

# **Eurasian Water Milfoil Advisory Committee Report to Saugatuck City Council**

**December 28, 2020**



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## **Introduction**

Lake Kalamazoo (the Harbor) has experienced a troublesome and increasing growth of an invasive species of weed known as Eurasian Water Milfoil. This invasive species is a nuisance to the public's use and enjoyment of the Harbor. In an effort to minimize and control the growth of this weed the Saugatuck City Council, at its regular meeting of October 12, 2020 appointed the Eurasian Water Milfoil (EWM) Advisory Committee and tasked the committee to "review the existing documentation, consult with appropriate agencies and experts, identify costs, and to ultimately report the committee's recommendations to the Saugatuck City Council on or before their regular meeting of February 8, 2021."

The committee members:

- Mayor Ken Trester, City Council member
- Garnet Lewis, City Council member (through November 23, 2020)
- Scott Dean, City Council member, communications advisor with Michigan Department of Environment, Great Lakes, and Energy (beginning November 24, 2020)
- Robert Shuchman, Co-Director of Michigan Technological Research Institute
- Pat Burroughs, Past Harbor Authority Board member, Environmental Law Attorney, Civil Engineer
- Tim Straker, Chair of Historic District Commission
- Karen Doyle Homan, Interim City Manager

## **Methodology/Discussion**

For its first meeting, the committee concentrated on reviewing the data and other information collected by the City in the prior two years. This review included the Aquatic Vegetation Survey and Treatment Options Report performed in 2018 by Kaiser & Associates. (Committee packet materials containing all documents/video/photos shared are available at <https://www.saugatuckcity.com/index.php/2020-03-11-16-11-12/news>).

For its second meeting, a panel of experts was assembled. The panel was made up of:

- Melissa DeSimone, Executive Director, Michigan Lakes and Streams Association
- Zach Berry, Biologist, General Manager, Aquatic Doctors
- Ryan Schauland, Biologist/Aquatic Ecosystems, President/Owner Aquatic Doctors
- Andy Tomaszewski, Biologist, PLM Lake and Land Management Corp.

- Jason Broekstra, Biologist, VP of Great Lakes Operations, PLM Lake and Land Management Corp.
- Michael Smith, Owner, Mtt DASH Divers
- Kim Arter, Laketon Township Supervisor; President, Bear Lake Lake Board

With the experts' assistance, all possible methods of treatment were evaluated. These methods and the conclusions reached were:

- Cutting/Harvesting: Harvesters mow the milfoil under water. It is a short-term relief method without any long-term benefits. The resulting fragmentation of the EWM spreads it further.
- Diver Assisted Suction Harvesting (DASH): DASH is being used successfully when the EWM is contained to a small area, less than an acre if dense (Higgins Lake), or in a larger area if the pockets of EWM are scattered (Lake Leelanau). The Kalamazoo Harbor infestation is currently localized, dense and over many acres (17-20 acres). Mtt DASH Divers stated that it takes a week to do a dense half acre equipped with two boats and divers, and advised this method was not recommended for the Harbor because of its size.
- Weevils: Weevils were once promising for long-term control of EWM. They are difficult to propagate for commercial use and not widely used anymore. There is also the danger of introducing another non-native species to the lake.
- Dredging: Dredging is a possible long-term solution. The cost of dredging and the difficulty of permitting does not make it viable in the short-term.
- Benthic Barriers: Benthic barriers are like landscape tarps. They would be difficult to anchor in a flowing river system. They would also kill the native plants along with the invasive species. They are illegal to use for this purpose in Michigan.
- Sonar (fluridone): Not to be confused with acoustic technology, Sonar (fluridone) treatment is like chlorinating a swimming pool. The dilution, 6 ppb, will kill EWM, but will not impact native plants. It is a risky option in a flowing system because it needs to stay 60 days to be effective.
- Aeration: Aeration is great to restore health to an inland lake with algae blooms. It is not effective for EWM or recommended in a flowing system.
- Herbicide: Herbicides placed appropriately, systemically, and properly will cause the die-off of the invasive EWM without harming the native species. Granulated herbicide products that quickly sink to the targeted treatment areas are recommended because they are less impacted by flow. It is already being used in the watershed by the City of Douglas and proving to be effective. Other

nearby harbor communities in West Michigan are also using herbicides to combat invasive EWM.

The panel and committee discussed unintended consequences (impact on native species, fish, and habit) if an herbicide is used. The consensus among the experts was, that by taking out the fast-spreading, non-native invasive species the native species—which are currently being choked out—will return and natural habitat will reappear in the treated areas.

The consequences of allowing the invasive EWM to spread are the potential collapse of the ecosystem. The EWM blocks out the sun, and it degrades and destroys food sources and habitat. When it dies out in the fall, the decaying plants reduce oxygen in the water, which in turn kills fish because there is no food source for them.

An additional benefit of eliminating the invasive EWM is that the foul-smelling duckweed, a native species, will no longer be trapped in EWM's dense mat and thus more likely to continue its normal path down river and out to Lake Michigan.

In addition to environmental considerations, controlling the spread of invasive EWM positively benefits the public's enjoyment of Kalamazoo Lake and Harbor. Controlling it is vital to our local tourist-dependent economy.

(The panel discussion may be viewed on youtube at:  
<https://www.youtube.com/watch?v=eYMXBjNYTeE>)

### **Riparian/Waterfront Property Owners' Consent**

As a part of its investigation the Committee looked into the need to obtain individual riparian owners' consent to treat the Harbor for the invasive milfoil. The Committee found the following points:

- Municipalities have an obligation to keep water bodies navigable and free from noxious weeds, just as they do to maintain roads and land areas.
- The Michigan Department of the Environment, Great Lakes and Energy (EGLE) does not require individual property owner consents when the aquatic weed treatments are being done by a municipality through a professional contractor. This is true whether the funding comes from special assessments or from the City's General Fund.

### **Conclusion**

The panel unanimously concluded that herbicide treatment of the invasive EWM patches in Kalamazoo Lake and Harbor would be safe and effective. Herbicide is recognized as a viable treatment option by the Michigan Department of Environment Great Lakes, and Energy (EGLE) and does not come with some of the unintended

consequences of other treatment or cutting technologies. It is also likely the most cost-effective option. The panel also concluded that once the growing EWM infestation is under control, Diver Assisted Suction Harvesting (DASH) may become a viable long-term option of continued maintenance of invasive aquatic weed growth. Although not the focus of the panel's discussion, it was noted that longer-term work and engagement with communities upstream of Kalamazoo Lake would be beneficial in addressing the root causes of weed growth (agricultural run-off, failing septic systems, loss of habitat).

### **Recommendation**

The Committee recommends that the City of Saugatuck partners with the City of Douglas to treat invasive Eurasian Water Milfoil with herbicide. Douglas has already proven that this can be accomplished safely and effectively, and partnering in the stewardship of this shared body of water will save both cities money. The City of Douglas's vendor, Aquatic Doctors, has offered a 5% quantity discount if our two communities' partner. We would share the cost of one permit from EGLE rather than obtaining two.

Further, the Advisory Committee recommends the city fund the cost of treatment in the first year.

This recommendation does not require a competitive bidding process. The City of Saugatuck's Code of Ordinances, Ordinance 32.18(C) states under the heading *Exceptions to Competitive Bidding*: "Where the City Council shall determine that the public interest will be best served by purchase from or joint purchase with another unit of government".

Another factor supporting partnering with the City of Douglas is that in early 2020 the City of Saugatuck sent out Requests for Proposals (RFP) for treating Eurasian Water Milfoil. Two contractors responded with Aquatic Doctors being the low bid. Their quoted price in 2021 did not increase from their 2020 bid.

### **Cost**

Aquatic Doctors cost per acre of granular triclopyr (used in Douglas) is \$560 an acre, per treatment. In 2018, when Kaiser & Associates performed their study, the recommended treatment areas were estimated between 17 and 20 acres. Using 20 acres as a high estimate, and applying the 5% discount, the cost for treating 20 acres would be \$21,375 (two treatments over the season) plus our share of the permit.