

INVASIVE PLANT FACTSHEET

Eurasian watermilfoil (*Myriophyllum spicatum* L.)

Problems: Forms dense surface mats of vegetation that outcompete native plant species and reduce the water quality of habitat utilized by aquatic fauna. Mats can also inhibit recreational uses and navigation in waterbodies.

Regulations: No federal or MS regulations prohibiting movement of this plant.

Description: Eurasian watermilfoil is a perennial submersed plant species that can be confused with native northern watermilfoil. This plant has feather-like green leaves that are arranged in a four-leaf whorl that are spaced at least ½ inch apart. The central axis of each leaf has between 12 and 21 leaflet pairs. The stem is typically a light brown color with a reddish tint. When flowering, it has an emergent pink spike measuring four inches tall that produces small yellow flowers. Eurasian watermilfoil can in water depths of 20 ft. and creates a vegetative canopy leading up to the water's surface. The plant senesces in the fall, but the root system and short green shoots during winter and begin regrowth the spring.

Dispersal: Eurasian watermilfoil is native to Europe and Asia. Because this plant spreads primarily through vegetative fragmentation, it is probable that it was introduced to the United States by watercraft movement. It is currently found in every state except Wyoming and Hawaii. New populations of Eurasian watermilfoil can form in formerly uninhabited water bodies by small fragments attached to boating equipment.

Control Strategies: Physical – winter drawdown is very effective for control of watermilfoil as it exposes plant root crowns to freezing temperatures. Mechanical - plant can be removed by hand or rake, but this will likely cause further spread through producing plant fragments. Biological - the milfoil weevil (*Euhrychiopsis lecontei*) has been approved for biocontrol release but has not been effective at controlling the plant. Chemical - the herbicides 2,4-D, triclopyr, endothall, and floryprauxifen-benzyl are all effective Eurasian watermilfoil control mechanisms as subsurface injections (Table 1).

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References

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Netherland MD, WR Green, and KD Getsinger. 1991. Endothall concentration exposure time relationships for the control of Eurasian watermilfoil and hydrilla. *Journal of Aquatic Plant Management* 29:61-67.

Wersal RM, JD Madsen, TE Woolf, and N Eckberg. 2010. Assessment of Herbicide Efficacy on Eurasian Watermilfoil and Impacts to the Native Submersed Plant Community in Hayden Lake, Idaho, USA. *Journal of Aquatic Plant Management* 48:5-11.

Turnage, G. 2019. A Brief Introduction to Factors Affecting Water Quality, Aquatic Weed Control, Herbicide Labels, & Mixing Calculations. Mississippi State University, Geosystems Research Institute Report #5084. Pp. 22.

Tables and Figures

Table 1. Chemical control strategies (submersed application rates) adapted from Betts et al. 2019, Netherland et al. 1991, and Wersal et al. 2010; all rates are in imperial units (see Turnage 2019 for instructions on calculating ac-ft; and to gain a greater understanding of how aquatic plant management and aquatic ecosystem processes affect each other); herbicide will move to a constant concentration in the waterbody after application.

HERBICIDE ^{*,†}	INJECTION RATE	NOTES
2,4-D	1.25 gal/ac-ft	Herbicides can be injected under the water surface using a handheld or battery powered ATV sprayer
Triclopyr	1.4 gal/ac-ft	
Endothall	1.9 gal/ac-ft	
Florpyrauxifen-benzyl	6.4 oz./ac-ft	

*2,4-D rates are based on a 3.8 lb./gal formulation, triclopyr rates are based on a 3.0 lb./gal formulation, endothall rates are based on a 4.23 lb./gal formulation, and florpyrauxifen-benzyl rates are based on a 0.0052 lb./gal formulation; see Turnage (2019) regarding herbicide labels and formulation determination.

†This table is meant to be an aid in mixing herbicide solutions; it is not meant to be used as a replacement for herbicide label recommendations.

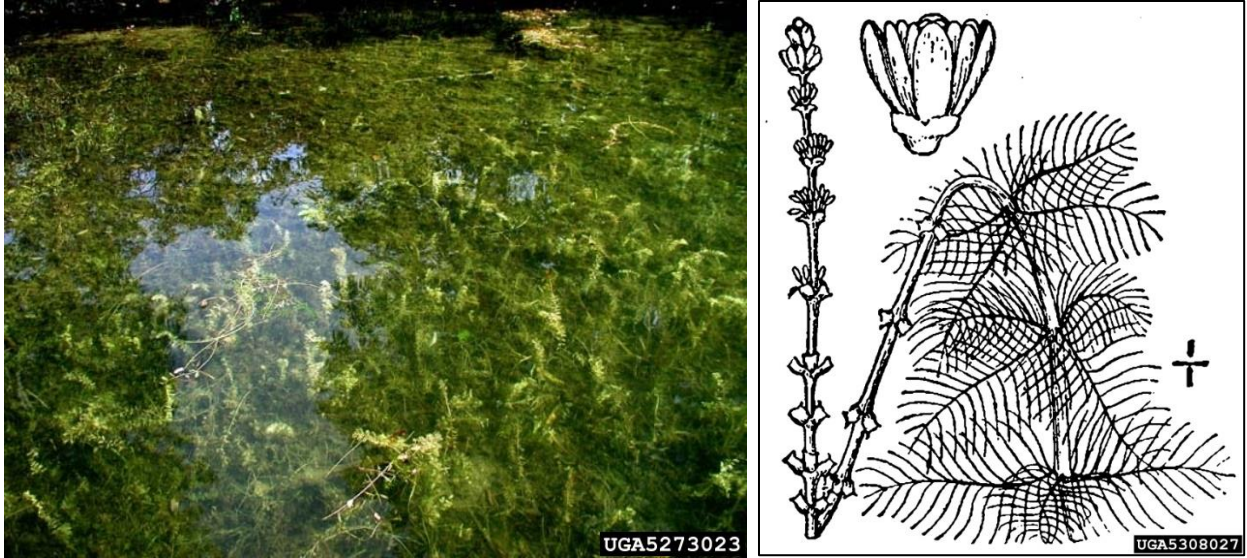


Figure 1. Image of Eurasian watermilfoil infestation (left) and a line drawing of inflorescence and leaves (right). Image credit: L – LJ Mehrhoff (Univ. CT; www.bugwood.org); R – USDA NRCS Plants Database (www.bugwood.org).

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