LAKE ORION LAKE ASSOCIATION
PO Box 446
Lake Orion, MI 48361

Help Save Lake Orion!

Concerned Citizens For a Better Lake Community

DNR completes investigation of common carp mortality on Lake Orion

Contact: Gary Whelan, 517-242-2764 or Sara Thomas, 734-718-0474
Agency: Natural Resources

Sept. 17, 2021

The Michigan Department of Natural Resources has completed its investigation of the **common carp mortality on Lake Orion in northeast Oakland County that occurred in mid-to late July**. With the assistance of the Aquatic Animal Health Laboratory at Michigan State University, it has been determined and confirmed that the common carp fish kill was caused by koi herpesvirus (KHV - cyprinid herpesvirus 3).

"As the case with most herpesviruses, KHV is very specific on which fish species it will infect and only affects common carp, koi and goldfish," said Gary Whelan, Fisheries Division Research Program manager. "This is only the third detection of this non-native virus in Michigan waters, and it is known to kill large numbers of its host species at times. KHV does not affect any other fish species and has no implications for any other birds, mammals or humans."

The July fish kill was reported by residents using the **DNR's Eyes in the Field website**. The only species involved was adult common carp, and the number killed was between 300 to 600 mostly adult fish.

The DNR reminds the public that viruses and bacteria that affect fish typically are not human pathogens due to the differences in body temperatures between fish and humans. It is strongly recommended that all freshwater fish be fully cooked to ensure they are safe to consume. For more information on choosing and eating safe fish, visit **Michigan.gov/EatSafeFish**.

Concerned Citizens for a Better Lake Community

Letter of Intent to Establish a New Special Assessment District (SAD #2) for Treatment of Exotic Weeds in Lake Orion

- The Lake Orion Lake Association (LOLA) has applied to Orion Township to establish a new Special Assessment District (SAD #2) for the treatment and management of invasive **Exotic** aquatic weeds and algae in Lake Orion
- If approved, SAD #2 will be a ten year program and allow continuation of the lake wide **Exotic** weed and algae treatment
- The new SAD #2, if approved, will go into effect in 2023. The existing SAD #1 approved in 2014 will end in 2022
- Over the last seven years of SAD #1, we have been able to treat Lake Orion as a whole and not just shorelines
- Eurasian Milfoil, Curly Leaf Pondweed and Starry Stonewort are the primary targeted invasive **Exotic** weeds being treated on Lake Orion along with algae
- Starry Stonewort was first identified in Lake Orion in 2012 and can grow up to the surface in depths of 15-20 feet crowding out all other native plant life and impact aquatic habitat, recreational activities and ultimately decrease property values
- The new SAD #2 will provide the necessary funding to continue the invasive **Exotic** weed treatment and algae program for Lake Orion
- Invasive **Exotic** weed and algae treatment services are provided by an insured and licensed professional service company using trained and certified applicators
- All aspects of the treatment process are controlled under permit issued by the Michigan Department of Natural Resources including use of DEQ/DNR approved treatment products
- PLM Lake & Land Management Corp (PLM) is our lake management provider of record and has provided Lake Orion invasive **Exotic** weed and algae treatment services since 2014
- On the average, the cost for the lake wide invasive **Exotic** weed and algae management SAD #2 is expected to be comparable to the SAD #1 adjusting for inflation

SAD #2 Petition reads as follows:

We, the undersigned, are freeholders owning land abutting Lake Orion in the Charter Township of Orion and by their signature of this Petition attest that they desire to conserve the natural resources of the State of Michigan and to preserve property values around Lake Orion, and further they believe that the creation of a Special Assessment District for the purposes of water quality control and improvement of the lake by treatment of weeds and algae on Lake Orion will protect the public health, welfare and safety of the residents. Therefore, the undersigned respectfully petition the Board of Trustees of the Charter Township of Orion to set up a Special Assessment District under the provisions of Act No. 188 of the Public Acts of 1954, as amended. *We realize that the creation of such a Special Assessment District for this service will result in an assessment being levied against our property. Further, we understand that, should this District not be confirmed, any set-up fees (advertising fees, material costs, consultant fees and any other fees incurred by the Township in processing this district) associated with this district may be assessed against our properties.*

What can I do?

- **If you are in support of the proposed SAD #2**, please send an email to lola@lolainfo.org with your address and contact information. We will contact you to setup a convenient time for you to sign the petition.
- **If you are not in support of the proposed SAD #2**, please send an email to lola@lolainfo.org with your address. We would appreciate knowing why you are not in support.
- **Questions** can be emailed to the same address. Thank you for your support.

Attachments; List of Frequently Asked Questions, PLM Aquatic Plant Management Q & A and 2021 LOLA Membership Form with Mini Survey

Volunteers will also be going door-to-door to collect petition signatures and answer any of your questions.

Your support of the Lake Orion Lake Association is as easy as joining today by visiting www.lolainfo.org.

You can also follow us on Face Book!

FAQs Regarding the Proposed Special Assessment District for the Purpose of Management of Invasive Exotic Aquatic Weeds and Algae on Lake Orion

1. **What is a Special Assessment District?**
   - A Special Assessment District (SAD) is a geographic area in which the market value of real estate is preserved due to the influence of a public improvement and in which an assessment is apportioned to cover the costs of the public improvement.
   - This proposed SAD is for the purpose of lake-wide treatment and management of invasive Exotic aquatic weeds and algae in the waters of Lake Orion.

2. **Why do we need a Special Assessment District?**
   - This SAD, if enacted, would be the tool to accomplish a lake-wide invasive Exotic weed and algae management program for Lake Orion
   - Starry Stonewort, Eurasian Water Milfoil and Curlyleaf Pondweed are Invasive Exotic species and can only be managed with a lake-wide treatment management plan.
   - All of these plants have the potential to accelerate Eutrophication "death" of Lake Orion if not effectively managed.
   - **Starry Stonewort** is an extremely aggressive invasive Exotic species and looks similar to the beneficial species Chara, but can be very detrimental to the lake's ecosystem. Starry Stonewort is the most aggressive aquatic plant in Michigan.
     1. Starry Stonewort has the ability to form dense mats of vegetation that can completely cover the lake bottom. When it becomes dense it overcomes most of the other vegetation in an area and can grow to heights of 15-20 feet.
     2. Starry Stonewort directly impacts fish spawning habitat. The formations of the thick mats forms a physical barrier impeding access to nesting areas and in worst case, can completely eliminate spawning activities in the area of infestation.
   - **Eurasian Water Milfoil** is also an extremely aggressive invasive Exotic species of submerged aquatic plant that spreads by fragmentation and forms a canopy above native plants, choking them out.
   - **Curlyleaf Pondweed** also is a non-native exotic plant that if left untreated will form a dense canopy and shade out native plants.

3. **Is it better to utilize a Lake Board rather than a Special Assessment District for lake management?**
   Generally not. Setting up a statutory lake board is much more complicated and expensive. Furthermore, property owners tend to lose "local control", since members of the lake board will have to include representative of the county commission, county drain commission and the department of natural resources. It is usually simpler, quicker, and cheaper to utilize a SAD where management of aquatic weeds and water quality issues are the only problems involved. Also there are no issues with loss of property owner control with a SAD

4. **Is this a tax?**
   Special assessments are not property taxes even though they are collected on the property tax bill. All the actual costs associated with implementing the Lake Orion Lake Management Plan and treatment plan annually are shared among the number of sidwell numbers (parcel ID) within the SAD This is an assessment and not a tax!

FAQs Regarding the Proposed Special Assessment District for the Purpose of Management of Invasive Exotic Aquatic Weeds and Algae on Lake Orion

5. **What is involved in creating a Special Assessment District?**
   - The first step is to define the scope and purpose of the special assessment district. Then obtain petition signatures of property owners in favor of the proposed improvements within the defined boundaries.
   - This proposed SAD combines lake front properties in both Orion Township and the Village of Lake Orion.
   - There is the requirement that property owners representing 51% of the total land area must sign the petition prior to presenting it to the township.
   - Only property owners can sign the petition, and all names that appear on the assessment roll for any given property must sign for that property.
   - Thereafter, two public hearings are conducted in order for the township to hear property owner's opinions, decide whether to proceed with the special assessment district, and determine the monetary assessment per sidwell number.
   - Notice for the public hearings will be mailed to property owner in the proposed assessment area (district) prior to each public hearing and publicized in local publications.

6. **Who is the Lake Orion Lake Association (LOLA) and what role will they play with the SAD?**
   - LOLA is a voluntary organization of concerned citizens for a better lake community which has been serving the Lake Orion lake community since 1977 with water quality and weed management as key areas of concern
   - LOLA's role in the SAD will be to circulate the petitions for signatures and facilitate the establishment of the SAD
   - Thereafter, LOLA will be monitoring the treatment program for quality of service.

7. **I do not have a weed problem so why am I having to participate?**
   - Some property owners may not have a specific weed or algae problem in front of their property. However, the purpose of this SAD is to address the broader lake quality issues with Lake Orion that require a lake-wide comprehensive lake management plan to address.
   - Everyone within the district will benefit from:
     a. The improved lake water quality for aesthetics, recreational and boating benefits
     b. Studies have shown a strong relationship between lakes with and without weed problems and property values.
     c. One study in Wisconsin showed a 13% reduction in property values on lakes with weed problems compared to properties on lakes without weed issues.

8. **Do I have to participate?**
   - If the SAD is approved, everyone within the boundaries of the designated SAD is required to participate
   - Participation is 100%, since each property owner within the district will have a share of the cost assessed per sidwell number
   - If a property owner objects to having his/her bottomlands treated, they must notify the lake management contractor and usually that person's bottomlands will not be treated unless it jeopardizes the success of the lake management program or limits management options. The contractor will try to fulfill the property owners request if possible.
   - If a property owner does not want to be included in the SAD there is a legal process that must be followed. The details for this are included in the public notice mailed to each resident announcing the public hearings.

FAQs Regarding the Proposed Special Assessment District for the Purpose of Management of Invasive Exotic Aquatic Weeds and Algae on Lake Orion

9. How much is it going to cost me?

- LOLA is the applicant for this proposed SAD and has paid a non-refundable SAD application fee of $878 to start this process and is also responsible for all associated costs of acquiring petition signatures
- There is also a Township "set-up fee" that includes all the costs associated with the two public hearings, the final notice and placing the assessment on the individual properties by the Treasurer's office
- Lake front properties to be included in the SAD have been identified and are the same as the original SAD #1. Marina Park Estates have their own SAD for weed management and are not part of this proposed SAD.
- The proposed SAD #2 has 838 sidwells (properties) which is the same as SAD #1
- It is expected that SAD #2 individual costs will be divided into three categories based on lake frontages same as was used for SAD #1. Categories are; 0-50.00 feet, 50.01 to 100.00 feet and 100.01 feet or greater on a per sidwell basis
- Depending upon the final rolls, the second year costs should be lower than that of the first year since the increased cost of the program is offset by not having the one time set-up costs. Subsequent annual cost increases should not exceed 3.0%.
- In most cases, the SAD costs are lower than the cost that individuals would pay to manage their weeds.
- Final determination of the scale and monetary amount for each sidwell is determined by the Township at the time of the second public hearing

10. How do we pay for it?

The annual assessment will first appear on your Winter 2022 tax bill. There will not be any assessments on your Summer tax bill.

11. What if my home is built on more than one lot, will I pay more?

- Many homes around Lake Orion are built on multiple lots that have been formally combined into a single parcel ID or sidwell number.
- You will receive a tax bill for each sidwell number in your name, so if you receive one tax bill, then you only have one sidwell number.
- If you receive multiple tax bills, (maybe you have a vacant buildable lot next to you), then you will be assessed for each sidwell number in your name.

12. What is the duration of the Special Assessment District and how long will we be paying?

Once the SAD is approved and enacted it will run for a specific period of time. It is being proposed that the SAD #2 should be in effect for a minimum of ten years.

13. Who decides what is going to be done within the Special Assessment District?

All aspects of this proposed SAD are strictly for the management of Invasive Exotic aquatic weeds as stated in the associated petition

14. Who is responsible for the quality of services being provided?

- LOLA, on behalf of the property owners, will oversee the service provider to ensure that the work specified in the contract is completed as specified
- Each treatment invoice is reviewed and approved by a LOLA representative prior to invoice payment by Orion Township
- If necessary, the weed treatment service provider will be called back out to Lake Orion at no additional cost to re-treat areas that still have issues after initial treatment

FAQs Regarding the Proposed Special Assessment District for the Purpose of Management of Invasive Exotic Aquatic Weeds and Algae on Lake Orion

15. How are we protected from price increases?

- The contract with the weed treatment service provider will incorporate standard price increase language similar to what one might use with any individual contract they might execute with a contractor
- Price increases are not expected to exceed 3.0% on an annual basis
- Price increase controls will be included in the awarded contract language

16. What happens if I sell my property?

If you sell your property anytime during the existence of the SAD, the responsibility for the assessment transfers with the ownership change and you will no longer be responsible for any assessments.

17. What happens if I sign the petition and the Special Assessment District is not confirmed?

- If we do not obtain enough signatures, the project ends at that point and nothing further will occur.
- If signatures from property owners representing 51% or more of the total land area are obtained, the township will hold the public hearings.
- It is still possible the township may not confirm the SAD based upon public comment.
- It should also be understood, that if the SAD is not confirmed, any set-up fees (advertising fees, material costs, consultant fees and any other fees incurred by the Township in processing the district) associated with this district may be assessed against everyone within the district. This is a highly unlikely scenario and has not occurred within the past 20 years.

18. When will the proposed SAD go into effect?

The proposed SAD will start the Summer of 2023. In order to support this date, all activities will have to be completed by August 2022. This is will require significant coordination to assure that all necessary steps and approvals have been completed.

19. How can I help?

- The biggest challenge that we have is obtaining the necessary petition signatures needed to show the Township Board that the SAD is supported by property owners representing 51% or more of the total land area within the boundaries of the proposed SAD.
- You can help by volunteering with circulation of the petitions for the needed signatures
- If you are interested in volunteering please email us at lola@lolainfo.org.

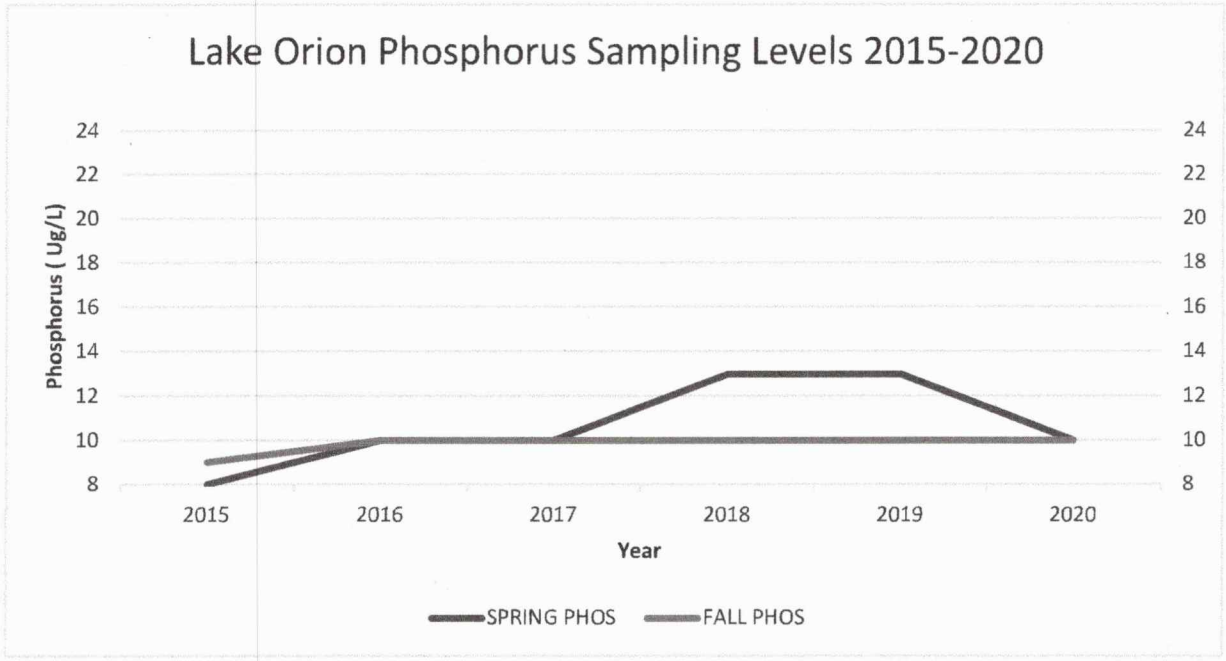
Lake Orion Water Quality & Aquatic Vegetation Summary 2015 through 2020

Water Quality

The below graphs illustrate the Phosphorus and Secchi Depth (water clarity) in Lake Orion during the 2015-2020 seasons. Samples are collected in the early spring and late summer/fall of every season. These measurements can be used to help determine the health of a waterbody. They can also be used to determine whether management activities are having a negative effect on water quality parameters. Based on the observed data, no negative effects have taken place regarding water quality as a result of management.

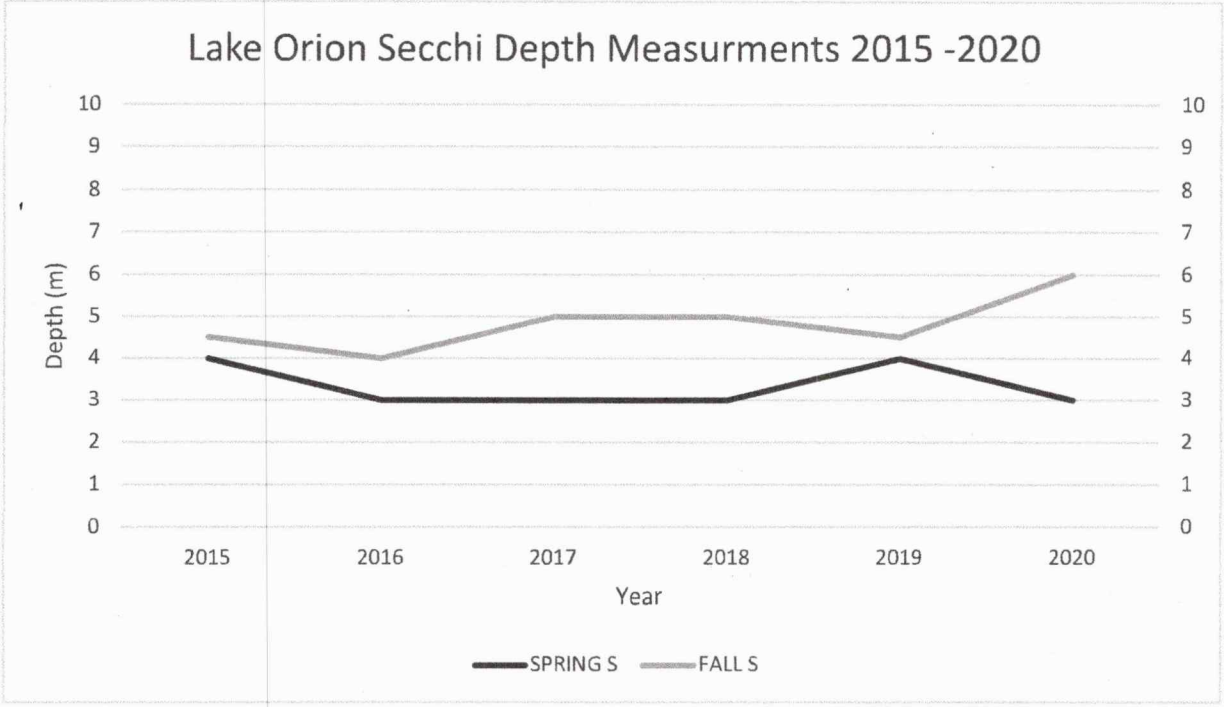
Phosphorus:

Phosphorus is measure in Ug/L or micrograms per liter. The samples taken in the spring ranged from 8 Ug/L to 13 Ug/L. Spring samples usually vary more due to spring rain and runoff into the lake. The late summer samples ranged from 9 Ug/L to <10 Ug/L. The 2016 -2020 results that were under 10 Ug/L were reported as <10 Ug/L from the analysis laboratory and are represented as 10 Ug/L on the graph. Phosphorus concentrations values under 10 Ug/L are considered low for Michigan lakes.



Secchi Depth:

Secchi Depth samples record the clarity of the water. Water clarity can be affected by suspended sediments and planktonic algae blooms. Samples are collected in spring and fall of each year. The spring sampling slightly less clarity than the fall samples with a range of 3 to 4 meters. Fall samples varied from 4 to 6 meters. The overall water clarity in lake Orion is very good considering its location and density of shoreline development.



LAKE ORION PLANT TRENDS 2015 – 2020

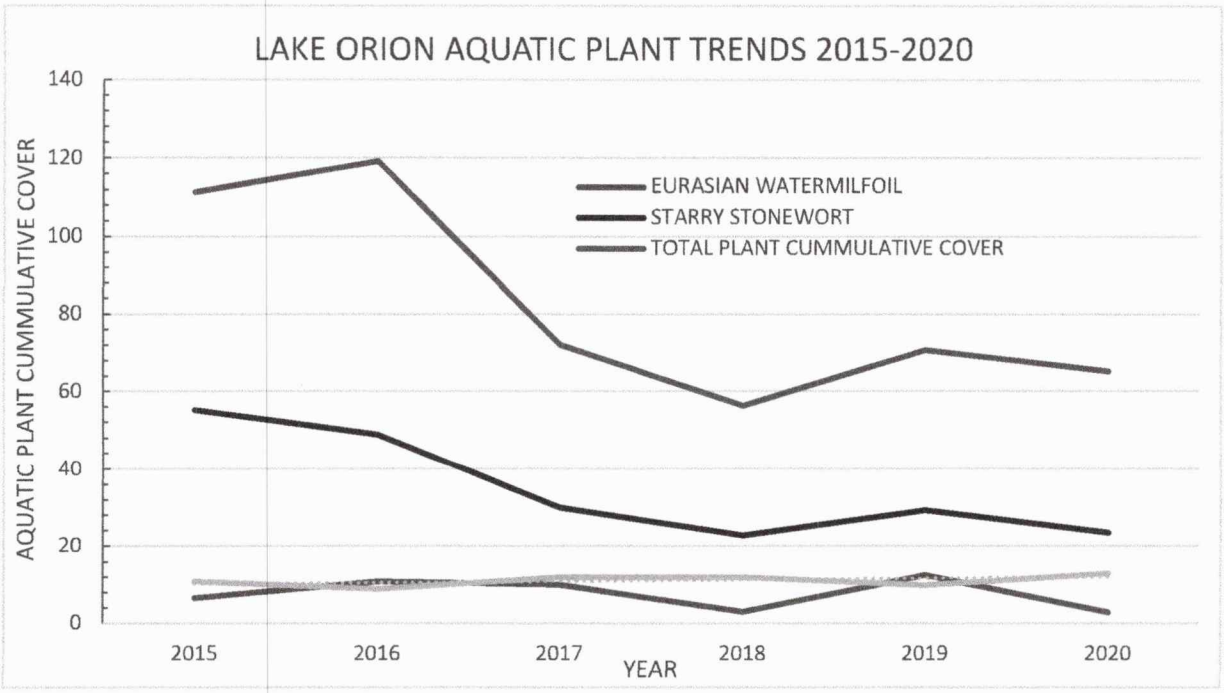
The below graph illustrates changes in the aquatic plant community using late summer survey data from 2015 – 2020. The categories illustrated are Eurasian watermilfoil, Starry stonewort and Total Aquatic Plant Cover, as well as Number of Submerged Aquatic Plant Species.

The Starry stonewort density has decreased significantly over the past several years and the native chara is reoccupying some of the shoreline areas. Areas where Starry stonewort occupied the water column to near the surface may still have some starry, but it is not nearly as thick of mats as previous years. Starry cover has fallen from 55.28 in 2015 to 23.54 in 2020. Starry stonewort populations are maintained monthly as part of our treatment program.

The Eurasian watermilfoil population is at a maintenance level. It gets treated in nearshore areas routinely in the summer months and has been kept in check. If it were left untreated, its cover would increase dramatically within a couple seasons. Eurasian watermilfoil cover has varied from a low of 2.91 to 12.6.

The Total Plant Cumulative Cover is what most people see and notice from on their docks or when they are out and around on the lake. This is the distribution and density of all aquatic plants lake-wide. You can have numbers over 100 which is typical in really "weedy" lakes. Optimal conditions for both lake health and recreational uses are typically in the 40 -60 range. Maintaining a diverse native aquatic plant community at these levels is important to maintaining a healthy lake. Native plants provide a wide range of benefits to the lake and should only be managed when they are creating a significant issue. The Total Plant Cumulative Cover has decreased from a high of 119.21 in 2016 to a low of 65.26 in 2020.

The number of native aquatic plant species present is one way to ensure that native plant populations are being protected and not adversely affected by management practices. Some native species are more sensitive to management than others and recording their distribution and density on a yearly basis is part of our management program. The graph illustrates the total Number of Submerged Native Species. The number has varied from a low of 9 species recorded in 2016 to a high of 13 in 2020.



Aquatic Plant Management – Questions and Answers

Q. Are aquatic herbicides regulated in the State of Michigan?

A. Yes. All herbicides used in aquatic environments have been tested and registered with the EPA, and have been approved by the State for use in Michigan. Michigan is one of the most restrictive states when it comes to aquatic herbicide use. All treatments with aquatic herbicides require a permitting and reporting process that insures that products are used in a manner that has been tested to produce no unintended adverse effects on non-target species or the environment.

Q. Are aquatic herbicides safe?

A. Extensive testing has not identified significant human health risks associated with the proper use of herbicides. Though no testing program can absolutely rule out unexpected effects, it is important to recognize that at tested and approved concentrations for aquatic use, theses herbicides have been deemed to not have adverse effects on humans and aquatic wildlife either by submergence in treated water or by ingestion. Aquatic herbicides have very specific modes of action that target processes in aquatic plants that are not present in vertebrates and other life forms. For more information about how aquatic herbicides work and their safety please visit the following website for a short video produced by Purdue University: https://ag.purdue.edu/btny/Extension/PublishingImages/Aquatic Herbicides.m4v

Q. Will aquatic plant control eliminate all aquatic vegetation?

A. No. Nearly all available aquatic herbicides are SELECTIVE (i.e., they control some plants but not others). Responsible aquatic plant managers use this selectivity to remove particularly problematic plants while leaving others unaffected. This approach minimizes interference with recreation while leaving desirable vegetation that provides BENEFITS to the lake. Proper aquatic plant management removes the most problematic aquatic plants, which are typically exotic species, while preserving desirable native vegetation that provides habitat for fish and other aquatic organisms.

Q. What aquatic plants are targeted with treatments?

A. Herbicide treatments primarily target exotic species found in the lake. Exotic species are plants that do not naturally occur in this region. They tend to have advantages over native plants and outcompete them, often forming monocultures. Exotic species tend to create more problems for recreation and the lake's ecosystem than native plants do. Some of the exotic species like Eurasian watermilfoil and Curlyleaf pondweed will form dense canopies on the water's surface to shade out competitors. Others, like Starry stonewort will form dense mats on the lake bottom and overtake natives and cover over valuable fish spawning areas. All three of these species are found in Lake Orion and are the primary targets of treatments. Native plants are typically left unmanaged as removing them would open the area up to more invasive and troublesome exotic species.

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Q. Can we swim after a weed treatment?

A. The State of Michigan imposes a 24-hour swimming restriction within 100 feet of any treatment area of the lake, except for copper applications. Some of the most commonly used herbicides that we use do not have a swimming restriction on the product label. However, the DEQ does not want you in the water during treatment for your safety and ours. Treatment notices will be posted on the day of treatment along the shoreline of all treated areas. Therefore, if your area does not have a notice (sign in yard) then you do not have a swimming restriction.

Q. Can we irrigate our lawn and flowers after a weed treatment?

A. Yes and no. Several of the herbicides that will be applied to the water do have turf and ornamental flower irrigation restrictions. The restrictions can range from 3 days to 14 days. If you pull water from the lake to irrigate, please read posted sign carefully to determine your irrigation restriction for that treatment.

Q. Will my dog get sick if he drinks the treated water?

A. No. A dog would have to drink several thousand gallons of treated water to observe any noticeable effect. However, we do not want your dog in the water during or right after a treatment. Some of the herbicides we use become inactive if the sediment is stirred up in the water column. Therefore, keep the pets out of the lake for 24 hours!

Q. Are the fish still safe to eat?

A. Yes! There are no fishing restrictions with any of our herbicide treatments. The herbicides used do not accumulate in the fish.

Q. We don't want to use CHEMICALS in our lake... isn't harvesting a more environmentally responsible aquatic plant control technique?

A. Not necessarily. The most environmentally responsible control technique depends on the goals of the management program and the type(s) of plants to be controlled. In some cases, harvesting is the best choice. In other cases, harvesting can exacerbate aquatic plant problems. For example, we would not recommend harvesting a lake with an uncontrolled Eurasian watermilfoil population because harvesting will speed the spread of this aggressive exotic plant and hasten the replacement of native plants.

Q. Aquatic plant control just addresses the SYMPTOMS of the problem—shouldn't we be addressing the CAUSES of the problems, such as nutrient enrichment?

A. Yes, BUT... This statement is a confusing half-truth. There is little doubt that nutrient enrichment leads to conditions that support lots of plant growth; however, this doesn't mean that you can reverse the process and prevent rooted plant growth. Nutrient controls have been successfully used to reduce the growth of planktonic algae, but it has not been proven that nutrient controls have reduced an existing rooted plant problem. In fact, reductions in planktonic algae typically result in an INCREASE in rooted plant growth, as the water becomes clearer and plants can grow at greater depths. In addition, exotic plant species cause the greatest problems in lakes. These exotic plants are a CAUSE of many problems, and removing them is addressing one of the causes of lake problems. Nutrient controls can be an important PREVENTATIVE measure, which can help to keep the lake from developing worse problems in the future.

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