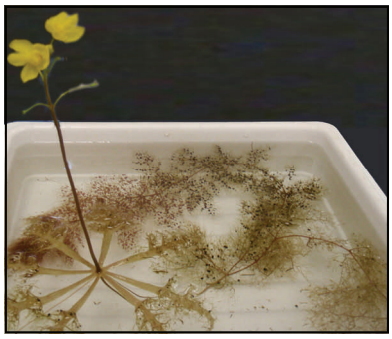
RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

FACT SHEET

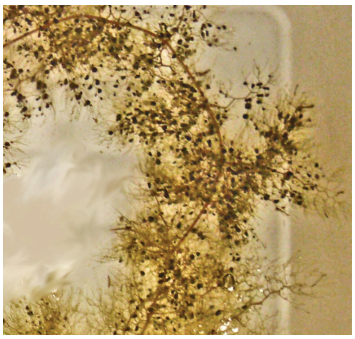
Office of Water Resources / August 2010

Freshwater Aquatic Invasive Species in Rhode Island

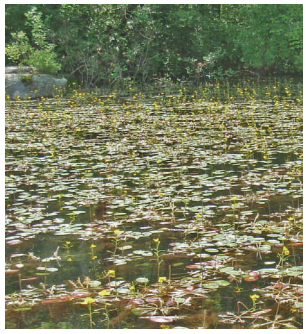
Inflated Bladderwort



Flowering inflated bladderwort plant with float and submersed stems



Close-up of submersed stolon with branching stems and blackened bladders



Large flowering populations can appear to look like a field rather than a lake

The plant produces a float shaped like a wagon wheel or snowflake to support the stem and flowers

Species Description and General Information

Inflated bladderwort (*Utricularia inflata*) is a submersed, free-floating plant, also known as swollen bladderwort. Plants are typically found in the quiet waters of freshwater lakes and ponds. When scooped up from under the water's surface, the bulk of the plant looks like a mesh of thin, flexible, branched strings littered with small black, brown or green dots (bladders). The stolons, or main "vines" of the plant can be many feet long and float freely with no true roots in the soil. Numerous stems attached along the stolons split into many thin branches that are suspended under the water. Because the plant does not take nutrients from the sediment, bladderworts obtain nutrition by digesting microscopic animals in the water—they are carnivorous! Hundreds of small digestion sacs or bladders appear to dot the thin branches in brown, black, or green. Each sac serves to trap prey (such as zooplankton) which the plant later breaks down for nutrients. When flowering in June, the plants produce a characteristic spoke-like whorl of spongy structures at the water's surface to support flower stem, often called a "float". The float resembles a wagon wheel or snowflake and can reach up to six inches or more in diameter. A stalk emerges from the center of the float to support several vibrant yellow, snapdragon-like flowers. Inflated bladderwort can be easily confused with native floating bladderwort (*Utricularia radiata*) however the invasive plant is much larger. Inflated bladderwort is spread primarily through fragmentation, so just a small snippet of the stolon and branches can easily create an entirely new plant!

Why is Inflated Bladderwort Considered an Invasive Species?

As a fragmenting species, inflated bladderwort can easily establish itself in a new waterbody with a small sample transported by birds or wildlife, stuck to fishing gear or boats or trailers. and grow in large abundances to quickly displace native plants, by competing for space, sunlight and nutrients. It can form dense mats over large areas of water that limit the amount of light available to other aquatic plants, shading them out to displace the native species. These mats can become a nuisance for recreational activities such as boating, fishing and swimming. Plants can also form

large stands that can clog irrigation pipes, block waterways and canals and create problems for infrastructure and industry.

How Did Inflated Bladderwort Become Established in Rhode Island?

Inflated Bladderwort is native to the southeastern coastal plains of the United States. It is now reported in Washington, northern New York, southeastern Massachusetts and Rhode Island. It is possible that Inflated Bladderwort was introduced by humans — on watercraft or discarded from water gardens. Plant fragments also may be transported on migratory waterfowl from areas where inflated bladderwort is native.

What Methods Can Be Used to Control Inflated Bladderwort?

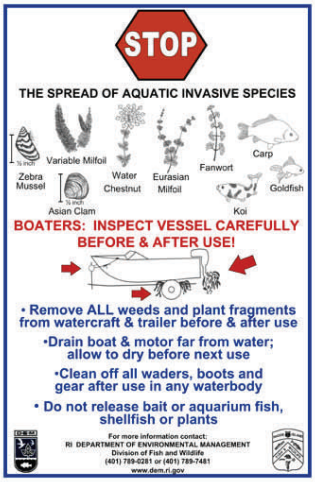
Depending on the level of infestation, there are several physical approaches available for inflated bladderwort control. Hand pulling may be effective to completely remove small patches. By law, the manual removal of aquatic vegetation is restricted to that area adjacent to, but no more than fifteen feet from existing or permitted docks, beaches or swimming areas under RI 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). Please note that because the plant can reproduce by fragmentation, physical control activities may unintentionally promote the spread of the plant if plants or plant fragments are not completely removed.

Chemical control may be effective for large populations. The DEM Division of Agriculture licenses the applicators that can apply the regulated herbicides to treat target invasive plants. Each herbicide treatment requires a specific permit from the Division of Agriculture. The most appropriate means of selecting a specific treatment plan is to consult a lake manager or licensed herbicide applicator, who can recommend treatment options and estimate the 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 Inflated Bladderwort 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
- The URI Watershed Watch Program
  www.uri.edu/ce/wq/ww