



FACT SHEET

Office of Water Resources / June 2009

Aquatic Invasive Species in Rhode Island: Eurasian Milfoil



Eurasian Milfoil



Eurasian milfoil infestation



Leaves are feather divided
and whorled around the stem

Species Description/General Information

Eurasian milfoil (*Myriophyllum spicatum*) is a rooted submerged plant. Leaves are whorled around the stem in groups of 3 to 6 with 4 leaves per whorl common. Leaves are feather divided with 12 to 24 leaflets per leaf. The leaf tips are blunt, giving the appearance that they have been snipped off. Whorls are openly spaced along the stem with 1 to 3 cm between. Small, yellow flowers appear on an emergent spike. Plants prefer lakes, ponds and low energy areas of rivers and can tolerate a range of salinities. Plants disperse primarily through fragmentation and through spreading rhizomes.

Why is Eurasian Milfoil Considered a Nuisance Species?

Because plants are tolerant of low water temperatures and grow from roots initiated in the fall, Eurasian milfoil begins its spring growth earlier than other aquatic species. Its ability to create dense, monotypic stands that form canopies over the surface of the water allow it to outcompete and displace native species. Several case studies of Eurasian milfoil introductions reveal a subsequent substantial reduction in native species abundance and diversity. Further, Eurasian milfoil is a poor food source for waterfowl and supports a lower abundance of invertebrates that serve as a food source for fish. Dense stands impede recreation opportunities such as fishing, boating and swimming and can devalue waterfront property. When plants begin to decompose they can lower the oxygen levels of the water body, creating the potential for fish kills.

How Did Eurasian Milfoil Become Established in Rhode Island?

Eurasian milfoil is native to Europe and parts of Asia and North Africa. It was likely introduced as an ornamental that escaped cultivation, or as an aquarium plant that was dumped into natural water bodies. Because the plant can reproduce through fragmentation, trailers and boating equipment that are not cleaned of plant fragments are a likely means of introduction. Eurasian milfoil maintains a high tolerance for pollutants and easily invades polluted and disturbed areas.

What Methods Can Be Used to Control Eurasian Milfoil?

Physical control through hand pulling or large scale mechanical harvesting are options for milfoil control. 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 RI Fresh Water Wetlands Regulations (Rule 6.02). Manual plant removal outside this area or physical control of larger patches via mechanical cutting or harvesting requires a DEM wetlands permit (for more info, contact the Water Quality and Wetlands Restoration Team noted below). However, because Eurasian milfoil can reproduce through fragmentation, physical pulling and cutting may unintentionally disperse plant fragments, exacerbating the infestation. Therefore, physical control is not recommended.



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 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.

The North American weevil, *Euhrychiopsis lecontei*, has been identified as a milfoil specialist and as a potential agent for biological control of Eurasian milfoil.

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 always be inspected for plant fragments before launching in the water and again 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
- The Rhode Island Natural History Survey
<http://www.rinhs.org/>

