THE LAKER

NORTH LAKE PROTECTION ASSOCIATION www.northlaker.org JULY 2022

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

ANNUAL MEETING

Monday, August 29, 2022 – 7pm
Inverness Club House

AGENDA

1. **Review/Approve 2021 Minutes**
2. **Treasurer's Report**
3. **Old Business**
   - **a. SAD Update**
   - **b. Weed/Algae Issues**
   - **c. MICORP Update**
4. **New Business**
5. **Election of Officers**
6. **Adjourn**

$10 NLPA DUES

Please support your NLPA. Please make checks out to NLPA and send to Dick Frendt in the enclosed envelope. **Please include your email address *if you did not receive the recent test email*. We keep the email address confidential and only use it for important lake notices.**

In 2021 we raised about $2630 in dues to support NLPA operations. This was $1000 more than in 2021. The increase came from larger donations. In 2021 the average was $21.92 and in 2020 it was $13.60. In 2021, 120 members contributed and in 2020, 118 of the 257 NLPA members paid their dues. Thanks for the increased support of the members who contributed!

MUTE SWAN COUNT

An amazing reversal in the state count of Mute Swans occurred in 2021. In 2020 no count was made due to covid restrictions of staff. In 2019 the statewide count was 7900 birds; in 2021 the count was 15,800, a 100% increase. The SE Michigan count was up 275%. It seems likely there are errors in the counts from either this year or previous years. We will see what next year brings.

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ALGAE AND WEEDS PROLIFERATE IN LAKE

New strategies to be implemented

In the past few years we have experienced algae blooms in the spring and sometimes into the summer that have raised concerns about the health and aesthetic appearance of the lake. Last year we had excessive native pondweed growth that inhibited boating and recreational lake use. This year algae have been minimal. Pondweed exploded early and is our main issue at the moment. While these changes occur, we have found ourselves more and more limited in our control efforts due to more stringent EGLE regulations.

Algae are a widespread problem. The Sun Times reported that last year Portage Lake experienced a toxic algae bloom for the first time in its history. Many scientists believe climate warming is a contributing factor, but Aaron Parker, an EGLE aquatic biologist, stated in a Detroit News article in Dec., 2020, that the *biggest* factor is excess nutrient input.

Over many years, nutrients such as phosphorus build up in lake sediments. Plants and algae that feed on the nutrients die off and the nutrients are absorbed into the sediments on the lake bottom. More nutrients are added each year from runoff, from leaves that blow into the lake, geese droppings and other sources. It is estimated that one goose adds about one pound of phosphorus to the lake each year. One pound of phosphorus can make 500 pound of algae. Dogs are also big contributors. The EPA states that dogs living around a bay can foul the entire bay. Picking up after your dog will help.

Two new initiatives are being implemented this year, funded by the Special Assessment District's program. In addition, a third program for Rain Gardens is being promoted by the county (see page 2, column 1).

One of the initiatives is based on a commercial product, *Phosloc.* It was developed by the Australian national science agency, Commonwealth Scientific and Industrial Research Organization, to remove phosphorus from water bodies and restore water quality. For over ten years, Phoslock has been successfully used in water resource restoration programs around the world, but primarily in Germany, the Netherlands and the U.K. Phoslock is a modified bentonite clay product containing lanthanum, a naturally occurring earth element. Several independent organizations, including the United States Environmental Protection Agency, have conducted extensive laboratory and field studies on the toxicity of Phoslock using a range of aquatic organisms demonstrating no toxicity at prescribed application rates.

It is applied in a granular form to create a very thin layer on the lake bottom. It captures the phosphorus in the sediment and keeps it "locked" in a stable compound, stopping it from supporting plant and algae growth.

(Con't. pg. 2, col. 2)

RAIN GARDENS GROW BEAUTY, BENEFIT LAKE

A rain garden like the one above provides excellent protection to lakes from nutrients and pollutants that otherwise drain into the lake. But other rain gardens located in ditches or swales that eventually lead to the lake are also beneficial. Washtenaw County is promoting rain garden strategies to lessen the impact of phosphorus and other nutrients from causing algae blooms and rapid weed growth. Even if we refrain from applying fertilizers, geese and dog droppings are a big contributor to this problem according to recent EPA papers. The agency estimates that just 2-3 days' worth of waste from only 100 dogs can contribute enough bacteria to temporarily close a bay, and all watershed areas within 20 miles, to swimming.

A rain garden located in front of a culvert

Washtenaw.org. will connect you to an excellent booklet, *Master Rain Gardener Handbook* to assist you with the plantings.

Photos and some content in above are from Lake Pend Waterkeeper: Plant a Rain Garden

This spring, a five acre test site located at the NW end of North Lake was treated with Phoslock. Keiser & Associates (K&A), our lake consultant, took sediment samples and water column samples at the site and at control sites. More sampling will be done to determine the effectiveness of the Phoslock. If the outcome is positive, a broader program may be implemented.

The other initiative this year is a study by K&A of the *sources* of phosphorus. Three storm-water inlet ditches as well as the lake outlet culvert will be sampled during a rain storm and during a non-storm period. Sediment samples will also be taken. The data derived will tell us where the phosphorus is coming from and help decision makers in the lake management effort.

These initiatives are in addition to the ongoing work performed by the Lake Management Team comprised of Washtenaw County, K&A, Clarke Aquatic Services and NLPA volunteers. Treatments for milfoil, starry stonewort, algae blooms and pondweed were all executed last year within EGLE rules. Monthly inspections are conducted, plus spot inspections when issues arise. We also monitor the water quality (see MICORPS report on page 6) and treat lily pad problem areas (page 3).

Each year K&A issues a Lake Management Report that can be found by going to our website's "*Links*" tab at *Nortlaker.org* and selecting the *North Lake Improvement Project*, and then selecting "*North Lake Annual Reports*". You will find detailed discussion of the lakes condition and of the Phoslock and Phosphorus Mass Balance programs. You may also view the SAD budget status and previous years' annual reports.

WHO'S THE FOOD IN A FOOD CHAIN

We assume humans are at the top of the food chain, but in some cases this isn't true. The annoying, pestering mosquito outranks us in the "who eats who" competition. They drink our blood and ravage our population with disease despite our efforts to control them. It is commonly believed that we have some allies right here on North Lake, Purple Martins and Barn Swallows, and in this segment of the food chain, the birds rule.

Mosquitoes wreck havoc around the globe. They are considered the most dangerous creatures on the planet, responsible for one million human deaths each year, more than all other animals and fish combined. In the U.S. it's estimated that mosquitoes drain 1.6 million gallons of blood from us every year. That's equivalent to 4 million blood transfusions. They do it with a proboscis, a long tube contained in a sheath. At the end of the sheath are miniature scalpels that slice your skin. The proboscis is then inserted and anti coagulants are injected into the wound (which make you itch!), and probes for a capillary to suck your blood.

Mosquitoes are known from as far back as the Triassic Period – that's 400 million years ago! Only female mosquitoes bite because they need the protein found in blood to nourish their eggs. Male mosquitoes don't bite, but feed on fruit and plant nectar. A female mosquito can lay as many as 300 eggs in one go and produce up to 3,000 offspring during her entire life span. The average mosquito lifespan is less than two months, however, females of species that hibernate live up to six months. Enough said about these little zombies. (Con't. pg. 3, col. 2)

NEW COAST GUARD RULE

Effective April 20, 2022, all required fire extinguishers that are not rechargeable must be replaced after 12 years of manufacture. Any boat with a permanent fuel tank or any boat that stores gasoline or other flammable material in a space that can trap fumes must carry an up-to-date marine fire extinguisher.

CAMP BURT SHURLEY NEWS

The Camp remains closed this summer as Covid continues to impact decisions in the Detroit Public School System. There is a caretaker assigned to maintain the camp but significant roof repairs may be needed for some of the buildings before they can be used.

Day visits are planned for this fall by bussing kids out and back the same day.

LILY PAD TREATMENT PROGRAM CHANGES

We are starting over this year with the Lily Pad treatment program that was initiated in 2012. Over the years, we have had the enrollment in the program grow to over 30 lakefront properties, but many of these locations haven't been treated in several years. This is due to lack of sufficient lily pad problems at those properties.

We will start with a clean sheet; only those specifically requesting treatment this year will be treated, and only then if conditions warrant treatment. A 20' lane from your dock to open water may be treated, OR a 40' x 40' swimming area may be treated. To request treatment send an email or regular mail request by Aug. 6. Please include a photo of the area taken from the lake with your dock or home in the background. Send to:

Dick Frendt
7837 Stonehedge Valley Dr.
Gregory, MI 48137
or email: rjfrendt@aol.com

When you cruise around North Lake you encounter a couple of Purple Martin houses. One is located on the east end on a tall pole. It's been put up every year for the past thirty years by Steve and Ann Koch who received it as a house warming gift when they bought their home on North Lake Road. It has four levels with six "apartments" on each level. Steve says most years it is half to three-quarters occupied, although a couple of years ago it was near full.

Other birds like to use Purple Martin nests including Barn Swallows, Sparrows and Starlings. Steve waits until he spots Purple Martins in mid April to erect the house to minimize problems with other birds, especially the Barn Swallows. He noted one year when he waited later than usual, when he raised the pole, the martins flocked around the house before he even had it in its final position!

Martin nesting sites range across the eastern U.S. and parts of Canada. They nest almost exclusively in man-made houses, either the apartment style or gourd style at the dock of the Frayers on Rustic Drive. Robert Frayer says in the past there were a half dozen on the south shore. Martin houses have been declining in numbers everywhere and it is thought to be due to our younger generation not having interest in them.

Indians were providing gourd houses near their lodges since before Europeans arrived. Early settlers found gourd Martin houses at the most popular taverns. As John James Audubon wrote in 1831 in one of his published journals about birds: "Almost every country tavern has a martin box on the upper part of its sign-board; and I have observed that the handsomer the box, the better does the inn generally prove to be."

Martins have nests with generally three to five pure white eggs. The nests are built with sticks, grass and mud and are lined with green leaves. Copulation most often occurs in the nest. The eggs hatch in 13-15 days and fledgling takes place at 26-32 days. The parents continue to feed the fledglings for another week or two.

The first Martins to arrive in the spring are the older adults. Last year's hatchlings arrive a couple of weeks later. They have a long trip to get here; they spend their winters in Brazil. The martins begin to gather in flocks in late summer and by the end of July some begin to head south. Some stay around as late as October. During their migration they consume high flying insects and are thought to be a major predator of fire ants. According to Oklahoma University researchers, martins consume billions of fire ant queens, each capable of starting a new fire ant colony in the southern U.S.

Adult males are entirely black with glossy steel blue sheen. Adult

(Con't. pg 4, col. 2)

Koch's Apartment Style Martin House

Frayer's Gourd Style Martin Houses

LAKE LEVEL

In 2021, lake levels were somewhat below average for May through mid-June but rose to a consistently higher than normal level through September.

This year we were slightly below average through mid-June but by July 1st the level dropped to it's lowest level for July 1 since 2012 when we did not yet have the weir installed. On average, the lake drops another 4½" by Oct. 1.

RIGHT HERE ON NORTH LAKE

Sometimes we spend our entire lives not knowing the achievements and talents of people around us. We hope to share some of these stories so we all can be informed and proud of our community.

(Con't. pg 5, col. 1)

females are dark on top with some steel blue sheen, and lighter underparts. Adults have a lightly forked tail. Both male and female purple martins exhibit delayed plumage maturation, meaning it takes them two years before they acquire full adult plumage. Sub-adult females look similar to adult females minus the steel blue sheen and browner on the back. Subadult males look very much like females, but solid black feathers emerge on their chest in a blotchy, random pattern as they molt to their adult plumage.

Both Purple Martins and Barn Swallows are members of the swallow family and both rely on man-made structures to build their nests. Swallows use structures they can fly into or under to build their mud nests. A shed or barn with an open door, or under a bridge, are a favorite places. They nested in caves in olden days but the only site in the U.S. where they still nest in caves is in the Channel Islands National Park, off the coast of California. They may even nest under your pontoon boat – just ask George or Carol Heydualf who raised broods and even gave them cruises around the lake the last few years!

Swallows are smaller than martins and are known for their acrobatic flying skills. They skim over the lake surface or the land surface catching insects of all types. Swallows and martins eat their weight in bugs every day and when they're feeding their young they must increase their catch. They migrate mostly to southern Mexico and Central America in the winter but have been found as far south as Argentina.

Male swallows have steel blue upperparts and a rufous forehead, chin and throat, which are separated from the off-white underparts by a broad dark blue breast band. The outer tail feathers are elongated, giving the distinctive deeply forked "swallow tail". There is a line of white spots across the outer end of the upper tail. The female is similar in appearance to the male, but the tail streamers are shorter, the blue of the upperparts and breast band is less glossy, and the underparts paler. The juvenile is browner and has a paler rufous face and whiter underparts. It also lacks the long tail streamers of the adults.

Male Barn Swallow

Female at nest

Both parents feed the young for both martins and swallows but the martins usually have only one brood per season while the swallows have two. The first nest swallow fledglings often help feed their second nest siblings. Both martins and swallows live about four years but there are cases of each living double that age.

The swallows nest is built with mud with embedded grass and are usually a half circle cup attached to a vertical surface. They are very labor intensive to build, taking up to a thousand trips to complete over a two week period. Old nests are prized by swallows, even those built by other pairs. One nest was observed to have been used 49 straight years!

(Con't. pg. 5, col. 2)

In this issue we take a little different angle on the accomplishments of one of our more familiar names, George Heydlauff. Most of us know about his successful appliance business in Chelsea, but George had another facet in his life that deserves mention. He was a skilled athlete.

George played baseball, basketball and football for Chelsea High School. He was a starter on all three squads from his freshman class through graduation in 1951. Shortstop was his baseball position and at the end of his senior season, the coaches in the league gave him more all-conference votes than any other player, regardless of position. He was a guard on the basketball court but his main success was on the gridiron where he played halfback. In his senior season, he switched to quarterback due to injury to the starting quarterback.

In a game against University High school of Ann Arbor, George scored 26 points on four TDs and two kicked extra points. Chelsea won 26 to 16. He also scored two points for the opponents when he was tackled in the end zone for a safety!

After high school, George played football at Western Michigan and in his sophomore season played defensive halfback. That year, he returned a punt for a touchdown and intercepted a pass for a touchdown.

George, we're impressed and we're pleased Carol convinced you to share this facet of your life with us!

If you know someone who's awards, achievements, hobbies or other interesting stuff you think the Laker readers would be interested in, send me an email with a short description of your nomination. I will get back to you.

Swallows typically lay four to five eggs that are white with reddish spots. Incubation takes 14-19 days and fledgling occurs 18-23 days later. They continue to feed the young about a week after leaving the nest. This whole period is about two weeks shorter than the martins which may explain why martins usually have only one brood per year.

Barn Swallows are abundant across the U.S. and Canada although numbers are declining rapidly in some areas due to lack of nesting sites.

So let's get back to the food chain discussion. It seems Purple Martins are not the great consumer of mosquitoes we once thought. Martins tend to feed while flying at fifty feet or so above ground. Mosquitoes stay below fifteen feet. The primary food source for martins is dragonflies, beetles and other larger bugs. In the evening martins do eat mosquitoes but they are a small part of their diet.

Barn Swallows skim over the surface of the ground and lake catching their prey in sometime acrobatic moves. But, it turns out, flies are about seventy percent of their diet, followed by aphids. There just isn't much nutrition in a mosquito, and swallows need a lot of fuel. Alas! The dang mosquitoes win again, so slather on the deet and don't trim your fingernails too short; you're going to need them.

The above article sources are: Mega Catch: 25 Scary Mosquito Facts You Need to Know, The Cornell Lab: All About birds: Bird Fact, CBC: Nine Cool Facts About Barn Swallows: South County News: The Purple Martin Returns to Michigan: The Purple Martin Conservation Association

NORTH LAKE WEED REPORT – JUNE, 2022

WEEDS, ALGAE and stuff. What a way to start a report. As all of you have noted, North Lake has been plagued with severe algae and weed growth over the past years that impacts our lake and how we use it. While there is a tremendous desire to control weed growth on the lake, we are faced with EGLE,(Environmental, Great Lakes and Energy of Michigan) regulations as to chemical use, where and when we can apply them and also the timing of treatment such as for algae treatment.

The commitment to lake treatment extends from your NLPA lake board, to the weed committee, the lake management group and the applicators. Fortunately, the Eurasian milfoil infestation in our lake has improved but still some patches needed chemical treatment. We observed other areas where there were strands that we need to continually watch for future treatment.

To combat the algae issue, we have started a Phoslock treatment experiment at the West end of the lake and will continue this summer. Two control areas will be implemented and monitored to gauge the effectiveness of this new treatment. Be aware that this is a rather expensive test and analysis but we need to alleviate the algae issue if possible. If deemed successful, we may expand the treated areas in future years on North Lake.

The weed committee comprised of your NLPA weed volunteers who do the actual lake inspections and Washtenaw County representatives who work out the weed treatment plan for our lake, agreed to consider weed harvesting of the native pondweed growth at the east end and around the lake. We need to caution you that this is not a commitment at this time for harvesting because we need to carefully monitor our available finances and evaluate the cost/benefits for doing so.

(Con't. pg.6, col. 2)

MICORPS UPDATE

The MICORPS program is back in business this year after a one year absence due to state budget cuts. Charlie Taylor leads this effort and collects lake samples for phosphorus and chlorophyll, and measures lake clarity, dissolved oxygen, and water temperatures. The samples and data are provided to the MICORPS program where they are compared to other lakes in Michigan. A report is issued each year.

The 2021 Report for North Lake includes the following statement*: Long term trends indicate that the monitored parameters have changed very little since monitoring began, except for transparency which has significantly improved since the 1970-1980s.*

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THANKS VOLUNTEERS!

Special thanks to Dan Kruse, Sheryl Ulin, Ted & Cindy Mikevicius, Charlie Taylor, Dave Pruess, and Paul Lammers for their dedication and talents. Also to Mary Lou Frendt for her help and expertise in publishing the Laker.

An important change for CY 2022 is that we will have two official inspections or visits to North Lake by the Keiser Group each month to more closely monitor and react to changing weed growth conditions. This is an improvement from the on-call methodology of past years. Hopefully this will improve awareness and response to our weed control issues. All inspection reports and treatment notifications are being posted on the North Lake website for our owner's information thanks to Cyndy Mickevicius. We would also be remiss not the mention that Dick Frendt is very actively involved with all lake inspections and who first suggested the Phoslock treatment methodology which hopefully will keep phosphorous embedded in the lake sediment, thus reducing algae growth.

Now for some good news, we have again been informed by the Kaiser Group that North Lake continues to be in better condition weed wise than most of the lakes in our geographical area. We have seen better lake conditions, thanks in part by our lake management team's involvement and responsiveness.

Our current Lake Special Assessment District (SAD) is coming to an end this year. This means our funding for weed control management and weed treatment efforts will also end. From what we have seen in North Lake, we have been lucky in our weed control efforts to use only a portion of the SAD assessment allocation. Considering the proliferation of weeds we are now treating and those that are now starting to appear in North Lake, it is imperative that the SAD be renewed and possibly expanded in scope to include future unforeseen issues.

PBLammers@gmail.com David.Pruess@gmail.com

FIREWORKS SHOW CONTINUES ON NORTH LAKE

Dave Steinbach and crew put on perhaps their best display ever. It was made possible thanks to the foresight of Dave who placed his fireworks order early in January. Other lakes and towns who waited couldn't find supplies and some were forced to cancel or use backyard type of displays. Thanks for thinking ahead!

BOAT PARADE WINNER!

Joe & Jill Jeffreys' boat took first place in this year's parade with their entry, *Gone Jelly Fishin*. It was a great parade again with creative ideas and great looking boats. The Fireboat kept the lake from catching fire as it continually hosed it down, while the Troopers kept everyone in line. The parade lasted 'til the cow came home and returned to the Walther's lawn. Thanks to the Broekhuizens for keeping this a big part of our Fourth of July celebrations!

Jefferys' grandkids Quinn, Camryn and Deacon came up with the jellyfish idea and each decorated their own jellyfish. Nice Job!