



# FACT SHEET

Freshwater Aquatic Invasive Species in Rhode Island November 2017

## Yellow Floating Heart



Plants cover the surface of the pond like a carpet



Showy flowers of yellow floating heart



Leaves and tangled stems form a mat



Floating leaves shade out native species

### Species Description and General Information

Yellow floating heart (*Nymphoides peltata*) is a perennial, floating plant that can carpet the water surface with winding stems and heart-shaped leaves. The floating, heart-shaped leaves are usually opposite from each other along the stem and measure 2-6 inches wide. The showy yellow flowers occur on stalks and rise a few inches above the water, flowering June to September. There may be one to several flowers on each stalk. The flowers have five fringed petals, and measure 1-1.5 inches in diameter when fully open. The seeds are contained in capsules and are flat and oval in shape, and are easily transported over distances by waterfowl. Yellow floating heart is also a fragmenting reproducer, that is, a small part of the plant cut from the main plant can grow roots, reproducing and spreading easily. Yellow floating heart prefers the still waters found in lakes and ponds, and is often found rooted in the mud.

### Why is Yellow Floating Heart Considered a Nuisance Species?

Yellow floating heart can form dense, floating mats over large areas of water. These mats limit the amount of light available to other aquatic plants, allowing it to quickly displace and out-compete native species. Dense mats also impede recreation such as boating, fishing and swimming. Plants can also form large stands that block waterways and canals, creating problems for infrastructure and industry. Invasive plants are costly to control, and can devalue water front property values. When plants die-off, the subsequent decomposition of a large biomass of plants can recycle phosphorus levels in lakes, decrease oxygen levels, and produce algae blooms or fish kills. It reproduces easily via fragmentation and can spread quickly to other waterbodies.

### How Did Yellow Floating Heart Become Established in Rhode Island?

Yellow Floating Heart is native to Europe and parts of Asia and was first reported in the United States in 1882 in Winchester, MA. DEM first confirmed the presence of yellow floating heart in Rhode Island in 2010. Yellow floating heart was likely introduced as an ornamental plant in water gardens that escaped or was discarded into local water bodies. Once introduced, yellow floating heart disperses by seeds, rhizomes and through fragmentation, whereby plant fragments break off and settle in new locations. Seeds and fragments attach to waterfowl, boats, motors, and trailers and can may spread the plant to other water bodies.

## What Methods Can Be Used to Control Yellow Floating Heart?

Yellow Floating Heart can spread rapidly. Thus, early detection and rapid response to infestations is important. Prevention is key: education, monitoring of the current population, and boat hygiene are necessary to stop the spread of Yellow Floating Heart to other Rhode Island waterbodies. Hand pulling may be effective to completely remove small patches, however because this plant reproduces by fragmentation, physical control activities may unintentionally promote the spread of the plant if care is not taken to be sure that all plant fragments are caught and removed. 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 RI Fresh Water Wetlands Regulations (Rule 6.02). Manual plant removal outside this area to control larger patches via mechanical cutting or harvesting requires a DEM wetlands permit. However, harvesting by large machines is generally not recommended for this species because the plant can reproduce by fragmentation. Experience from other states has indicated that infestations of fragmenting species can actually be made worse by mechanical harvesting activities that unintentionally promote the spread of the plant.

Chemical control may be effective for large populations but has not been used for yellow floating heart in Rhode Island. The DEM Division of Agriculture licenses the applicators that apply federally regulated herbicides to treat invasive plants. Each herbicide treatment requires a specific permit from the Division of Agriculture to ensure proper use. The most appropriate means of selecting a specific treatment plan is to consult a lake manager or licensed herbicide applicator, who can provide targeted treatment options and estimate associated costs. A more detailed survey of the entire water body will likely be needed to assess the severity of the infestation and develop the most effective and cost efficient long-term management plan.

## Please Help Prevent the Spread of Yellow Floating Heart 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 Yellow Floating Heart found in Rhode Island?

As of November 2017, Yellow Floating Heart has been documented in 3 lakes or ponds. 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/nympel.pdf>

