

Invasive Alien Plant Species of Virginia

Eurasian Water-milfoil (*Myriophyllum spicatum*)

Description

Eurasian water-milfoil, a member of the water-milfoil family (Haloragaceae), is a submersed aquatic perennial. Long underwater stems branch as they approach the surface, where they produce whorls of three or four finely divided grayish-green leaves. Each leaf, ½ to 2 inches long, is divided into threadlike, linear leaflets, usually in pairs of 14 or more lying on the surface of the water. The submerged stems of the plant are usually 5 feet long but may be up to 15 feet, branching freely at the surface and ending in a spike which bears small yellow, four-parted flowers. Besides Eurasian water-milfoil and another non-native, parrot's feather (*Myriophyllum aquaticum*), eight native species of *Myriophyllum* are found in eastern North America. Consult a botanist to confirm identification before initiating any control measures.

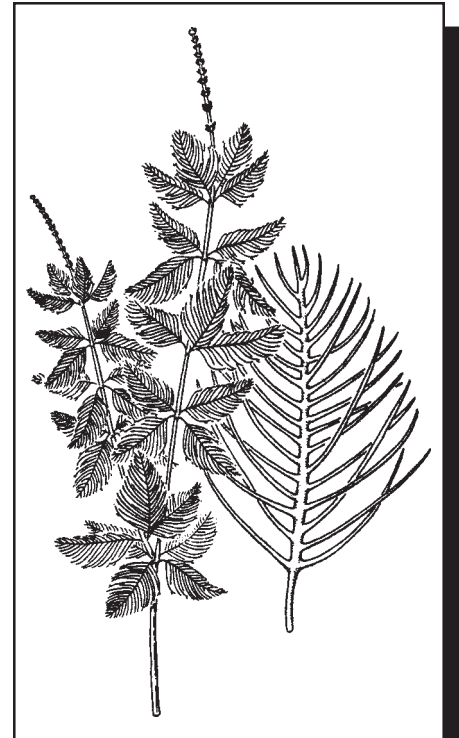
Habitat

Eurasian water-milfoil is indigenous to Europe, Asia and North Africa. Thought to have been intentionally introduced into the United States from Eurasia, it was first documented from a pond near Washington, D.C., in 1942. Since then, it has spread into at least 43 states both by intentional planting

and accidental transfer by boating equipment. It thrives in still waters and slow streams. It spreads by vegetative propagules and stem fragments carried to new sites by water currents. Local colonies expand mainly by stolons. Today the introduction of stem fragments to new water bodies occurs by transport on boating equipment, i.e., on trailers or propellers. Eurasian water-milfoil is one of the most widespread of all exotic aquatic plants and is still expanding. It is found throughout the eastern United States except New Hampshire, where it has been eradicated.

Threats

This plant begins growth in early spring before most natives, quickly growing to the surface, forming large, heavy, floating mats of vegetation. These mats obstruct water traffic and prevent light penetration necessary for the growth of native aquatic plants, displacing and reducing natural diversity. Eurasian water-milfoil has less food value for waterfowl than native plants. While fish may find the cover a temporary advantage, it eventually becomes a disadvantage as the dense mats result in degradation of the abundance and diversity of invertebrates necessary to support the food chain. The dense growth



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may also cause reduced dissolved oxygen levels from decaying mats of vegetation.

Control

Although underwater harvesting equipment is frequently recommended, control will not be accomplished by this method unless all fragments are removed from the body of water involved. Furthermore, timing is critical for this method. If done too early, substantial regrowth can occur. We do not favor this method for those

For more information, contact the Department of Conservation and Recreation or the Virginia Native Plant Society.



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reasons. A method involving less risk, if water levels can be manipulated, is to lower the water level in early winter and freeze the plant to death. If one can raise the water level to sufficiently shade the plant, it can be killed by reducing the light available to it. Finally, a herbivorous North American weevil, *Euhrychiopsis lecontei*, may be associated with natural declines in northern lakes. Studies have shown the weevil can cause considerable damage to Eurasian water-milfoil with no significant effect on native species, suggesting that the insect may have potential as a natural biocontrol agent within the weevil's native range.

References

Aiken, S.G., P.R. Newroth and I. Wile 1979. The biology of Canadian weeds. 34. *Myriophyllum spicatum* L. Canadian Journal of Plant Science 59:201-215.

Couch, R., and E. Nelson. 1985. *Myriophyllum spicatum* in North America. Pp. 8-18 in L.W.J. Anderson (ed.). First International Symposium Water-milfoil and Related Haloragaceae Species 23-24 July 1985, Vancouver, B.C. Aquatic Plant Management Society, Vicksburg, MS.

Engel, S. 1995. Eurasian water-milfoil as a fishery management tool. Fisheries 20(3):20-27.

Honnell, D., J.D. Madsen, and R. M. Smart, 1992. Effects of aquatic plants on water quality in pond ecosystems. Proceedings: 26th Annual Meeting, Aquatic Plant Control Research Program. Report A-92-2. US Army Corps of Engineers Waterways Experiment Station.

Keast, A. 1984. The introduced aquatic macrophyte, *Myriophyllum spicatum*, as habitat for fish and their macroinvertebrate prey. Can. J. Zool. 62:1289-1303.

Madsen, J.D. 1994. Invasions and declines of submersed macrophytes in Lake George and other Adirondack lakes. Lake and Reservoir Management 10(1):19-23.

Madsen, J.D., L.W. Eichler, and C.W. Boylen. 1988. Vegetative spread of Eurasian water-milfoil in Lake George, New York. Journal of Aquatic Plant Management 26:47-50.

Madsen, J.D., J.W. Sutherland, J.A. Bloomfield, L.W. Eichler, and C.W. Boylen. 1991. The decline of native vegetation under dense Eurasian water-milfoil canopies. J. Aquatic Plant Management 29:94-99.

Shelden, S.P., and R.P. Creed. 1995. Use of a native insect as a biological control for an introduced weed. Ecological Applications 5(4):1122-1132.

Smith, S.G., and J.W. Barko. 1990. Ecology of Eurasian water-milfoil. Journal of Aquatic Plant Management 28:55-64.

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