



Magician Lake Improvement Association

May 12, 2010

Re: Averting Crisis: The Plan To Address Eurasian Watermilfoil in Magician Lake

Dear Magician Lake Property Owner,

Magician Lake now has Eurasian Watermilfoil (EWM). Our last letter this winter on this problem alerted not only members of the Magician Lake Improvement Association but all property-owning riparians on the lake to the issues. This is the follow-up to discuss the next steps and the process to address the problem.

The Problem

We will paraphrase portions of that winter letter to you here because it explains exactly what the problem is--Eurasian Watermilfoil (EWM) is a non-native weed which can spread rampantly and create a carpet of thick weeds on or below the surface. EWM can literally grow so thick that the propeller on a speedboat could bind to a halt. In addition it can be very dangerous to anyone unknowingly trying to swim in it and it destroys the natural "good" weed habitat of the fish. This has happened to numerous lakes in Michigan alone. In-depth professional studies of the entire lake were conducted in both September and November to determine if we have a problem and if so--the extent of the problem. After surveying the entire 515 acres of the lake by examining weeds in 664 locations and plotting each location via GPS, EWM was found in 162 acres—31% of our lake already has Eurasian Watermilfoil. Our beautiful lake is progressing toward a potentially terminal problem if left untreated.

What To Do About It

Lakeshore Environmental, a water resource management company, conducted our lake studies and is advising on the plan of action. Representatives from the MLIA board have spent considerable hours with Lakeshore discussing the alternatives, costs and timing. The conclusion from not only Lakeshore but all the experts consulted (and discussions with many other lakes with the problem) is that EWM simply will not go away by itself. It will only get worse and must be caught at an early stage to have the best chance of arresting it. There is no evidence from any expert or other lake that this can be eradicated—only arrested.

We now have a plan which covers 5 years. The first year would have an application of 2 different aquatic herbicides only in areas that need it (and possibly weevils in some areas—see the Q&A attached). The herbicides are approved by the Environmental Protection Agency (EPA) and used hundreds of times on lakes with our problem. Approved aquatic herbicides will be applied by a Michigan Department of Environmental Quality (DEQ) licensed applicator. The herbicides selected will be geo-specific (address the spots you want them to work) and bio-specific (attack the EWM and have little effect on the "good" weeds or fish). Lakeshore will monitor the applicator to see that our lake is handled properly.

Cost/Payments

The entire lake is one resource enjoyed equally by every property owner on the lake and the cost will be shared equally by every property owner on the lake. The cost of application so far is only a "ballpark" estimate because the bidding process is only now under way. But for the first year it is expected to be

somewhere around \$190 per property (+ or - \$30). This is a very small cost to address this issue. See the Q & A attached for further explanation. Experience shows that the weeds would be reduced considerably the first year. Year 2 will be localized treatment only—just addressing the remaining areas that need it. Years 3-5 will treat spots as necessary. This is expected to arrest the EWM problem and to keep it from becoming a potential disaster for the lake. This would cover the costs associated with EWM, the applicator as well as any costs associated with Lakeshore. The way this is funded is to ask the townships to create a Tax Assessment District. We will ask Silver Creek and Keeler Townships to do so. In this way the cost will be on each of our tax bills to collect the necessary funds.

Timing

It is important that plans be put in place now for the first application one year from now—spring of 2011. The only expense now is for Lakeshore's help in creating the plan, recommending applicators, monitoring the problem and addressing the steps to move the plan ahead. In June a Petition to save our lake will be circulated to get the necessary approval of 51% of the property owners. Should this be approved, the townships will not actually start collecting on the tax bill until next winter. In the meantime we will monitor our EWM problem and put the plan in place for a spring 2011 start.

What You Should Do

We know our lake has a serious problem and it must be handled quickly before it gets out of control. It will take the support of the homeowners on our lake to fix our EWM issue—it's our lake for us today and for our kids and grandkids to use in the future. We can't let it become one huge EWM weedbed. In June when the Petition is circulated, we will be asking that each property owner sign the Petition to fix the problem.

Join MLIA. If you are not a member of our association, you should sign up—it's only \$25 per year. We on the Board are all volunteers and we spend a lot of time monitoring this and the many issues noted in the MLIA Newsletter. With your membership you stay up to speed re Magician Lake and you also receive a copy of the Riparian Magazine, which covers the many issues faced by lake homeowners in Michigan. We're all in this together and it's a small amount to support our lake. See the application for membership in the enclosed MLIA Newsletter.

Enclosed is a Question and Answer paper which addresses other questions that you may have about the EWM issue.

Also, we are attempting to schedule a special meeting to address this issue prior to our annual meeting in July. Please check our web site www.magician-lake.org for information regarding this special meeting. There will NOT be another mailing announcing this meeting so check our web site.

Sincerely,

MLIA Board of Directors

Questions and Answers About Magician Lake's Eurasian Milfoil And The Plan To Save Our Lake

Q. How widespread is Eurasian Watermilfoil (EWM) and how did we get it?

A. The weeds started becoming a problem in the US in the 1960s. Since then they have become a major problem in every state. In Michigan for example, back in 2003 alone, there were over 1,500 applications to the DEQ to use herbicides to treat weeds (not all were EWM). It probably came to our lake on the bottom of boats launched from the public-access site. It only takes a few weed pieces and seeds to get it going. Boats can churn up weed beds in our lake where broken off bits can blow around, re-root, grow and spread to become new weed beds. Once EWM grows enough to be visible in many places, it will take drastic action to arrest it. Drastic action means that instead of only treating individual weed beds where they exist now, the entire lake may have to be treated and we really want to avoid that. We are not at that stage as we caught the problem early enough.

Q. Does this mean that once we control it that it can come back with more bits of weeds and seeds?

A. Probably but it will be controllable. In the future there may still be the need to do spot weeding but it should be minor compared to what we have to do now to get a handle on the problem.

Q. How long do the experts figure we had EWM?

A. There's no way to know. In our lake they were probably growing and spreading only in recent years since EWM grows fast. It was first discovered here in the Magician Bay channel, south of the Midway Marina boat ramp channel 2 years ago. The Magician Bay Homeowners Association had this area treated last year with herbicides, which reduced the EWM considerably. According to Jim Dudley, President of the channel homeowners association "last year was the first year of treatment and the EWM has already been reduced dramatically and we believe that in our channel it is under control." Another homeowner there reported that this winter was the first winter in a long time that there was little ice in the channel, which may be due to the big reduction of weeds. It looks like the natural springs starting working again--creating moving water out of the channel.

Q. What are our choices in treating EWM and what are the differences?

A. The choices are harvesting, biological or using approved herbicides. Harvesting of EWM was used for years at Dewey Lake, Paw Paw Lake, Barron Lake and many others. Experience has now shown that cutting the weeds with a machine in the water (harvesting), only cuts off the tops of the weeds and bits and pieces fall to the bottom and are blown by the wind all over the lake and re-root and make the problem worse. Biological control is using weevils. These are small beetles which are native to Michigan (they are in Magician Lake) and normally feed on our native milfoil. Weevils are grown in large numbers (at weevil hatcheries) and purchased to put in a lake to feed on EWM. They eat holes in the stems of the plant to feed, which will stunt the plant but not kill it. The jury is out as to whether huge numbers of them will be effective enough to control EWM. Weevils cannot fly very far and for wintering they need nearby shoreline natural cover. We don't have a lot of that with all our seawalls. Given a choice, we would clearly want to address the problem with a "green" approach so we will explore this option thoroughly. Herbicides are the only proven control method and their use has been studied and applied for decades. They have to be approved by the EPA and their application is licensed by the Michigan DEQ.

Q. What evidence is there that herbicides won't hurt our "good weeds"?

A. Treating EWM has gone on for many years. DEQ, lake management companies and applicators have considerable history of what works and what doesn't. In addition universities with aquatic bio-environmental programs have approached this with studies to determine the effect of various applications. Michigan State University and the University of Michigan have considerable interest in this field. A good 2009 study to read is from Purdue University, Dr Carol Lembi, Professor of Botany in the Department of Botany and Plant Pathology. Among her many studies is "Why Aquatic Herbicides Affect Aquatic Plants and Not You" This is available online at <http://www.btny.purdue.edu/aquatic/aquaticherb.html> and on DVD.

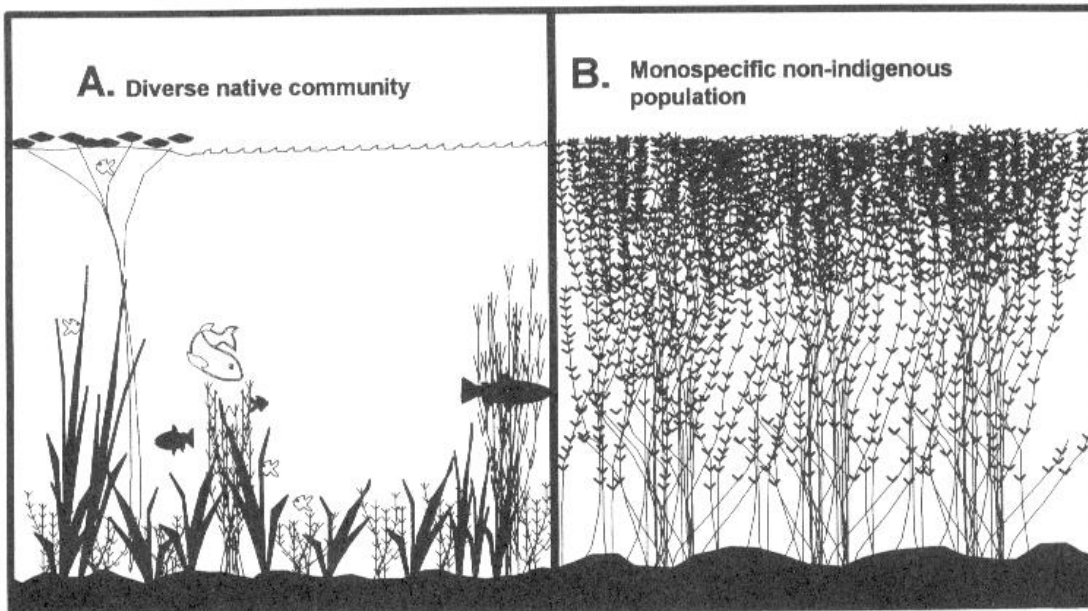
Here's another source of information to look at--"*In many cases some TES (good weeds) are actually enhanced by properly timed and planned herbicide applications. When nuisance levels of invasive plant, such as Eurasian*

Watermilfoil, are selectively removed from a site, normal environmental conditions are restored and the rare or TES species are encouraged to utilize the improved habitat, grow, and thrive” (Nelson 1999—see references)

In other studies it was concluded when discussing the selective use of the herbicide 2,4-D...”*Since this product is selective for milfoil, there will be minimal or no damage to nontarget vegetation in the treated areas and little negative impact on water quality and/or aquatic habitat. Through the judicious use of 2,4-D milfoil can be significantly reduced in the treated areas, while the release and growth of more beneficial native submersed plants will be encouraged”.**

Q. Exactly how does EWM help our “good weeds” and fish?

A. The following drawing (drawing A) shows a typical normal weed bed with a variety of weeds and fish. In Drawing B a weed bed typical of EWM growth forms a canopy, which prevents sunlight and reduces oxygen in the water. These together will kill the “good weeds” and reduce the fish population in this area.



(Madsen 1997)

* Source: US Army Corps of Engineers, Engineer Research and Development Center, Aquatic Plant Control Research Program “Management of Eurasian Watermilfoil in Houghton Lake, Michigan: workshop Summary, September 2002”

Note: EWM wasn’t discovered in Houghton Lake until 1999. By 2002 there were 10,000 acres of EWM and 5,000 were dense. It rapidly became such a serious problem that the US Congress asked the Army Corps of Engineers to study the problem and make recommendations. (The results of the study could be used for all lakes with this problem). This wasn’t a new subject--for over 30 years the Corps conducted R&D in aquatic plant control and the biology of EWM management. The study is worth reading. In Houghton Lake, herbicides were applied with dramatically positive results.

Q. What evidence is there that this won’t hurt our fish?

A. Experience and controlled studies have shown that there is no adverse effect on fish when the herbicides are used properly. MLIA has taken the important step of hiring a professional lake management company to oversee the licensed applicator. Many professionals, including Dr Kurt Getsinger have studied this subject for years and he concluded that “*The weight of scientific evidence plainly demonstrates that when aquatic herbicides are used according to the label instructions, there are no direct effects on the health and safety of non-target mammals, birds, reptiles, amphibians, fish, invertebrates, etc*” Dr Getsinger is a senior research biologist with the Chemical Control and Physiological Process team at the US Army Engineer Research and Development Center. He

specializes in studies of the biology, ecology and the management of aquatic plants with an emphasis on the chemical control of submersed, floating and emergent exotic plant species. Michigan Riparian, August 2007.

A. Also: Eric Bacon, Aquatic Nuisance Control and Remedial Action Unit of the Michigan DEQ reported that...(this is paraphrased for space reasons...) that desirable... aquatic vegetation, largemouth bass and water quality were not adversely affected by the use of herbicides...as measured over 2 years after treatment...(this was in response to using low-dose fluridone treatments).

Q. What's this likely to cost me and can the costs get out of control?

A. The bidding process is just starting but the cost of herbicide, weevils and their application is pretty much known. While these are only "ballpark" figures at this point, we would expect that the cost per homeowner with lakefront property will be in the area of \$190 (+ or - \$30) for the first year. Year 2 should reduce this by about 25% and years 3-5 about 50% of year one. The cost cannot exceed the amount noted in the Tax Assessment District filing—so the cost cannot get out of control. The first tax bill will be this winter.

Q. When Would The weed treatment start?

A. It would start a year from now, Spring 2011

Q. What do I have to do as a property owner?

A. Just sign the Petition to Save Magician Lake From Eurasian Milfoil that will be circulated in June. There's nothing else you have to do. Depending on where you live, the petition will go to either Silvercreek or Keeler Township to move the program ahead.

Q. How do I get in touch with someone at MLIA with any questions?

A. You can contact Dick Morey, email rdm@sisterlakescable.com, phone 269-424-5863, Craig McCoy, email mpintail@sisterlakescable.com phone 269-424-5463, Kay Dukesherer email, dukey@sisterlakescable.com, phone 269-424-3561, or Jim Sullivan, email jrs3@mindspring.com phone 269-424-3377.

References:

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* 2002. US Army Corps of Engineers, Engineer Research and Development Center, Aquatic Plant Control Research Program
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