological Services at 651-296-2835 or (888) MINNDNR to request a copy of this report or to discuss options for control of curly-leaf pondweed.



Curly-leaf pondweed growing to the water's surface  
*Vermont, USA, photo by A. Bove,  
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