



# FACT SHEET

Office of Water Resources / June 2009

## Aquatic Invasive Species in Rhode Island: Curlyleaf Pondweed



Curlyleaf pondweed can be identified by its wavy leaf margins



In spring and early summer, curlyleaf pondweed can form dense floating mats



A severe infestation can impede recreation, such as paddling

### Species Description/General Information

Curlyleaf pondweed (*Potamogeton crispus*) is a submerged aquatic plant that can be identified by the wavy margins of its leaves. Leaves are alternate and maintain a dark green coloration with a reddish hue. Stems are branched and flattened. Further, *P. crispus* is the only pondweed found in North America with serrated leaves. Plants prefer alkaline or eutrophic waters and tolerate varying levels of salinity ranging from fresh to brackish waters. Curlyleaf pondweed is typically found in waters with a depth less than 3 meters but can be found in depths up to 12 meters. Plants fruit and flower in late spring to early summer, after which they die and begin to decay. Plants typically reproduce through turions (specialized buds) that are produced at the time of flowering and germinate in late summer or fall. New plants overwinter as small plants and begin growing again as the water warms in early spring. Curlyleaf pondweed can also spread through plant fragments that re-root.

### Why is Curlyleaf Pondweed Considered a Nuisance Species?

During spring and early summer, curlyleaf pondweed can form dense floating mats that can restrict access to docks and impede fishing and swimming activities. Introduced pondweed also competes with native plants and may displace beneficial native vegetation. Since small plants overwinter, it is often one of the first plants to begin growth in the spring, providing it with a competitive advantage. The mid-summer die off and subsequent decomposition of curlyleaf pondweed may increase phosphorous levels in water bodies and produce algae blooms that can further restrict swimming. Decaying plants may also wash up on beaches; impede recreation (swimming, paddling), lessen the aesthetic quality of beaches and devalue waterfront property.

## How Did Curlyleaf Pondweed Become Established in Rhode Island?

According to the U.S. Geological Survey (USGS), curlyleaf pondweed is native to Eurasia, Africa and Australia but is now well established in the continental United States. Initial plants were likely introduced by migrating waterfowl. Because plants can reproduce through fragmentation, boats, motors, fishing gear and other equipment that is not properly cleaned can harbor viable plants and spread curlyleaf pondweed into uninfested water bodies. Once introduced into a water body, plants can spread through plant fragments and turions distributed by currents, waterfowl and boats. Because of its tolerance to low light, ability to overwinter under ice and its rapid growth, curlyleaf pondweed can quickly become established in water bodies.

## What Methods Can Be Used to Control Curlyleaf Pondweed?

Because it can reproduce by fragmentation, physical control activities such as cutting or raking may unintentionally promote the spread of curlyleaf pondweed. It is recommended that physical control be limited to those areas where the plant is a nuisance and requires immediate relief or to manual hand pulling of small patches. By law, the manual removal of submerged aquatic vegetation is restricted to that area adjacent to, but no more than fifteen feet from, existing or permitted docks, beaches or swimming areas under the Fresh Water Regulations (Rule 6.02). Manual plant removal outside this area requires a DEM wetlands permit (see below).

Chemical control may be effective for large populations. The DEM Division of Agriculture licenses the applicators that can apply the regulated herbicides to treat invasive plants. Each herbicide treatment requires a specific permit from the Division of Agriculture. The most appropriate means of selecting a specific treatment plan is to consult a lake manager or licensed herbicide applicator, who can provide treatment options and estimate the associated costs. A more detailed survey of the entire water body will likely be needed to develop the most effective and cost efficient long-term management plan.

## Please Help Prevent the Spread of Aquatic Invasive Species in Rhode Island!

Learn to identify invasive plant species and be on the lookout for new plants in your lake.

It is much easier to manage a small patch of invasive plants than an entire cove covered with plants so early detection is key! The University of Rhode Island Watershed Watch Program, in cooperation with the Rhode Island Natural History Survey (RINHS) and DEM, has hosted training workshops for volunteers interested in learning how to survey and identify plants, including invasives, in lakes. For information on the anticipated availability of AIS training, contact the URI Watershed Watch Program or RINHS (see below).

RIDEM also encourages the use of clean boat hygiene practices. Boats (trailers and motors too) should be inspected for plant fragments before launching in the water and after boats have been hauled out of the water. See posted reminders at state boat ramps.

### For more information also see:

- Guide to Understanding Freshwater Aquatic Plants, RIDEM  
<http://www.dem.ri.gov/programs/benviron/water/quality/surfwq/pdfs/aquaplnt.pdf>
- Aquatic Invasive Species in Rhode Island  
<http://www.dem.ri.gov/programs/benviron/water/quality/surfwq/aisindex.htm>
- RI DEM Herbicide permit application  
<http://www.dem.ri.gov/programs/bnatres/agricult/pesticide.htm>
- RI DEM Water Quality and Wetland Restoration Team  
<http://www.dem.ri.gov/programs/benviron/water/wetlands/pdfs/wqwrteam.pdf>
- RI DEM Wetlands permit application  
<http://www.dem.ri.gov/programs/benviron/water/permits/fresh/index.htm>
- The URI Watershed Watch Program  
[www.uri.edu/ce/wq/ww](http://www.uri.edu/ce/wq/ww)
- The Rhode Island Natural History Survey  
<http://www.rinhs.org/>

