

NEW JERSEY NON-NATIVE PLANTS

Eurasian water-milfoil

(*Myriophyllum spicatum*)

Description

Eurasian water-milfoil is a submersed, rooted, perennial herb that can form large mats of floating vegetation. It has long underwater stems that branch and produce leaves near the surface. The leaves are grayish-green in color and occur in whorls of 3-4 along the stem. The leaves divide finely into 12-16 pairs of threadlike leaflets about 1.5 inches long, giving the plant a feathery appearance. The yellow flowers are 4-parted and held on a spike, projecting 2-4 inches above the surface of the water. They bloom in late summer. Hard, segmented capsules contain the seeds. Most regeneration and dispersal is from fragmented stems and rhizomes rather than from seeds. Preliminary data suggests that while the rate of successful seed germination is low among natural populations, laboratory studies indicate that the seeds are highly viable, and likely contribute to the long-term survival of the species through seed banking.



Why is Eurasian water-milfoil bad for New Jersey?

Eurasian water-milfoil grows in lakes, low-energy areas of rivers, and other bodies of fresh to brackish water. It is tolerant of pollutants and establishes readily in disturbed habitats and habitats where indigenous plants are growing poorly. Eurasian water-milfoil begins growing earlier in spring than most indigenous aquatic plants, and quickly forms a dense canopy that out-competes surrounding vegetation. Indigenous plant diversity and abundance decline once water-milfoil establishes. Recreational activities, such as swimming and boating, contribute significantly to the spread of this species. Waterfowl are affected because it has lower food value than native plants, and fish are affected because the plants support a lower abundance and diversity of invertebrates. Water quality and dissolved oxygen levels decline with the decay of the thick vegetation.

Control:

How can you get rid of Eurasian water-milfoil?

Most of the control methods mentioned below can have drastic impacts on indigenous aquatic plant species, especially rare or declining species. Special care and precaution should be exercised when dealing with this species. Since Eurasian water-milfoil spreads easily by vegetative fragments, a method should be made available to allow the operators of boats to hose-down their vehicles and trailers to remove these fragments in order to reduce the possibility of further spread.

Mechanical: In small areas Eurasian water-milfoil can be removed mechanically with a rake. In large areas, hydro-raking, dredging, and diver operated suction harvesting can be employed. The best time for mechanical removal is in early summer just before peak biomass, but multiple harvests are most effective. Non-toxic dyes or colorants prevent or reduce aquatic plant growth by limiting sunlight penetration, similar to fertilization. [Aquashade](#) is an example of non-toxic dye and other products are available. However, dyes do not enhance the natural food chain and may suppress the natural food chain of the pond. If water levels can be manipulated, plants can be “drowned” by not having access to enough light, and by lowering the water level plants can be dehydrated or frozen, depending on the time of year. Water level manipulation is most effective when used with shade barriers and herbicides.



Chemical: There are many herbicides available for milfoil control and should be applied when the plants are actively growing. One danger with any chemical control method is the chance of an oxygen depletion after the treatment caused by the decomposition of the dead plant material. Oxygen depletions can kill fish in the pond. If the pond is heavily infested with weeds it may be possible (depending on the herbicide chosen) to treat the pond in sections and let each section decompose for about two weeks before treating another section. Aeration, particularly at night, for several days after treatment may help control the oxygen depletion.

The following are available for aquatic treatment (please read and follow all manufacturer instructions and precautions before use):

[Navigate](#) and [Aqua-Kleen](#) is a granular butoxyethyl ester of 2,4-D and has been effective on Eurasian watermilfoil. 2,4-D compounds are systemic herbicides.

[Reward](#) is a liquid diquat formulation that has been effective on Eurasian watermilfoil and is very effective if mixed with a copper compound.

[Renovate](#) is a liquid triclopyr formulation that is effective on Eurasian watermilfoil. It is a selective broadleaf, systemic herbicide.

[Cutrine Plus](#), [K-Tea](#), [Captain](#), and [Clearigate](#) are all chelated or compound copper herbicides and can be used in a mixture with Reward or Aquathol K.

[Aquathol](#), [Aquathol K](#), and [Aquathol Super K](#) are dipotassium salts of endothall and comes in both liquid and granular formulations. These endothall products have been effective on Eurasian watermilfoil and can be mixed with copper compounds for additional effectiveness.

[Hydrothol 191](#) is an alkylamine salt of endothall and comes in both liquid and granular formulations. It is a contact herbicide and has been effective on Eurasian watermilfoil. **Hydrothol can be toxic to fish.**

[Sonar](#) and [Avast](#) are fluridone compounds, come in both liquid and granular formulations, and have been effective on Eurasian watermilfoil. These are broad spectrum, systemic herbicides.

Biological: Several insects are currently being tested as possible biocontrol agents. One of these is an aquatic weevil (*Euhrychiopsis lecontei*). Studies have shown that the weevil can have “rapid and substantial effects” to both plant stems and roots. The weevil is known to feed on Eurasian milfoil and the North American indigenous species *Myriophyllum sibiricum*, which is listed as a state endangered plant in New Jersey. Although these studies stress that the weevil “did not appear to have a significant negative impact on [*M. sibiricum*] in the field,” this may not be true when populations of *M. sibiricum* are at critically low numbers.