EURASIAN WATERMILFOIL TREATMENT ON CRYSTAL LAKE 2021
FREQUENTLY ASKED QUESTIONS

What is Eurasian Watermilfoil?

A. Eurasian Watermilfoil ("EWM," *Myriophyllum spicatum)* is an invasive aquatic plant first reported in the U.S. in the 1940s and expanded rapidly. It is now the most widespread submerged invasive aquatic plant, present in all counties of Michigan. With roots in the sediment, it grows completely under water, forming a dense canopy of vegetation. It is spread from lake to lake via contaminated watercraft, boat trailers and bait containers. Once introduced to a water body, it reproduces rapidly through detached fragments, some natural and some broken off by boat propellers, etc.

How do we know the extent of EWM in Crystal Lake?

A. During the summers 2016-2018, the CLWA carried out a complete aquatic plant survey of Crystal Lake. This was performed under the auspices of the Michigan Cooperative Lakes Monitoring Program and according to the standards established by that program. The CLWA team used a combination of boat-based rake toss and drone-based aerial photography to gather and confirm the data. The survey determined that only one invasive plant was present, EWM. DNA analysis showed it had not yet hybridized into a variant which is much more difficult to control. The EWM extended over 6.05 acres of Crystal Lake's ca. 10,000 acres, most of it clustered around the east end of the lake.

   Additional survey by aerial drone in 2020-2021 documented that the EWM growth had expanded to 7.32 acres and was now present in all parts of the lake.

Why is EWM a threat to Crystal Lake?

A. Fortunately EWM is not *yet* a significant impediment to activities in the lake. However, left unchecked, its dense underwater canopy of vegetation can grow so thickly just below the water surface that it obstructs recreation such as boating, fishing, and swimming. Its growth may disrupt aquatic ecosystems, affecting fish and other wildlife and beneficial native plant growth. Such degradation of the water resource is known to negatively impact surrounding property values

Are there treatments other than herbicides that can treat invasive EWM?

A. Various biological and mechanical methods have been tried on EWM over the decades. But none has proven cost-effective and successful for long-term control in all situations. CLWA has fully examined all alternatives and concluded that herbicide treatment is most appropriate and economically feasible for the conditions that currently exist in Crystal Lake.

What herbicides will be used?

A. Systemic herbicides granular 2, 4-D or Triclopyr, depending on the specifics of the site. Both are fully registered by the EPA, EGLE, and MDA for aquatic use in the State of Michigan. Both have undergone comprehensive testing and decades of safe usage in U.S. waters. The first treatment of 2021 used only granular 2, 4-D.

Is there official oversight of this process?

A. Application must be performed by professional pest management contractors, licensed by the Michigan Department of Agriculture and Rural Development (MDARD). For the Crystal Lake project, the contractor has obtained an Aquatic Nuisance Control Permit (#ANC9805924) from the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

How is the product applied to the plants?

A. A boat-based technician dispenses the product in a controlled fashion at close range directly on the plants and it sinks to the lakebed. The process is guided in real time by aerial drone photography that facilitates precise placement of the product without excess exposure.

How many treatments will be necessary? When will they be done?

A. Two treatments are planned for summer of 2021: the first took place on June 29 and the second in late July.

Does the product harm fish or other aquatic animals or plants?

A. The products to be used have been thoroughly tested as safe for other aquatic life. Registering an aquatic herbicide requires 84-124 different studies over 6-10 years, followed by 1-3 years of scientific assessment by the EPA before approval.

Is it safe for people to swim after the treatment?

A. To insure the utmost safety, EGLE suggests a 24-hour swimming restriction in the treatment area. This restriction keeps swimmers out of the way of the applicator boat, minimizes disturbance, and maximizes plant uptake of the active ingredient. The EPA restricts swimming for 24 hours following treatment with 2, 4-D.

How long does the product stay in the water?

A. Especially in a large windy lake like Crystal, and depending on temperature, the product quickly dilutes and biodegrades. The treatment level is 100 to 1000 times more dilute than would be harmful to humans or pets.

What happens to the dead plants?

A. Since Crystal Lake currently has a fairly low density of EWM, the treated plants will sink to the lake bottom and harmlessly decompose. It is possible that some plants from denser areas could be washed up on the beach, in which case they can be removed by raking.

Since only a small portion of the lake is currently infested with EWM, can we wait and treat it sometime in the future?

A. The EWM continues to grow and spread. The CLWA's surveys have shown that the plant spread nearly an acre over two years. Once a dense, advanced state has been reached, removal becomes much more difficult and expensive. It also has the potential to hybridize into a species for which common herbicides are not effective. Therefore CLWA plans to take control measures at this time while the EWM still remains manageable.