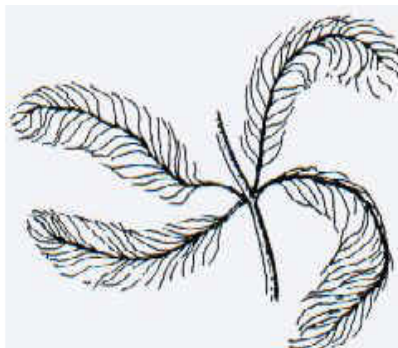


Eurasian Watermilfoil and Mechanical Aquatic Harvesting
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***Myriophyllum spicatum* (Eurasian Watermilfoil)** was introduced to the United States sometime between the late 1800s to perhaps even later in the 1940s. Like many freshwater invasive aquatic plants, Eurasian Watermilfoil (EWM) was introduced via the aquarium trade and likely released after cleaning and dumping home fish tanks. When EWM invades a nutrient-rich pond or lake the plant forms thick, dense mats, which interfere with swimming, boating or other recreational activities. Infestation throughout a large lake can occur within two years or less.

Problems: When EWM proliferates within a lake it can cause a host of problems including: increased boating repair & maintenance costs, declined plant diversity, poor circulation, lower dissolved oxygen, nutrient accumulation, fewer fish & invertebrates, increased mosquito populations (from decaying EWM mats) and eventually lower real estate values of homes around the waterbody.

Identification: Eurasian Watermilfoil has (12) or more pairs of leaves, thick stems, with mature leaves typically arranged in whorls of four around the stem. Like many invasive aquatic plants EWM reproduces by seeds and *fragmentation*.



What about Fragmentation? Aquatic vascular plants naturally break into segments distributing identical genetic material to other locations in the water body in a process called *fragmentation*. The argument that fragmentation is a deterrent for using aquatic mechanical harvesting lacks the basic understanding that any water management technique usually must be repeated. Aquatic mechanical harvesting should be used as an ongoing best management practice (BMP) to decrease the growth of invasive aquatic plants and macroalgae during warm

weather. Mechanical aquatic harvesting is often cited for increasing fragmentation since a portion of the plant is removed from the near shore environment. Natural wind movement and currents increase fragmentation, as does propeller driven boating. If aquatic mechanical harvesting is only done once in a growing season, fragmentation could increase in the later months. Having said that, if aquatic mechanical harvesting is done a second or third time during the growing season, fragments of the host plant will not be able to mature.

Just like pesticide applications, a couple timely treatments are recommended to prevent the return of invasive aquatic plant infestations. **So, would you rather remove the plant and the accumulated nutrients or add more chemicals to your ecosystem?** Using standard aquatic pesticides can harm zooplankton growth and repeated chemical applications will *never remove nutrients*. Impaired lakes are required by the USEPA to comply with the Clean Water Act that sets **Total Maximum Daily Loads** (TMDLs) of excess nitrogen and phosphorus; failure to comply is cause with TMDLs risks penalty fines. Mechanical Aquatic Harvesting complies with TMDL reductions by removing plant material and their associated nutrient levels.



Myriophyllum spicatum (Eurasian Watermilfoil)

Consider Harvesting to Remove Unwanted Freshwater Invasive Aquatic Plants and Saltwater Macro-Algae.

Weedoo^{INC} is the industry's leading manufacturer of aquatic weed harvesters and weed cutters. We value our natural resources and thanks to people like you who seek out solutions to preserve nature, we will win the fight to clean aquatic vegetation from our waterways! Weedoo aquatic weed harvesters are rugged machines that are designed to tackle the toughest lake weed removal jobs in the most extreme and challenging aquatic weed conditions. Weedoo compact aquatic harvesters are easy to maneuver around docks with their zero turn capability.

These aquatic harvesters have the stability of harvesters several times their size because of a unique hull design, which allows maximum payload and balance. Weedoo aquatic harvesters are easy to launch without the need for paved boat ramps. The Weedoo 300 Series aquatic harvester was developed over the past decade as the best aquatic weed removal machine on the market, able to rapidly transform waterways in an eco-friendly manner.

Weedoo aquatic harvesters can operate in shallow, narrow, aquatic weed-choked waterways because they have an advanced, shallow draft hull design. Weedoo aquatic weed harvesters are factory equipped with our proprietary, quick-change attachment system, which makes it easy to switch between aquatic work implements and power systems.

References

<http://www.seagrant.umn.edu/exotics/eurasian.html>

<https://www.invasivespeciesinfo.gov/aquatics/watermilfoil.shtml>

<http://dnr.state.mn.us/invasives/aquaticplants/milfoil/index.html>

<http://www.ecy.wa.gov/programs/wq/plants/weeds/milfoil.html>

<http://www.weedooboats.com/>