

THE LAKER

NORTH LAKE PROTECTION ASSOCIATION

JULY 2014

NLPA MISSION: *To protect the ecological, recreational and esthetic well-being of North Lake.*

**NLPA ANNUAL MEETING
INVERNESS COUNTRY CLUB
AUGUST 5, 2014 7:00 pm**

NLPA HAS A WEBSITE! NORTHLAKER.ORG

AGENDA:

1. Review 2013 Minutes
2. Treasurer's Report
3. Old Business
 - a. Update on SAD
 - b. Status of Weed Control
4. New Business
 - a. Lily Pad Treatment
 - b. Water Quality Testing
 - c. Website
 - d. Other
5. Election of Officers

NLPA ANNUAL DUES

Please support your NLPA by sending your \$10 dues. We have continuing expenses for studies, mailings, state and federal fees, and other items. Please make checks out to NLPA and send to Dick Frendt in the enclosed envelope.

MUTE SWAN UPDATE

The DNR embarked on a mute swan reduction program in 2012 to replace the nonnative species with native trumpeter swans.

In June, 2013, Barry County (West Michigan) voted to allow the DNR to eliminate mute swans on its' sixty lakes and ponds. In October they rescinded that vote due to public outcry. New York State recently put its' mute swan reduction program on hold for two years due to similar public pressure

BOATING SAFETY

Folks around North Lake have become concerned with the operation of Jet Skis and boats towing skiers and tubes. Most people are safely operating their
(con't. pg. 2, left col.)

We now have our own website to communicate with Northlakers on a variety of issues. It includes links to resources that provide a wide range of information on weed treatment, fish studies, water quality status, boating safety, lake history and more. Cindy Blum (Sauer Drive) designed the initial website and with her husband Joel, donated the initial cost and the first year's fee. Cindy then handed it off to Mary Lou Frendt who added many more features and content. Mary Lou is responsible for changes and maintaining the site. We owe them both a huge "thank you" for their expertise and dedication.

A few tips about the website may make your visit easier. First, there is another website at Northlake.org that is owned by another lake organization. Be sure to include the "r" at the end of Northlaker, and to use .org, not .com. Once you reach the home page, take a moment to enjoy the various lake scenes that pass before your eyes. At the top of the page you will see tabs which will take you to other pages. More about that later.

On the right there is a box titled "Resources", where you will find links to some great sites. The first, titled "North Lake Improvement Projects," is the Washtenaw County website page for North Lake and contains data regarding the Special Assessment District financial status, annual lake management reports by Dr. Pullman, fish studies, and other related items. The last item, "Aquatic Services", includes a link to a page which shows their planned treatment schedule, which is updated regularly.

In the box titled "Lake Sightings & News", we would like to include sightings, fish catches, and other lake news. Just send us the information and any pictures.

The "About Us" page gives a brief description of the NLPA that may be useful to new members, and it also contains a link, "North Lake History" which contains an article titled "A Tale of Two Lakes" from the "Ann Arbor Observer". The early history of the North Lake area is detailed as well as a very interesting comparison of the 1920's black and white resorts on North Lake and Wild Goose Lake.

When you first visit the website, click the "Contact Us" tab and send an email. Just click the box under the "Contact Us" heading to join the email list. Notices and other important information will be emailed to you. We will not share the email list with anyone and will not send unimportant emails. Be sure to send a new email if your email address changes. This link will also allow you to communicate with the NLPA about any concerns. You may also send us comments and information from this page.

We hope you find the website interesting and useful.

craft, but it only takes one accident to ruin lives forever.

Boaters pulling tubes must be aware of their surroundings and must have both a driver and spotter on board. Jet ski operators have special requirements in addition to the standard boating laws.

Jet Skis must stay a minimum of 100 feet from any anchored or moored boat, dock, swimming area, raft or person in the water. That means they cannot operate between swim rafts and the shore since someone may be swimming toward the raft. It is often difficult to see swimmers, especially in choppy water. Jet skis must not cross the wake of another boat closer than 150 feet. On North Lake, there are usually several rafts and long docks in the water during the summer season and therefore a jet ski has to be 150 to 200 feet offshore in most areas of the lake. For safety's sake, this would be a good rule of thumb to follow.

Operators of jet skis must be at least 16 years old (to drive alone) and have a special certificate for completing a Safe Boating Course (unless you were born before 1978). You can find a link to the Safe Boating site on the NorthLaker.org website.

Michigan experienced nineteen deaths and thirty-six injuries in boating accidents in 2013. Let's avoid these tragedies on North Lake.

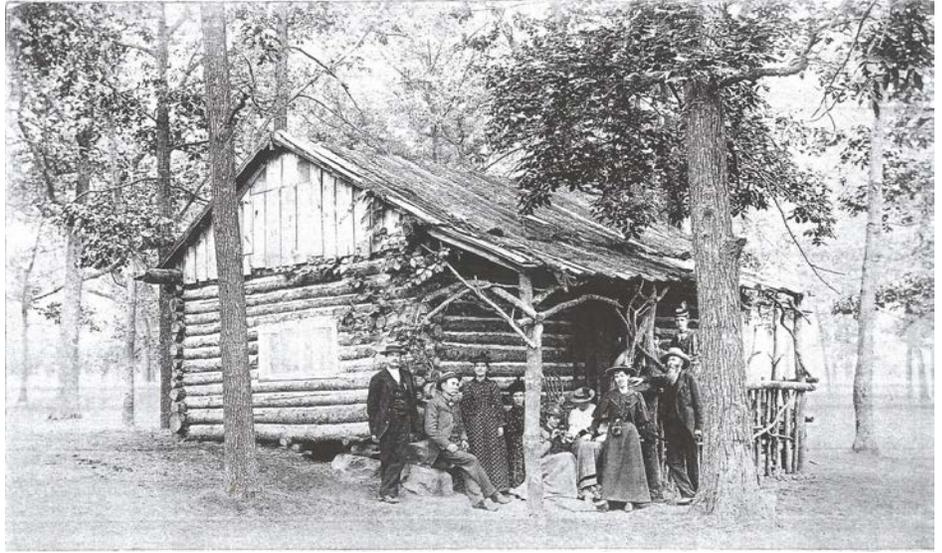
LILY PADS RESTRICTING YOUR BOAT ACCESS TO THE LAKE?

For the last two years, we treated Lily Pad problems at requested docks. Under our DEQ permit we can treat a 20 foot wide access from your dock to the open water in the lake. This is done on a case by case basis. *If you want an access cleared to your dock, you must send a written request, along with a photo of your dock with home/access in the background for identification purposes.* We want to treat your dock area, not your neighbor's. Send your Lily Pad request, by August 8, to:

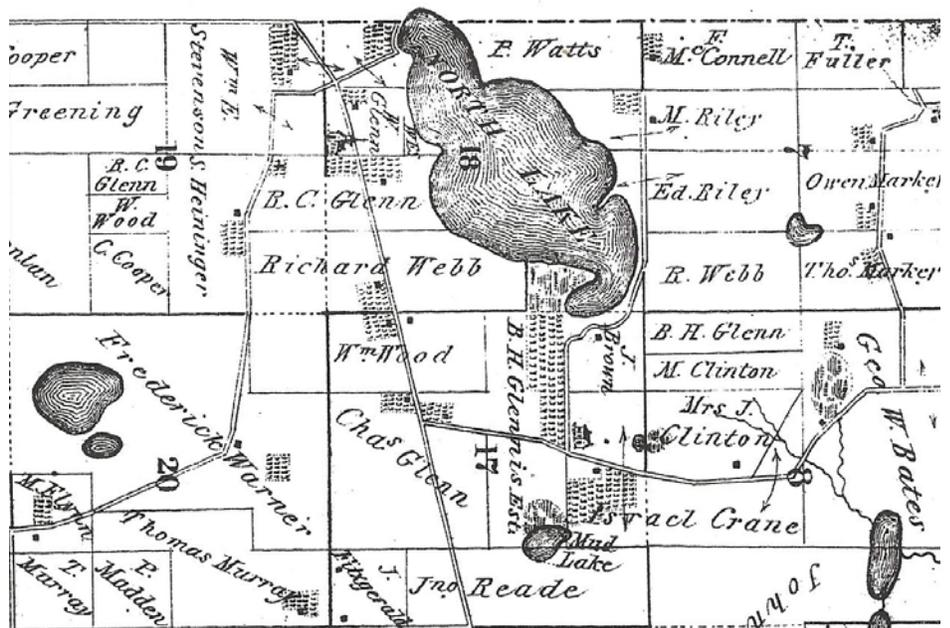
Richard Frendt, President NLPA
7837 Stonehenge Valley Dr.
Gregory, MI 48137

If you had your dock area treated in 2013, do not send a request this year. We will continue to treat your dock area assuming problems persist and the treatment is determined to be effective.

GLENN'S GROVE



The photo above is from the Dexter Historical Museum and has "Glenn's Grove, North Lake" written on the back. As you can see below, on the 1874 Dexter Township Map, the Glenn's owned several parcels around the lake. Does anyone know where this cabin stood? The photo was probably taken between the 1840's and 1870's. *Note: Map orientation is West at top of map.*

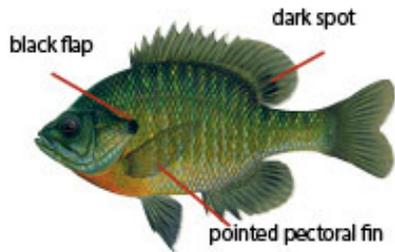


Portion of 1874 Dexter Township Map

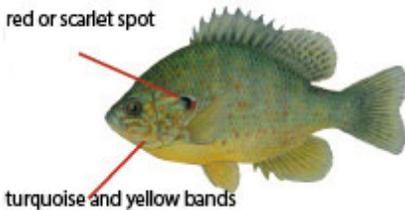


What's a crab doing in North Lake?

Bluegill



Pumpkinseed (Sunfish)



Redear Sunfish (female)

black ear flap
with red border



A new fish in North Lake?

LAKE LEVEL

On May 12, 2012, the lake was at equilibrium with the overflow weir (the water was level with the top of the weir). From then to September 30, the lake receded 14 inches even though it rained 11 inches. Twenty-five inches were lost to evaporation and other effects. Normal rainfall for that period is 34 inches.

In 2013, equilibrium with the weir was last reached on June 30, more than 1½ months later than in 2012. From May 15 to September 30 we received 13" of rain; 3" more than the same period of 2012. The lake level on September (con't. pg. 4, left col.)

NLPA JOINS MICorps LAKE MONITORING PROGRAM

The Michigan Clean Water Corp (MICorps) has a Clean Lake Monitoring Program (CLMP) which collects water samples and performs lab testing to monitor lake water quality across the state. The program relies on lake association volunteers to collect samples and perform other tests. An annual report is issued to the lakes to identify trends and compare lakes involved in the program.

Since 1992, the Michigan Lake and Stream Associations, Inc. (MLSA) has administered the CLMP jointly with the Michigan Department of Environmental Quality (DEQ), the Great Lakes Commission, and the Huron River Watershed Council. Michigan State University's Department of Fisheries and Wildlife also supports the partnership with technical assistance.

Charlie Taylor leads this effort with volunteers Joel Blum, Paul Lammers, Dave Pruess and Dick Frenndt who take the readings and water samples for testing. The CLMP parameters recorded include water clarity, phosphorus, chlorophyll, temperature, and dissolved oxygen. Costs associated with the testing program are paid for out of the Special Assessment District Funds.

This is a valuable asset to North Lake, enabling us to continue our tradition of Water Quality Monitoring.

SUNFISH ARE FUN FISH

Most kids on North Lake first encounter the lure of fishing by dropping a line with a worm and a red and white bobber off their dock to land a sunfish. They bite on nearly everything small enough for them to engulf; everything from worms and insects to artificial lures and flies. They fight hard but are easy to catch.

Sunfish are in the "Centrarchidae" family which includes bass and crappie. Sunfish live amid the stems and stalks of aquatic plants in the shallows near shore where food is plentiful and hideaways handy. Their compressed circular shape, with fins positioned around the center of mass, affords these fish exceptional maneuverability. They can quickly change direction to catch food or escape a predator.

The key to sunfish success is their relationship with aquatic plants. Sunfish love a world of snails, water fleas, copepods, aquatic worms, larvae of caddisflies, dragonflies, and mayflies. A shore without plants nearby is a shore without sunfish.

Sunfish, including bluegill, are prolific spawners. A female bluegill's ovary can bulge with 50,000 eggs. Sunfish stakeout plots of sandy lake bottom as spawning beds. Males create shallow nests like soup bowls by hovering and fanning their fins, sweeping the sand clear of silt and debris. Spawning usually begins in May but bluegill can spawn through much of the summer.

Female sunfish prefer to lay eggs on a nest of firm sand or gravel. The female releases her eggs over the nest and then leaves the male to protect the brood. The one millimeter diameter eggs attach to stones, sticks, and other firm objects in the nest bottom.

After fertilizing the eggs, the male fans the water around the nest, keeping water currents moving to maintain oxygen supply to the eggs. The currents also protect the eggs from water mold. Males must fend off other male sunfish and lurking minnows that race into the nest for a meal of eggs. The eggs hatch after (con't. pg. 4, right col.)

30, 2013, was 2½" higher than the same date in 2012.

2014 has started out to be higher than 2012 and 2013. Water was still overflowing the weir on July 15, and may continue for some time.



North Lake Eagle?

LAKE CONCERNS

In the past year concerns were raised about long term chemical use and potential effects on fish spawning in North Lake. The DNR informed us that many area lakes reported spawning issues last year. They believe the high temperatures of 2012 followed by relatively low temperatures in 2013 caused many sunfish to simply reabsorb their eggs into their bodies and wait for a better year. They also said Starry Stonewort proliferation was causing spawning problems with many fish species.

We contacted both UM and MSU to see if any further studies could be done. The short answer is that these studies are usually done by funded graduate students and are beyond our financial capabilities. Our new website, NorthLaker.org, has a link to a Best Management Handbook titled, *Biology and Control of Aquatic Plants*. It is a comprehensive A to Z discussion of everything you need to know about the subject. It provides a high confidence level in the prudent use of chemicals to control weed problems. No evidence of harmful effects has been found when these agents are used as directed. On the other hand, many lakes experience mass die-off of Curly Leaf Pondweed when certain conditions occur. This releases large amounts of nitrogen and phosphorus (chemicals) they have absorbed into their structures. This can and often does cause algae blooms, some of which contain nasty bacteria, deadly to fish, animals and even humans. We may not be able to avoid algae blooms entirely, but by limiting the growth of contributing weeds, we may be able to diminish the likelihood and size of outbreaks.

If you have doubts or concerns about the chemical treatments, please go to (con't. pg.5, left col.)

about three days. The male herds the fry back to the nest until they become agile enough to strike out on their own.

North Lake has three primary species of sunfish; bluegill, pumpkinseed, and redear sunfish; and possibly green sunfish. Bluegill are identified by the blue spot at the base of the dorsal fin, not by the blue on their gills. Pumpkinseed sunfish look a lot like bluegill but don't have the blue spot at the dorsal fin. They don't grow quite as large as bluegill. Redear sunfish grow slightly larger than bluegill and have unique throat plates which allow them to eat snails and small clams. They can even eat zebra and quagga mussels.

The above information on sunfish was taken primarily from the Minnesota Conservation Volunteer Magazine supplemented by online reference sites.

AQUEST 2013 LAKE REPORT

Doug Pullman, PHD, of Aquest, prepares an Annual Report for North Lake. The following is from the 2013 Annual Report Executive Summary. The total report is on the ewashtenaw.org website under Lake Management Projects.

North Lake 2013
Annual Report Executive Summary

Key Findings:

The North Lake aquatic plant community is dominated by weedy and invasive species. However, the ecosystem appears to be very stable despite the dominance of these invasive species. Most of the critical LakeScan™ metrics suggest that the lake ecosystem is species rich and biologically diverse. The management program appears to be benefiting the lake. High levels of biological and structural diversity (many different plants and animals) are necessary to stabilize the lake ecosystem and minimize the occurrence and total impact of nuisance plant and animal blooms.

Narrative:

North Lake is very plant productive and is considered to be moderately to very weedy when compared to other lakes in the region. The area of the lake that is the most intensively managed is also the part of the lake where there is the highest plant community biodiversity. The current management program does not appear to be exerting a negative impact on this part of the lake, but may actually provide benefits to the lake when weedy and invasive species are suppressed.

Ebrid milfoil is a dominant plant in North Lake, but it is being successfully controlled. Ebrid milfoil populations throughout the State are becoming increasingly resistant to control efforts and steps have been taken to prevent herbicide resistance from developing in North Lake. These efforts appear to be at least partially responsible for a decline in milfoil dominance from 2012 to 2013. Starry stonewort is one of the weedy species that also dominates the North Lake submersed flora. One of the characteristics of starry stonewort is that it will bloom or reach a level where it reaches an extreme abundance and crowd out other competing plant species. It is also common for starry stonewort to collapse or decline after reaching extreme densities. When this happens large areas of the lake can be made devoid of all plant life. It is impossible to predict when this may happen. Starry stonewort has been observed to collapse in areas of North Lake; however, it has not collapsed everywhere in the lake at the same time. To date, it has collapsed in patches scattered around the lake and these areas range from several to tens of acres. Starry stonewort is a dominant force in determining the nature and quality of the submersed plant flora.

Ebrid (hybrid Eurasian watermilfoil) was subdominant to many other species in the lake in 2012 and this is believed to be a testimony to the effectiveness of the milfoil management program. There is no known way to eradicate this species so annual effort must be expended to control this plant.

Hybrid weedy pondweeds dominated the lake flora in 2012 and again in 2013. Fortunately, these have responded positively to control.

(con't. pg. 5, right col.)

the NorthLaker.org link to the handbook noted above and read Appendix C, *Requirements For Registration Of Aquatic Herbicides*. This section is written by two retired EPA scientists who detail the level of testing and monitoring that is required to get a chemical approved and used in the U.S. It is an impressive testament to the dedication and expertise that is brought to bear on this issue.

We wish we had the expertise and financial means to do additional research on North Lake. The NLPA has a water quality testing program in place (see MICorps Program on page 3); we draw on the expertise of Dr. Pullman of Aquest, Inc (see his report on page 6); we monitor the protocols of other lakes by active participation in the Michigan Lakes and Streams publications and conferences; we have explored help from state universities and agencies, and we do our own monitoring of weed conditions in the lake.

We will continue to explore resources as they become available in our mission of *protecting the ecological, recreational and esthetic well-being of North Lake*.

NLPA BOARD

President	Dick Frendt
Vice Pres.	Charlie Taylor
Sec/Treas.	Sheryl Ulin
Website Mgr.	Mary Lou Frendt

Landing Representatives:

Gilbert Drives

No Active Representatives

Glen Oakes

Dan Kruse

Hadley/Eisenbieser

Kent Thiel

Noah's Landing

Jim McInnis

North Lake Farms

Rod Payne

North Lake Road

Steve & Anne Koch

Park Lawn

Eric Batzdorfer/Paul Seelbach

Sauer Drive

Joel Blum

Stonehenge Valley

Carol Heydaulff

Watt Road

Paul Lammers

Webb's Landing

Dave Pruess

How Are Trees & Fish Similar?

Age rings! Pull a scale from a fish and with a magnifying glass, count its' rings.

Water lilies have become an increasing nuisance in the lake. The dominant water lily is water shield which is resistant to management. This plant is expected to return at nuisance levels in 2014 and it should be expected that considerable effort will be required to suppress the plants where they interfere with property access to the open water.

Wild celery can be a very serious nuisance in the late summer in many lakes in Michigan. This plant will often "uproot" and float into shore where it creates a significant and smelly nuisance. It is nearly impossible to manage this plant in an effective manner. However, studies are underway that are hoped to reveal better ways to suppress this potentially nuisance species. The current North Lake contract herbicide applicator has co-developed new technologies that should yield much better and predictable wild celery management outcomes. Until these methods are proven, North Lake will continue to see nuisance conditions created by the floating wild celery mats that are expected to form in late July and throughout August.

Paul Lammers and Dave Pruess Lake Report

Dave and Paul are long time NLPA volunteers who provide valuable input to the County and to Doug Pullman in locating and plotting weed problems. They have been doing this for the past decade and are a valuable asset to North Lake. This report provides an independent assessment of the lake. A big thanks for their efforts!

Since last year (2013), several changes have been made to the North Lake Weed Treatment process. Aquatic Services Inc. under the direction of Jeff Knox is now the weed treatment applicator. This will be familiar to our residents as we had previously contracted with this firm prior to the establishment of the SAD (Special Assessment District). This change was made as Aquatic Services was the lowest bidder for our contract. In addition, Dr. Pullman from Aquest Corporation will be using an advanced weed scan program to mark weeds to be treated and to determine the formula recommended for treatment.

Initial weed inspection was made with all principals on May 27, 2014. After several delays for weather and equipment problems, North Lake was treated on June 24, 2014 with 70 acres treated primarily for Milfoil. As in the past five years since the formulation of the SAD, we are using the Washtenaw County Drain Commissioner's office under the direction of Jeff Krcmarik to collect the taxes and manage our project. This project is publicly documented on the eWashtenaw website link on the Northlaker.org home page.

As discussed in past issues of "The Laker," we initially treated North Lake for Eurasian Milfoil. This has now hybridized to a slightly different milfoil which requires greater attention and is more difficult to control. Over time, other invasive weeds have been observed and/or treated in the lake. These include: Curly Leaf Pondweed, Starry Stonewort, Chara, Wild Celery, Algae, Lily Pads, Water Shield and probably others. Since weed control has been a priority of NLPA, following is a discussion regarding North Lake's weed problems, treatment, and implications. Weeds growing in North Lake must be continually evaluated and controlled to prevent our lake from becoming a large weed bed so residents can use the lake effectively.

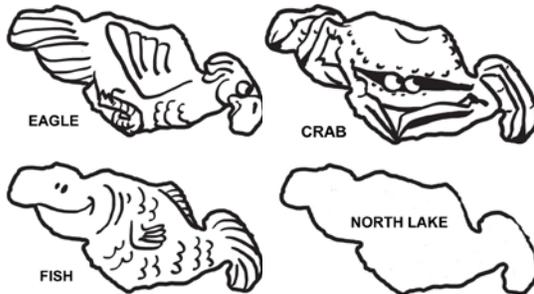
Eurasian Milfoil: As in every spring, this weed again flourished in patches throughout the lake. For the last couple of years, the eastern end of the lake seemed to have new growth area but this weed was not as prevalent there this year. The entire north shoreline continues to have spotty patches of milfoil. The western end of the lake had always been a major milfoil growth area and, this year it continued to be bad from the sandy swimming area to the southern and western shores. The newest weed growth has been on the northern side where milfoil was not previously noted in such strength. We do hope the June treatment will be sufficient for 2014. Unfortunately, even after an effective spring treatment, this weed seems to come back later in the summer or fall in many locations. There does not seem to be a method to eradicate the weed permanently.

Curly Leaf Pondweed: We have the weedy and large pondweed variants in North Lake that have been and still are a problem. This is the long stemmed leafy weed that is so prevalent in our lake, especially in the mid-depth areas. This season, we seem to have much more pondweed growth. There is a DEQ restriction to treat this weed only in water depths less than five feet and within 300 feet from shore which curtails treatment where it is most prevalent in our lake. It may also be treated in recreational feature areas, such as a ski course. This weed will be evaluated during all lake inspections. Dr. Pullman writes, "Experience has taught me that if they are a problem this year, they may not be much of

(con't. pg. 6, right col.)

CARTOON FIGURES

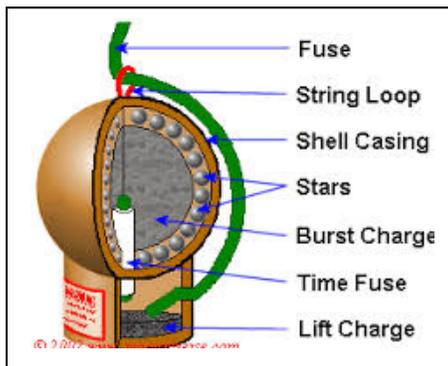
Are these characters really in North Lake? Absolutely; check them out below!



AWESOME FIREWORKS!

Thank you Dave Steinbach for another awesome show! Dave said 90 of 204 lake properties donated, ranging from \$15 to \$500. The show cost over \$10,000.

The shell that fired prematurely was a 6" mortar. They are built to explode at 600' (see diagram below) but this one was only a few feet in the air. The burst diameter is about 300' and for safety is the main reason why the shells are now fired electronically. No one was hurt, and no equipment damaged, just a bit startling! This was the first time in 20 years this problem occurred.



Thanks again to my great partner, Mary Lou, for her talents and expertise in this Laker edition. And thanks to all the volunteers who make the NLPA possible.

Contact Information:

Richard Frenndt, President NLPA

Ph: 734.475.3480

Email: rjfrenndt@aol.com

You can also use the "Contact Us" link on our website.

a problem in the future. It takes a special combination of meteorological events to create the conditions necessary to treatment where it is most prevalent in our lake. They have also grown to their greatest extent for the year and are not expected to create any additional nuisance."

Chara/Starry Stonewort: At this time, the "brillo pad" looking algae is growing in thick clumps that seem to hover on the bottom and, without treatment, has been a grave problem in certain areas of the lake, especially the west and south ends. The starry stonewort is a very thick variant which has grown increasingly closer to the surface in shallow areas which will clog our propellers. As long as it stays low, it is a "good" weed as it will crowd out milfoil and other more invasive weeds. The Chara variant seems to grow up from the bottom to the surface and will be joined by the starry stonewort when conditions are right. This weed will be treated when it becomes a greater problem and can be treated rather inexpensively.

Lily pads/water shield: The large leaf (lily pad) that produces flowers and the small leaf (water shield) are now growing in larger numbers on the surface of North Lake. These weed beds have at least doubled within the last five years; thus, becoming more of a concern and nuisance even though they are necessary for fish habitat. Most of the lily pad areas cannot be treated by herbicides because of DEQ restrictions (special permit is an option) but lakefront residents can clear a 20 foot wide path to access the lake or for boat and swimming access. If you want to have your property treated for this weed, see the special section authored by Dick Frenndt, our NLPA president, as you will be required to fill out a specific request for this treatment. This weed will be one of the more expensive processes to deal with. Dr. Pullman states that lily pads are capable of growth on sediments that may not support other rooted aquatic plants. He further states that they are subject to wide annual fluctuations in area cover because they can host a wide range of herbivores and plant diseases. Unfortunately, we have not experienced these fluctuations for they just seem to cover more and more of our shallow sedimentary areas.

Algae: This is the green cloud of the fibrates' variety that clouds up the water but, in past years, was not significantly detected. However, patches of this slimy material were prevalent this past spring but have since disappeared. We will continue to monitor for outbreaks and treat as needed.

Wild Celery: This long leafed weed has become more much prevalent and it is very difficult and costly to treat. This is the weed that is now increasingly floating (i.e. the uprooted waste) on the surface in many areas of our lake. Unfortunately, these uprooted floating wild celery plants have the ability to replant themselves in other areas of the lake. According to Doug Pullman, we need to carefully observe its growth for it could potentially have a devastating effect in our lake since it is so difficult to control because presently, there are few treatment options. As mentioned earlier, starry stonewort/chara growth could assist with preventing this weed to be a major problem here.

From the above, it should be evident that the actual weed treatment of North Lake is an ever changing issue that must be addressed by a wide spectrum professional management approach. With the increasing number and quantity of weeds in our lake along with these weeds' mutation abilities, knowledgeable and professional advisement is essential, especially considering the restrictions placed upon us by the DEQ. By having a professional advisor (as we now have with Aquest Corporation as part of our SAD) present for all official lake inspections and consultations on the lake conditions, we should have success with our charge of keeping North Lake useable for all residents.

The next steps for the North Lake weed control this summer include an inspection in mid-July to determine the effectiveness of the June treatment. We will be looking for Chara/Starry Stonewort growth toward the end of July and early August. If necessary, direct treatment will be arranged. In late August, depending on growth conditions, a last inspection will be conducted surmising invasive weed growth and what should be controlled prior to winter.

Several years ago, the NLPA in conjunction with the Washtenaw County Road Commission constructed an extension and dam to the culvert across Hadley Road for the purpose of maintaining a spring time lake level. This effort has benefitted our lake considerably by keeping water levels higher during the summer allowing, for example, chara growth which can assist with preventing other invasive weed growth yet does not interfere with recreational boating.