

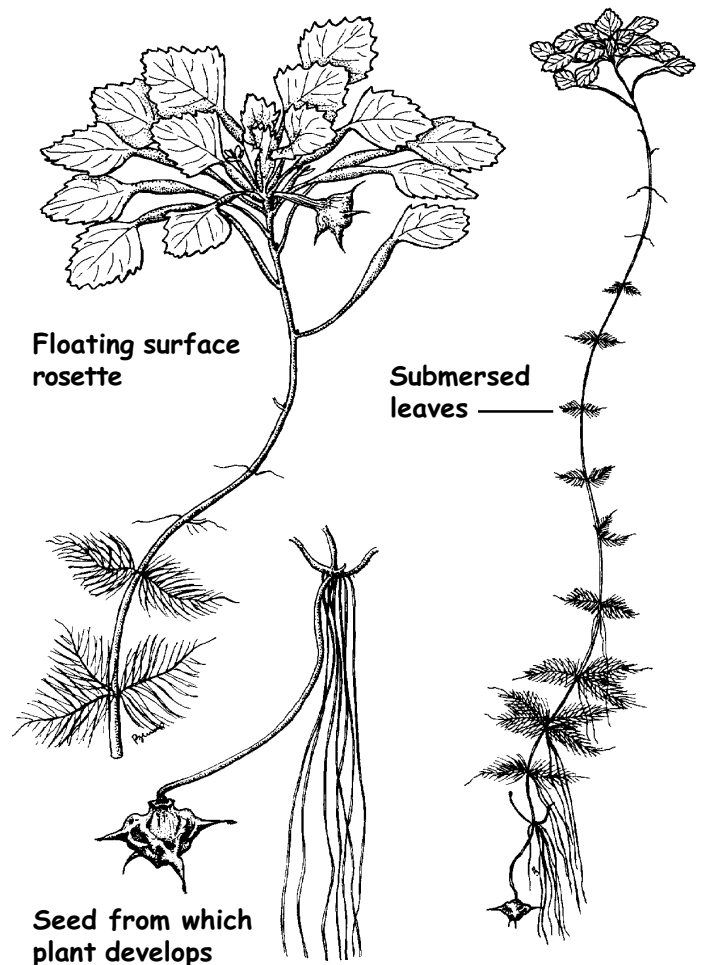
Vermont Invasive Exotic Plant Fact Sheet

Water Chestnut *Trapa natans* L. Water-nut Family Vermont Class B Noxious Weed

Description: Water chestnut is a rooted, annual aquatic plant with both floating and submersed leaves. Floating leaves are triangular with toothed margins and have an inflated spongy leaf stem. Floating leaves form a rosette on the water's surface that may grow to a foot in diameter. Submersed leaves are whorled around the stem, and are feather-like; each leaf is divided into smaller leaflets. Plant stems are long and cord-like, attaining lengths of up to 16 feet (5 meters). Flowers are small, inconspicuous, and white and form in the axils of the surfacing leaves in July. The fruit of the water chestnut is a woody, nutlike seed with 4 sharp, barbed spines. Mature rosettes may produce as many as 10 to 15 seeds. Once mature, these seeds drop from the plant and fall to the sediment. Seeds may remain viable in the sediment for 5 or more years; viability of up to 12 years has been reported. A true annual, water chestnut overwinters entirely by seed.

Habitat: Water chestnut grows in freshwater lakes and ponds, and slow-moving streams and rivers. It prefers calm, shallow, nutrient-rich waters.

Threats: Dense water chestnut growth can be impenetrable and can easily choke out the water bodies which it invades. It can outcompete native vegetation, reduce oxygen levels which may increase the potential for fish kills, and provides little value to waterfowl. Dense infestations of water chestnut make swimming, boating, and other recreational activities nearly impossible. Its sharp spiny fruits wash ashore and can be hazardous, inflicting painful wounds to those who step on them.



(Crow and Hellquist 1983. *Aquatic Plants of New England Series: Trapa natans*, Illustration by Pam Bruns)

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Water Chestnut Water-nut Family (*Trapaceae*)

Distribution: Water chestnut's native range is Europe, Asia, and Africa. First introduced into the northeastern United States in the late 1800s, water chestnut currently infests waterbodies in Vermont, New York, and Massachusetts, as well as Canada. Maryland and Virginia used to have populations of water chestnut but management activities were successful in eradicating the plant. In Vermont, water chestnut was first reported in southern Lake Champlain in the 1940s. Hundreds of acres of southern Lake Champlain are infested; the northernmost population in the lake is found in Converse Bay in Charlotte. Populations have also been found in several Lake Champlain tributaries and a handful of other waterbodies in the Lake Champlain Basin.

Control: Because water chestnut is an annual plant, effective control can be achieved if seed formation is prevented. Herbicides and mechanical removal methods have been used. Mechanical harvesting, cutting, and handpulling are the methods currently being used in Vermont to manage this species.

* No person may use pesticides, biological controls, bottom barriers, structural controls or powered mechanical devices in waters of the state to control nuisance aquatic vegetation, insects or other aquatic life including lamprey unless that person has been issued a permit by the secretary of the Agency of Natural Resources.

References:

- Countryman, W.D. 1978. *Nuisance Aquatic Plants in Lake Champlain*. Aquatec, Inc.
Florida Department of Natural Resources. 1990. *Florida Prohibited Aquatic Plants*.
Madsen, John D. 1990. *Waterchestnut (Trapa natans L.) Research in Watervliet Reservoir - 1989 Report*. Rensselaer Fresh Water Institute. FWI Report #90-8.



For more information about Vermont's invasive exotic plant species or if you would like to know how you can help, please contact:

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Vermont Department of Forests, Parks and Recreation, 103 S. Main St., Bldg. 10 South, Waterbury, VT 05671-0601 Tel. 802-241-3678