



**Identification and
Recommended Management
Techniques**

for

**Eurasian
Watermilfoil**

Myriophyllum spicatum

Species Identification

- **Species Description:** this plant is a submerged aquatic perennial that forms dense mats beneath the surface of the water on lakes and ponds. Individual plants can reach lengths ranging from 3 feet to over 30 feet.
- **Habitat:** typically found in still water such as inland lakes and ponds, especially those high in nutrients. Tends to show preference for shorelines that are disturbed.
- **Leaves:** leaves are whorled and pinnately compound with a feathery appearance. Each whorl contains 4-5 leaves, and each leaf bears 12 or more pairs of leaflets.
- **Flowers:** flowers of this species occur on spikes that rise up out of the water. They are yellow, parted, and whorled in small
- **Fruit:** this plant bears a capsule that has four seeds.
- **Reproduction:** this plant can reproduce by its seeds but typically will spread by runners and by fragmentation.



Recommended Control Measures



Eurasian watermilfoil, or EWM, is a species that will rapidly spread itself vegetative if left unchecked. This action will limit sunlight for other aquatic species, degrade wildlife habitat, and even produce higher quality habitat for mosquito reproduction. To manage for native biodiversity and preserve natural habitats, this species must be controlled.

Early Detection

As with any invasive species, early detection is critical to prevent Eurasian watermilfoil from colonizing itself in water bodies.. Monitor areas of concern that are disturbed and high in nutrient value.. Begin monitoring for this species in early spring. .

Physical Control Method I: Hand pulling/raking

If the colonies are of a manageable size, the plant can be raked out or hand pulled. Be sure to remove all fragments of the plant, otherwise this action can add in vegetative reproduction. Be aware that any aquatic plant harvesting or mechanical efforts that disturb soil or substrate will typically require a permit from the state. If using this method, be aware that harvesting can negatively affect an ecosystem by the inadvertent removal of other vegetation.

Physical Control Method II:

Large boats with cutting blades can cut and collect milfoil. All plants need to be gathered and brought to shore to prevent further spreading. Like hand pulling/raking, this method is non-selective and may inadvertently damage native aquatic vegetation. This is also not a long term solution, as the plant will grow back.

Recommended Control Measures



Physical Control Method III: DASH

DASH, or diver assisted suction harvesting, is effective for early infestations where colonies are more manageable. This process involves scuba divers pulling plants from the soil bottom with a vacuum pump. This can work well around piers and docks. Note that this action can increase turbidity in the water and disturb substrate. DASH efforts require a permit from the state.

Physical Control Method IV: Benthic Barriers

Placing barriers on the lake bottom to shade out plants can be an effective way of controlling EWM for several seasons. These can be made of synthetic or natural materials, but are typically made of plastic. The benefit to natural fiber benthic barriers is that they degrade on their own over time. Be aware that barriers may be damaged by boat propellers if used in water less than three feet deep. Additionally, these mats can be damaging to shallow habitat areas and prevent spawning of certain fish species; they may also prevent the growth of algae. They are good for low impact areas, such as around docks. This control method requires a permit from the state.

Chemical Control

Controlling this species with herbicide has been met with mixed results. Herbicide treatment requires a permit from the state of Michigan when applied to a body of water. It is important to differentiate between contact and systemic herbicides; contact herbicides will only kill tissue immediately exposed to the herbicide, whereas systemic herbicide is absorbed into the plant to kill the roots. Systemic herbicide typically needs to be repeated every 1-3 years, whereas contact herbicide may need to be treated multiple times per season. It is also important to differentiate between selective (will only affect certain species) and non selective herbicides (will kill non-target vegetation). Herbicides that can be used within a body of water in the State of Michigan include chelated copper, Diquat, endothall, flumioxazin, fluridone, granular 2,4-D (not liquid), and triclopyr (amine variant only).

About the CAKE CISMA



Who We Are

The CAKE CISMA is the Charlevoix, Antrim, Kalkaska and Emmet Cooperative Invasive Species Management Area. The CAKE CISMA provides education, outreach and land management assistance to the public within its service area, and is funded by the Michigan Invasive Species Grant Program, a funding effort by the Michigan Department of Natural Resources, the Michigan Department of Agriculture and Rural Development, and the Michigan Department of Environment, Great Lakes and Energy. The CAKE CISMA is directed by a steering committee comprised of invested environmental agencies and organizations, including the Antrim Conservation District, Kalkaska Conservation District, Emmet Conservation District, Little Traverse Conservancy, Grand Traverse Regional Land Conservancy, Little Traverse Bay Band of Odawa Indians, Tip of the Mitt Watershed Council, and the Walloon Lake Association and Conservancy.

Our Mission

“The mission of the CAKE CISMA is to protect the natural resources, economy, and human health in Northern Lower Michigan through collaborative outreach and management of invasive species.”

Contact Us

For invasive species related questions and concerns, don't hesitate to visit the CAKE CISMA office at the Antrim Conservation District, 4820 Stover Road Bellaire MI 49615, or call the office at 231-533-8363 ext. 5, or email the CAKE CISMA program coordinator at benjamin.vandyke@macd.org.