



FACT SHEET

Office of Water Resources / September 2010

Freshwater Aquatic Invasive Species in Rhode Island Curlyleaf Pondweed



Curlyleaf pondweed can be identified by its wavy leaf margins



Decaying plants may wash up on beaches



A severe infestation can impede recreation, such as paddling

Species Description and General Information

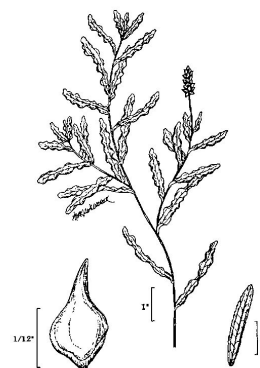
Curlyleaf pondweed (*Potamogeton crispus*) is a submerged aquatic plant that can be identified by the wavy margins of its leaves. Unlike many other Rhode Island pondweeds, curlyleaf does not produce submerged and floating leaves. Leaves are alternate and maintain a dark green coloration with a reddish hue. Stems are branched and flattened. Further, *P. crispus* is the only pondweed found in Rhode Island with serrated leaf margins. Plants prefer 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 an Invasive Species?

During spring and early summer, curlyleaf pondweed can form dense stands 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, lessen the aesthetic quality of beaches and devalue waterfront property.

How Did Curlyleaf Pondweed Become Established in Rhode Island?

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 aquarium hobbyists or in fish hatchery stock. 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 new 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.



USDA-NRCS PLANTS
Database / USDA NRCS

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 Wetlands Regulations (Rule 6.02). Manual plant removal outside of this area or control of larger patches via mechanical cutting or harvesting requires a DEM wetlands permit (or special permission from the Water Quality and Wetlands Restoration Team; see contact info 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 (see below). 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 Curlyleaf Pondweed 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 lake covered with plants, so early detection is key! Identification resources are available on the RIDEM website at <http://www.dem.ri.gov/programs/benviron/water/quality/surfwq/aisindex.htm>.

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>

