

Eurasian watermilfoil

Myriophyllum spicatum L.

Synonyms: None

Other common names: myriophylle en epi, spike watermilfoil, spiked watermilfoil

Family: Haloragaceae

Invasiveness Rank: 90 The invasiveness rank is calculated based on a species' ecological impacts, biological attributes, distribution, and response to control measures. The ranks are scaled from 0 to 100, with 0 representing a plant that poses no threat to native ecosystems and 100 representing a plant that poses a major threat to native ecosystems.

Description

Eurasian watermilfoil is a submersed, aquatic plant. Stems grow 91 cm long or longer. Leaves are whorled in groups of five, highly dissected, and composed of 28 to 48 thread-like divisions. Spikes emerge above the water; flowers are borne in the axis of bracts. Fruits are 2 to 3 mm long (Royer and Dickinson 1999, DiTomaso and Healy 2003).



Myriophyllum spicatum L. Photo by A. Fox.

Similar species: Northern watermilfoil (*M. sibiricum* Fern.) is often mistaken for Eurasian watermilfoil, but it can be distinguished from Eurasian watermilfoil by its leaves. Northern watermilfoil leaves have only 12 to 24 thread-like segments, whereas Eurasian watermilfoil leaves have 28 to 48 thread-like segments (Royer and Dickinson 1999). Eurasian watermilfoil can also be confused with the native whorl-leaf watermilfoil, *M. verticillatum*. Unlike Eurasian watermilfoil, whorl-leaf

watermilfoil has four, rather than five, leaves per whorl and its leaves exceed the length of its internodes.

Ecological Impact

Impact on community composition, structure, and interactions: Eurasian watermilfoil forms dense canopies that often shade out or displace native vegetation and reduce natural diversity. Monospecific stands of Eurasian watermilfoil offer poor habitats for waterfowl, fish, and other wildlife. The reduction in water flow caused by stands of Eurasian watermilfoil creates good breeding grounds for mosquitoes (DiTomaso and Healy 2003, Jacono and Richerson 2004).

Impact on ecosystem processes: Dense mats of Eurasian watermilfoil can increase sedimentation by slowing water flow, allowing suspended sediment to settle. They also alter water quality by increasing temperature and pH and decreasing dissolved oxygen beneath the mats.

Biology and Invasive Potential

Reproductive potential: Eurasian watermilfoil reproduces by seeds, fragmentation, and winter buds. Young populations of Eurasian watermilfoil average 112 seeds per stalk. Despite high seed production, fragmentation and winter buds probably contribute more to the reproduction of this species than does the germination of seeds. Winter buds are tight leaf clusters borne near the ends of stems. They develop when water temperatures drop and length of daylight shortens. The buds break off of the stems and sink to the bottom of the water, where they overwinter. In spring, the buds grow and elongate to form new plants (Washington State Department of Ecology 2003).

Role of disturbance in establishment: Eurasian watermilfoil thrives in areas that have been subjected to various kinds of natural and anthropogenic disturbances.

Potential for long-distance dispersal: Fragments and winter buds may be transported long distances by flowing water.

Potential to be spread by human activity: This species can be spread from lake to lake on boat trailers.

Germination requirements: Unknown.

Growth requirements: Eurasian watermilfoil is an

extremely adaptable plant; it is able to tolerate and thrive in a wide variety of environmental conditions. It grows in still to moderately flowing waters, roots in water depths from 1 to 10 meters, and can survive under ice. It can tolerate pH from 5.4 to 11 and a broad range of temperatures. Eurasian watermilfoil requires large amounts of light. It grows best on fine-textured, inorganic sediments, whereas it grows relatively poorly on highly organic sediments (Jacono and Richerson 2004).

Congeneric weeds: Parrot feather watermilfoil (*Myriophyllum aquaticum*) is considered a noxious weed in Alabama, Maine, New Hampshire, Vermont, and Washington (Invaders 2010, USDA 2010).

Legal Listings

- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states (AL, CO, CT, FL, ID, MA, ME, MT, NC, NM, NV, OR, SC, SD, TX, VT, WA)
- Federal noxious weed
- Listed noxious in Canada or other countries (AB)

Distribution and abundance

Typical habitat for Eurasian watermilfoil includes fresh to brackish water in fish ponds, lakes, slow-moving streams, reservoirs, estuaries, and canals.

Native and current distribution: Eurasian watermilfoil is native to Europe, Asia, and northern Africa. It now grows in North America, South America, Australia, Greenland, Central Africa, and South Africa. It has been found in 43 states of the United States and in the Canadian provinces of British Columbia, Ontario, and Quebec (Jacono and Richerson 2004). This species has not been documented in Alaska.

Management

Once Eurasian watermilfoil becomes well established within a body of water, it is very difficult or impossible to remove. In small bodies of water, there have been some cases of limited success in controlling infestations using aquatic herbicides. Other control methods include harvesting, rotovation, installation of bottom barriers, and hand pulling by divers.

References:

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- Royer, F. and R. Dickinson. 1999. Weeds of the Northern U.S. and Canada. The University of Alberta press. 434 pp.
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