



FACT SHEET

Office of Water Resources / August 2010

Freshwater Aquatic Invasive Species in Rhode Island American Lotus



Emergent and floating
lotus leaves



Lotus flower



Seed pods



Dense stand

Species Description and General Information

American lotus (*Nelumbo lutea*) is a floating-leaf aquatic plant that often rises above the surface of the water to become emergent. American lotus has round, bluish-green leaves that can be up to 2 feet in diameter and are flat in appearance if the plant is floating and conical when emergent. Although often confused with water lilies when floating, lotus leaves lack the characteristic slit of lily pads and have a thick central stem. The flowers of American lotus are very large (up to 10 inches across) and appear from July to September. The flowers may have more than twenty delicate petals which range in color from yellowish-white to darker yellow. In the center of the flower is an inverted, yellow, cone-shaped seed pod. The seed pod remains and enlarges after the flower dies. American lotus is found in marshes, quiet backwaters and near-shore areas in large rivers and occurs in muddy, shallow waters to water over 6 feet deep. American lotus propagates through the spreading of seeds or rhizomes.

Why is American Lotus Considered a Nuisance Species?

American lotus has the ability to expand rapidly and cover wetland habitats; plants can completely cover a one acre pond in three to four years. Dense populations of American lotus suppress the growth of beneficial native plants by shading out the lower-growing plants, creating a single-species (monotypic) stand which decreases biodiversity. In Rhode Island, American lotus has no natural predators to control its growth. Dense emergent stands inhibit swimming, paddling and boating. The bloom and decomposition of these mats may lower the dissolved oxygen in the water, creating the potential for fish kills.

How Did American Lotus Become Established in Rhode Island?

Nelumbo lutea is native to the southern United States, Central America and the Caribbean. Its range was extended northward by Native Americans who used the seeds and tubers for food. American Lotus is among today's most popular aquatic ornamental plants, and is often used in water gardens. Plants may also be intentionally planted in a water body for its aesthetic value. Planting in RI water bodies is prohibited under the Fresh Water Wetlands Regulations, Rule 5.01. Seeds may be carried by wind, wave or migratory waterfowl.

What Methods Can Be Used to Control American Lotus?

Early detection and rapid response to infestations is important. Hand pulling may be effective for small populations. However, if the seeds have already been dispersed, this will not eradicate the population, and annual monitoring and continued hand pulling will be necessary to reduce the seed bank. 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 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 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 American Lotus 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>.

Never dump aquarium or water garden plants into a water body, and avoid using American lotus in water gardens. 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
- The Rhode Island Natural History Survey
<http://www.rinhs.org/>

