

## EURASIAN WATERMILFOIL (*Myriophyllum spicatum*)



### **Native range:**

Europe, Asia, and northern Africa

### **Characteristics: (APIS-U.S. Army Corps)**

Eurasian watermilfoil is an invasive, submersed (underwater) aquatic plant accidentally introduced in the 1940s to North America from Europe, where it is widespread. Eurasian watermilfoil is a stringy, submerged plant that quickly proliferates in North American water bodies. It is highly invasive and aggressively competes with native plant communities reducing biodiversity. Dense mats clog propellers, impair swimming, restrict boating and fishing accesses, and affect water quality.

Eurasian watermilfoil is recognized primarily by its whorls of four feather-like leaves around the stems. Each leaf is finely divided into paired leaflets, typically 12 to 21 pairs per leaf. The number of stems per plant increases as the plant ages. Each individual stem branches several times as it nears the water surface, creating a dense floating mat over the surface of the lake. Dense Eurasian watermilfoil beds usually occur in water between 3 and 20 feet deep. The tops of the milfoil plants, both stems and leaves, often turn red in color.

(Matt Rehwald, WDNR Bureau of Watershed Management): There are 7 native water-milfoils found in Wisconsin. There is also the northern water-milfoil x EWM hybrid. If you suspect the EWM hybrid, take the plants to your WDNR Aquatic Plant Management Planning specialist for referral to a qualified genetics lab. Samples must go through DNR APMP staff and not through consultants and lake groups.

**Control methods:**

While eradication is rare, control is possible. Options for effective control vary with size and duration of the infestation, water quality conditions, lake bottom conditions, water flow, willingness to use permitted herbicides and financial resources. All mechanical and chemical control measures require permitting by the WDNR and development of an aquatic plant management plan.

**Hand pulling** can be effective when the colony size is small, water clarity is good and the lake bottom is soft enough to enable divers to completely remove plant roots. Care must be taken to avoid releasing plant fragments into the water column. Hand pulling can be a particularly effective supplement to chemical control for EWM sites too small or of too low plant density to justify an herbicide application.

**Mechanical harvesting** is generally not permitted. Extreme infestations might qualify for harvesting if no other control methods are feasible. Mechanical harvesting requires a WDNR permit which will likely require an aquatic plant management plan.

**Chemical control** with WDNR permitted aquatic herbicides applied by licensed applicators is expensive and often controversial in terms of effectiveness and environmental safety. Repeated applications, often long term, are necessary for effective control. As with other control methods requiring WDNR permitting, chemical control programs require an aquatic plant management plan.

**Biological control** is an option, but not always a good one. The most effective method is the Milfoil Weevil which is native to North America and normally feeds on native Milfoil. However, if given the choice, it prefers to feed on Eurasian Water Milfoil. These sesame seed size weevils lay their eggs in the stems of the milfoil and when the larvae hatch, they eat the milfoil and kill the plant. The weevils require suitable shoreline conditions for over wintering. They are also a food source for certain fish species. Therefore, maintaining a population of the weevils suitable for EWM control can be difficult and expensive. No WDNR permit is required prior to introducing the Milfoil Weevil.

**Methods of early detection:**

Watch for early spring plant growth. Near to surface growth and even surface matting will be detectable in advance of native aquatic plant growth. Monitoring the lake surface for floating fragments and shorelines for washed up plant fragments can provide evidence of colonies not yet visible from the water surface. Rake drags in low density colonies is not as effective for detecting Eurasian watermilfoil as it is for Curly-leaf pondweed as EWM is much more fragile and often breaks into pieces too small to adhere to a rake. SCUBA or snorkel diving when water conditions are suitable are good techniques for early detection.