Fact Sheet: Eurasian Watermilfoil

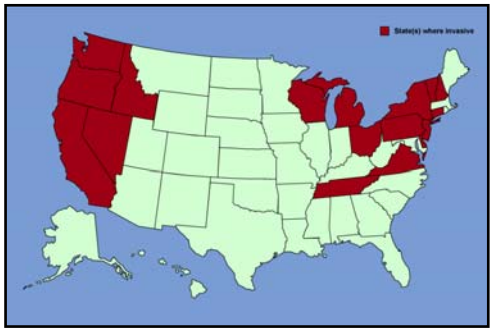
Eurasian Watermilfoil

Myriophyllum spicatum L.
Water-milfoil family (Haloragaceae)

NATIVE RANGE
Eurasia and Africa

DESCRIPTION
Eurasian watermilfoil, also called spike watermilfoil, is an emergent, herbaceous aquatic plant. Stems grow to the water surface, usually extending 3 to 10, but as much as 33, feet in length and frequently forming dense mats. Stems of Eurasian milfoil are long, slender, branching, hairless, and become leafless toward the base. New plants may emerge from each node (joint) on a stem, and root upon contact with mud. The grayish-green leaves of Eurasian watermilfoil are finely divided and occur in whorls of three or four along the stem, with 12-16 pairs of fine, thin leaflets about 12 inches long. These leaflets give milfoil a feathery appearance that is a distinguishing feature of the plant. Eurasian watermilfoil produces small yellow, 4-parted flowers on a spike that projects 2-4 inches above the water surface. The fruit is a hard, segmented capsule containing four seeds.

ECOLOGICAL THREAT
Eurasian milfoil can form large, floating mats of vegetation on the surface of lakes, rivers, and other water bodies, preventing light penetration for native aquatic plants and impeding water traffic. The plant thrives in areas that have been subjected to various kinds of natural and manmade disturbance.



DISTRIBUTION IN THE UNITED STATES
Watermilfoil occurs in thirty-three states east of the Mississippi River and has recently been found in Colorado. It is abundant in the Chesapeake Bay, the tidal Potomac River, and several Tennessee Valley reservoirs.

HABITAT IN THE UNITED STATES
Typical habitat for Eurasian watermilfoil includes fresh to brackish water of fish ponds, lakes, slow-moving streams, reservoirs, estuaries, and canals.. It is tolerant of many water pollutants. Eurasian watermilfoil tends to invade disturbed areas where native plants cannot adapt to the alteration. It does not spread rapidly into undisturbed areas where native plants are well established. By altering waterways, humans have created a new and unnatural niche where milfoil thrives.

BACKGROUND
Eurasian watermilfoil was accidentally introduced from Eurasia in the 1940s. Two theories exist as to how it entered North America: (1) it escaped from an aquarium, or (2) it was brought in attached to commercial or private boats. A resort owner is thought to have introduced watermilfoil into the Tennessee Valley Authority reservoir system in 1953.

BIOLOGY & SPREAD
Most regeneration of Eurasian watermilfoil is from rhizomes, fragmented stems, and axillary buds that develop throughout the year. Flower spikes often remain above water until pollination is complete, then resubmerge. Although seeds are usually viable, they are not an important means of dispersal.

MANAGEMENT OPTIONS
Large harvesting equipment can be used to mechanically remove milfoil in larger areas; a sturdy hand-rake can be used for smaller areas. Other available options include manipulation of water level, light penetration and chemical control. Potential impacts to existing native aquatic plant species should be evaluated carefully before implementing any of these techniques. For the single harvest, removal should take place just before peak biomass is obtained (early summer).

Substantial regrowth may occur if this is done too early. Better results appear with multiple harvests in the same growing season. If multiple harvests are not possible, then sustaining annual harvests is an option. All fragments of milfoil plants must be removed to achieve adequate control.

Where water levels are under manual control, raising or lowering of the water can be an effective way to reduce the growth of milfoil. By raising the water level, plants can be "drowned" by not having access to enough light. By lowering the water level, plants can be dehydrated and, at the right time of the year, frozen to death. This type of control is best used in conjunction with herbicides and shade barriers.

Bankside plantings, floating native plant species, light limiting dyes, or shade barriers are effective ways of reducing the amount of light reaching the plants and may reduce overall growth rates. Barriers can be used to prevent the movement and spread of aquatic weeds in ponds and lakes. A barrier is usually a suspended blocking screen that hangs vertically from a cable to a depth of about 4 meters; the cable is suspended by drum floats.

Fluridone (the active ingredient in Sonar® AS) is a selective herbicide for milfoil and several other exotic aquatic weeds. There are no restrictions on swimming, fishing, or drinking after application, and season-long control can be achieved with one application. Fluridone is available in liquid or granular form, and can be used as a spot treatment or on an entire waterway. For best results, applications should be made before or during the early stages of active growth.

USE PESTICIDES WISELY: Always read the entire pesticide label carefully, follow all mixing and application instructions and wear all recommended personal protective gear and clothing. Contact your state department of agriculture for any additional pesticide use requirements, restrictions or recommendations.

NOTICE: mention of pesticide products on this page does not constitute endorsement of any material.

CONTACT

For more information on the management of Eurasian watermilfoil, please contact:

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- http://nas.er.usgs.gov/dicots/my_spica.html
- http://www.des.state.nh.us/wmb/exoticspecies/identify.htm

SUGGESTED ALTERNATIVE PLANTS

Yellow nelumbo (*Nelumbo lutea*), pond weed (*Potamogeton nodosus*), butterweed (*Senecio glabellus*) are some alternative plants to consider for the eastern U.S.

OTHER LINKS

- http://www.invasive.org/search/action.cfm?q=Myriophyllum%20spicatum
- http://www.lib.uconn.edu/webapps/ipane/browsing.cfm?descriptionid=78

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REFERENCES

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