RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

# FACT SHEET

**Freshwater Aquatic Invasive Species in Rhode Island** **November 2017**

## Curly-leaf Pondweed

Curly-leaf pondweed leaves have wavy margins like bacon

A picture of curly-leaf pondweed under water, the stand can become very thick

Close-up of the leaf veins, they have a stained-glass appearance

## Species Description and General Information

Curly-leaf pondweed (*Potamogeton crispus*) is an underwater plant that can be identified by the wavy margins of its leaves (which are serrated, not smooth). Leaves are arranged alternately along the stem, and stems are branched and flattened. Plants prefer nutrient-rich waters and tolerate varying levels of salinity ranging from fresh to brackish waters. Curly-leaf 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, then 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. Curly-leaf pondweed can also spread through plant fragments that re-root with just a small amount of the plant (no seeds or roots needed to reproduce and spread).

## Why is Curly-leaf Pondweed Considered an Invasive Species?

During spring and early summer, curly-leaf pondweed can form dense stands that can restrict access to docks and impede fishing and swimming activities. Invasive pondweeds also compete with native plants and may displace beneficial native vegetation. Since small plants overwinter, it is often one of the first plants to begin growing in the spring, providing it with a competitive advantage. The mid-summer die off and subsequent decomposition of curly-leaf pondweed may recycle phosphorous levels in water bodies, decrease oxygen levels, and produce algae blooms or fish kills. Unsightly decaying plants may also wash up on beaches. Invasives can devalue waterfront property and are costly to control and manage.

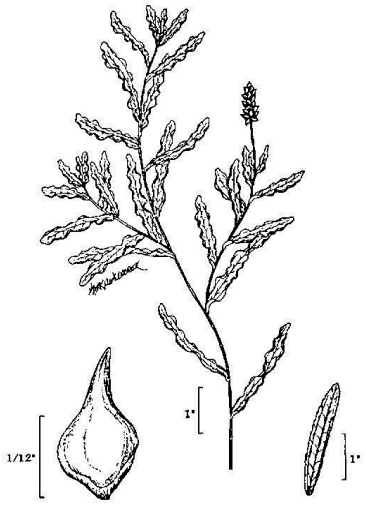
## How Did Curly-leaf Pondweed Become Established in Rhode Island?

Curly-leaf 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 curly-leaf 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, curly-leaf pondweed can quickly become established in water bodies.

## What Methods Can Be Used to Control Curly-leaf Pondweed?

Because it can reproduce by fragmentation, physical control activities such as cutting or raking may unintentionally promote the spread of curly-leaf 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).

Chemical control may be effective for large populations. The DEM Division of Agriculture licenses the applicators that can apply federally 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.




USDA-NRCS PLANTS
Database / USDA NRCS

## Please Help Prevent the Spread of Curly-leaf 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 and cost-effective 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/pdfs/identify.pdf.

## Be a GREAT Boater!
## Check, Clean, Drain & Dry!

RIDEM encourages the use of clean boat hygiene practices. CHECK boats (trailers, gear and motors too) for plant fragments before launching in the water AND after boats have been hauled out of the water. CLEAN any plant fragments, and dispose of them away from the water, and DRAIN your motor and bilge. Allow boats to DRY overnight at least 24 hours before putting in at another lake. See posted reminders at state boat ramps.

## Where is Curly-leaf Pondweed found in Rhode Island?

As of November 2017, curly-leaf pondweed has been documented in 12 lakes or ponds, and 5 river segments. The distribution map on the right shows locations where it has been found in red. A larger map can be found online @ http://www.dem.ri.gov/programs/benviron/water/quality/surfwq/aismaps/potcri.pdf