

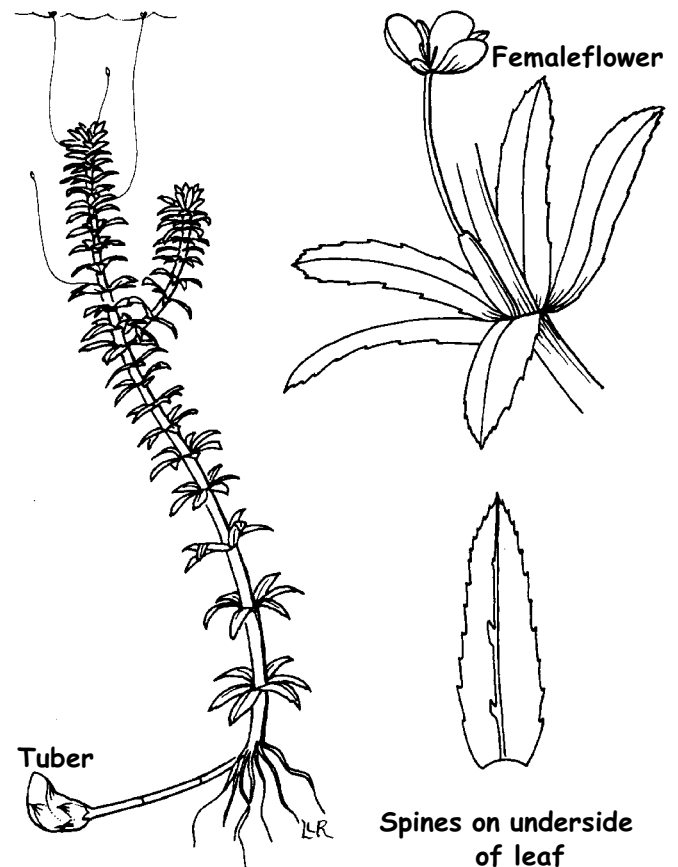
Vermont Invasive Exotic Plant Fact Sheet

Hydrilla *Hydrilla verticillata* (L.f.) Royle Frogbit Family Vermont Class A Noxious Weed

Description: Hydrilla is a submersed perennial aquatic plant with heavily branching, erect stems. It is rooted to the bottom, but broken stem pieces may be seen drifting in the water. In deep water, stems may reach 30 feet (9 meters) or more in length. Leaves occur in whorls of 3 to 8 and join directly to the stem. Leaf margins are visibly toothed, and the underside of the leaf may have one or more spines. Single, small white flowers are produced on stalks that reach the water surface. Hydrilla produces small (up to one-half-inch long), potato-like tubers at the end of underground stems. The tubers can be found from 2 to 12 inches (5 to 20 cm) below sediment level and are off-white to yellow. Spread of hydrilla occurs readily through stem fragmentation and the production of tubers.

Habitat: Hydrilla can be found in lakes, ponds, reservoirs, rivers, canals, and drainage ditches. Hydrilla is tolerant of a wide range of environmental conditions, which is why it competes so successfully with other aquatic plants. It has low light requirements and thrives in both high or low-nutrient waters. It can survive in both temperate and tropical regions.

Threats: Due to its ability to spread rapidly and completely clog waterways, hydrilla poses significant threats to the aquatic ecosystem and recreational resources. Hydrilla can reduce plant diversity by outcompeting native aquatic plants. Dense infestations of hydrilla can effect water quality and impede water flow, which can result in flooding and damage to shorelines and structures. Thick mats of hydrilla make swimming and other recreational activities difficult, if not impossible.



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Distribution: Hydrilla is native to Australia, Asia, and central Africa. It is an introduced exotic in Europe and the United States. The U.S. introduction occurred in the early 1950s by an aquarium fish and plant dealer who released several hydrilla plants from Sri Lanka into a canal near Tampa, Florida. By 1996, more than 100,000 acres of public water in Florida were infested with hydrilla. Other states in the U.S. where hydrilla occurs are Georgia, Alabama, Mississippi, North Carolina, South Carolina, Virginia, Maryland, Delaware, Louisiana, Texas,

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Hydrilla

Frogbit Family (*Hydrocharitaceae*)

Distribution continued: California, Washington, and Connecticut, Tennessee, Pennsylvania, Massachusetts and Maine. Hydrilla has not yet been found in Vermont. Accidental introduction could potentially occur through the aquarium or nursery/aquatic gardening trade, or recreational activities.

Control: Hydrilla is one of the most difficult aquatic plants to control. Many methods have been employed to try to manage or eradicate this plant over the years. The most widely used means to control large infestations of hydrilla is the use of the aquatic herbicide fluridone. The herbivorous Asian fish known as the grass carp has also been used, particularly in the South (**Introduction of grass carp in Vermont is illegal because of the negative effects they could have on natural fish and wildlife populations, the possibility of their establishment or spread to other waters, and the possible transmission of diseases to resident fish populations.**) Two leaf-mining flies, one from Australia and one from India, have been introduced as biological control agents. A tuber-feeding weevil from India and from Pakistan are also being tried. Other efforts have included dredging, mechanical harvesting, suction harvesting, and drawdown followed by dredging or fumigation for tuber removal. In spite of all these efforts and the expenditure of tens of millions of dollars, hydrilla continues to be a significant problem in many areas in the U.S.

* 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.

References:

- Langeland, K.A. 1990. *Hydrilla: A continuing problem in Florida waters*. Cooperative Extension Service/ Institute of Food and Agricultural Sciences. University of Florida, Gainesville. Circular No. 884.
- Madsen, John D. and C.S. Owens 1996. *Phenological studies to improve hydrilla management*. Aquatic Plant Control Research Program. U.S. Army Corps of Engineers Waterways Experiment Station. Vol. A-96-2.



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 Environmental Conservation, 103 S. Main St., Bldg. 10 North, Waterbury, VT 05671-0408 Tel. 802-241-3777



Vermont Department of Fish and Wildlife, 103 S. Main St., Bldg. 10 South, Waterbury, VT 05671-0501 Tel. 802-241-3715

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