



# Wall Lake Signal

April 2014

## WEBSITE:

Gwlaspace.ning.com

## FACEBOOK:

Greater Wall Lake Association

## EMAIL:

greaterwalllakeassoc@gmail.com

How did the Wall Lake shoreline used to look?



Fish like the shade from overhanging trees. Turtles need logs to climb on for sunning and resting. Monarchs need native plants like milkweed for food. Everything relies on each other.

Geese DO NOT like taller grasses and plants along the shoreline. They will avoid your property if you plant a native barrier along the shore.

Pierce Cedar Creek Institute has FREE Program on Mother's Day at 12:15 pm: All Season Native Flower Gardening

Vern Stephens, owner of Designs by Nature, will talk about how to extend a flower garden's blooming season throughout spring, summer, and fall. Order your native flowers at the Institute now!

## A Publication of the Greater Wall Lake Association INC.

The loons are back and Spring has Sprung! Now it's time to prepare for a wonderful new season on Wall Lake. Here is a list of events and activities to put on your calendar. And be sure to check for specific details and updates on the Greater Wall Lake Facebook and Web sites.

### Lake Events: Times and details on website

- Pay your GWLA dues for Jan-Dec \$35.00
- May 22: Wall Lake Yacht Club meeting
- June 6 : Wall Lake Garage Sale  
Let us know what big items you have so we can put information in our ads. You keep the money but we post your address and information. Email us!
- June 20: GWLA Annual Meeting We will be having speakers and door prizes! Come on out for a new experience and learn more about Wall Lake at the same time.
- July 4: Annual boat parade
- September 7: Wall Lake Yacht Club awards presentation and meeting

NOTE: Weed Control Schedule is included later in this newsletter.

### Community Events:

- Hope Township Board Meetings will occur on the second Monday of each month, beginning at 6:30 P.M. at the Township Hall.
- Hope Township Planning/Zoning Meetings occur on the 3rd Thursday of each month as needed, beginning at 7 P.M. Check the Hope Township website for updates.
- May 9: Hope Township Cleanup Day  
Take your hazardous waste to the Barry County Fairgrounds, and other waste to Hope Township.
- Barry County Transfer Station: drop off your yard waste and other large items at the corner of Osborne and Cobb Roads, Fridays from 3-7 PM and Saturdays from 9-5 from March through November.
- Delton Founders Day Festival: Friday and Saturday, August 14 and 15.

## CARE FOR THE LAKE

You may be ready to clean up your yard and gardens. Be sure to remember the lake as you do so!

Planting native vegetation as a buffer along the water's edge will keep geese off your yard, and will provide habitat for turtles, frogs and birds. It will also help cleanse any runoff from your yard. Be sure to avoid phosphorus and use fertilizers only in the areas necessary. Spot fertilizing is more effective, and less polluting! The same goes for watering. Only water early in the day, and only in areas that are truly dry. Mow turf to 3" - 3 1/2" in order to retain moisture and healthy vegetation. And use a mulching mower in order for the cut vegetation to compost into your soil.

## WHAT'S WRONG WITH USING SEAWALLS?

"Many property owners are drawn to seawalls because they are perceived to be more stable. However, they can often cause shorelines to be less stable than those protected by natural landscaping. Seawalls do not allow for absorption of the energy that waves bring in – waves hit the seawall, and the energy is bounced back out to the water. In the process, wave energy that has bounced off the wall scoops out soil and sand and causes erosion at the base of the wall. This kind of erosion is called scour. Scour contributes to a less stable waterfront, decreases water clarity, and has a negative effect on fish, animals and aquatic plants near the shore. In contrast, bioengineering along the shore absorbs some or all of the wave energy, which helps thwart shore erosion and scour. In addition to deflecting wave energy, seawalls also disrupt the natural transition between the water and the land. Vertical walls physically block access to and from the water for turtles, frogs and other animals that need contact with the land to feed, rest and nest. By using a soft shore approach to landscaping your waterfront property, you can help preserve the very things that attracted you to lakefront living in the first place...Clean Water, Abundant Wildlife, Good Fishing and Access to Recreation!" Michigan DEQ

*Remember to rake your leaves away from the lake, and DO NOT burn them near the water.*



Get ready for the 2015  
**Wall Lake Garage Sale**  
 June 6th!  
 Let us know if you are going to participate by sending an email to:  
 greaterwalllakeassoc@gmail.com

Or call Sue Trudeau at  
 269 623-8511

**GWLA Officers**

**North Side**

- Tim Harsevoort
- Doug Drenth
- Bob Cove
- Jim Lockwood
- Dick Fluke\*
- Bill Cook\*
- Walter Reilly\*
- Sue Trudeau\*

**South Side**

- Jerry Sivak
- Rob Seiter
- Andy Bohr
- Mark Litke
- Mary Branch\*
- Alan Freid\*
- Ron Wilson\*
- Christy Tigchelaar\*

\* members whose terms end in June, 2015

The GWLA is taking names for those who would like to help by joining the board in June. Email us at greaterwalllakeassoc@gmail.com

**Come to the GWLA Annual Meeting On June 21st!**

**Like us on Facebook at:**

**Greater Wall Lake Association**

**The Fish Committee Report**

**Fishing License Fees for 2015: Go to the DNR site at <http://www.michigan.gov/dnr>**

200	<b>Resident Annual</b>	\$26.00*
201	<b>Nonresident Annual</b>	\$68.00*
202	<b>Senior Annual</b> (Residents 65 or older or Residents who are legally blind – \$11.00*)	
203	<b>24-hour</b> (Resident or Nonresident)	\$10.00
204	<b>72-hour</b> (Resident or Nonresident)	\$30.00
205	<b>Muskellunge Harvest Tag</b> (License Required, see <a href="#">Common Terms</a> )	FREE
206	<b>Sturgeon Fishing Permit and Harvest Tag</b> (License Required, see <a href="#">Common Terms</a> )	FREE
115	<b>Hunt/Fish Resident</b>	\$76.00*
116	<b>Hunt/Fish Nonresident</b>	\$266.00*

**DNR says fish kills may be common during spring thaw**

Contact: [Chris Freiburger](#), 517-284-5824 or [Gary Whelan](#), 517-284-5840  
 Agency: Natural Resources  
 April 8, 2015

The Department of Natural Resources reminds everyone that after the heavy ice and snow cover melt on Michigan's lakes this early spring, it may be common to discover dead fish or other aquatic creatures. This year's winter with heavy snow, extreme cold temperatures and thick ice cover will create conditions that cause fish and other creatures such as turtles, frogs, toads and crayfish to die.

"Winterkill is the most common type of fish kill," said DNR fisheries habitat specialist Chris Freiburger. "Given the conditions this winter with thick ice and deep snow cover, it will be particularly common in shallow lakes and streams and ponds. These kills are localized and typically do not affect the overall health of the fish populations or fishing quality."

Winterkill occurs during especially long, harsh winters. Shallow lakes with excess aquatic vegetation and soft bottoms are particularly prone to this problem. Fish and other aquatic life typically die in late winter, but may not be noticed until a month after the ice leaves the lake because the dead fish and other aquatic life are temporarily preserved by the cold water.

"Winterkill begins with distressed fish gasping for air at holes in the ice and often ends with large numbers of dead fish that bloat as the water warms in early spring," Gary Whelan, DNR fisheries research manager, explained. "Dead fish and other aquatic life may appear fuzzy because of secondary infection by fungus, but the fungus was not the cause of death. The fish actually suffocated from a lack of dissolved oxygen from decaying plants and other dead aquatic animals under the ice."

Dissolved oxygen is required by fish and all other forms of aquatic life. Once the daylight is greatly reduced by thick ice and deep snow cover, aquatic plants stop producing oxygen and many die. The bacteria that decompose organic materials on the bottom of the lake use the remaining oxygen in the water. Once the oxygen is reduced and other aquatic animals die and start decomposing, the rate that oxygen is used for decomposition is additionally increased and dissolved oxygen levels in the water decrease even more, leading to increasing winterkill.

For more information on fish kills in Michigan, visit [Fisheries Division's fish kills website](#) at [www.Michigan.dnr.gov](http://www.Michigan.dnr.gov). If you suspect a fish kill is caused by non-natural causes, please call the nearest DNR office or Michigan's Pollution Emergency Alert System at 1-800-292-4706.

***Come Sailing! Contact WLYC Commodore Cheryl Baker at [cheryl.baker@med.wmich.edu](mailto:cheryl.baker@med.wmich.edu)***

## Water Quality 2015

Your GWLA board is active in protecting our lake from pollution and invasive species. We are active members of various associations sharing similar concerns:

- WMEAC (West Michigan Environmental Action Council)
- FTWRC (Four Townships Water Resources Council)
- MYMLSA (Michigan Lakes and Streams Association)
- MCLMP (Michigan Clean Lakes Monitoring Program)
- MLAWD (Michigan Land Air Water Defense)
- Pierce Cedar Creek Institute

Board members attend conferences annually to learn about new found invasive aquatic species, changes in environmental laws, behaviors for recreationalists that are effective in keeping boats and trailers clean, and opportunities for the community at large to learn how to protect Michigan's greatest resource: fresh water!

You may remember the Mute Swan controversy from last year. Mute swans are invasive species and many states have programs in which the swan eggs are culled in order to curtail growth of mute swan populations. (Mute swans have orange beaks.) The results may be seen on Wall Lake already, since many more species of waterfowl have been seen on the lake. A pair of loons has been spotted, and several species of ducks including wood ducks and mergansers are evident also. If we can protect the vegetation areas for nesting along our shorelines, and if the mute swans do not come back, we may have more native species of wildlife returning already! Let us know if you see ducks, birds and other wildlife in your area. The bald eagle was certainly active last year also. Let's hope we get some Trumpeter Swans back on the lake!



Trumpeter Swan (Native)



Mute Swan (Invasive)

*The Phosphorus Law or the Michigan Fertilizer Law (1994 PA 451, Part 85, Fertilizers) restricts the use of phosphorus fertilizers on residential and commercial lawns, including athletic fields and golf courses statewide. Both homeowners and commercial applicators must follow the phosphorus application restrictions.*

### Rare/Special Species:

Have you seen any of these? If you do, please take a photo if possible and email it to us, along with the date and location.



Blanding Turtle



Least Shrew



Indiana Bat



Common Loon



## NOTICE 2015 Weed control schedule

PLM Lake and Land Management Corp  
8865 100th St. SE, Alto, MI 49302  
(616) 891-1294(o) (616) 891-0371(f)  
www.plmcorp.net

Date	Description	Date	Description
4/20/2015	Water Quality	7/6/2015	Weed & Algae Treatment & E.coli
5/4/2015	Survey	8/3/2015	Weed & Algae Treatment & Water Quality
5/18/2015	Weed & Algae Treatment	8/31/2015	Optional Weed & Algae Treatment
6/15/2015	Weed & Algae Treatment	9/21/2015	AVAS Survey & WQ

If you have questions about the Wall Lake Weed Control plan, Hope Township will be conducting a public hearing in Sept. and Oct. about the new contract. Check out their website at [www.hopetwp.com](http://www.hopetwp.com) for updates. Also, the full schedule for weed control will be sent to each riparian by mail.

### Environmental Quiz

1. How long does it take for Wall Lake to completely refresh it's water?
2. How old is Wall Lake?
3. Where does the water come from that fills Wall Lake?
4. What is the difference between a bog and a wetland?
5. What are some of the greatest threats to the survival of Wall Lake?

Answers can be found in the article on pages 4 and 5.

Dear Riparian:

The purpose of this letter is to share with you an ecology update that may help all of us understand our Wall Lake environment.

Regarding lake ecology - On September 27, 2014 I had the pleasure of attending a Lake Ecology and Management course at The Pierce Cedar Creek Institute for Environmental Education. This was an all-day course that was very informative. Course topics included lake history, how lakes naturally receive and lose water, bogs, fens, watersheds, pollutants, lake zones, water temperature, water density, water turbidity, sedimentation, lake organizations, and lake management. The day involved both lecture material and a workshop at a nearby lake. Topics raised by participants included beach issues, invasive species problems, watershed issues, herbicides, aquatic plants, sedimentation, and EPA fines for altering land by water.

Michigan's lakes are about 10,000 years old. During the most recent glacial period this part of the continent was covered by ice two miles thick. As the glaciers moved southeast down from Canada, moved east along the upper Midwest, and then back northeast into Canada, depressions in the earth were formed and chunks of ice broke off and remained. As the ice slowly melted, lakes formed. Wall Lake is one of these 10,000 year old lakes.

**Lakes** can receive water from many sources including surface water runoff, streams, bogs, and groundwater hydrodynamics. Lakes can lose water from streams, evaporation, and groundwater hydrodynamics. The water in lakes can completely replenish (residence time) in as little as a few days to as long as a few years, depending on how readily water flows into and out of them. The residence time of water in Wall Lake is three years, which is very long. The problem with this slow renewal of water is that if a damaging change is introduced in the water of Wall Lake, like a pollutant or a decrease in pH (making it more acidic), the damage can become permanent due to the slow rate at which the water renews.

**Bogs** are water basins that no longer receive water from groundwater hydrodynamics because of excessive deposits that plug up the groundwater inputs. Groundwater is basic. Rainwater is acidic and these bogs become highly acidic over time because their only source of water is acidic rainwater, and the large mats of moss that fill bogs (called moss mats) also produce acid. Wall Lake is a very fragile ecosystem because it receives the vast majority of its water from a highly acidic bog to the south of the lake. The only thing saving Wall Lake from an acidic disaster is the wetlands at the south end of the lake. These wetlands function as a filter that remove the acid from the bog water, remove sediments, and regulate nutrients. If these wetlands are damaged, Wall Lake will experience, according to a Michigan State University scientist, "Destruction of the lake's ecosystem."

**Fens** are water basins that still receive water from groundwater hydrodynamics, so their pH is normal to basic. Water leaves fens through streams, and they have prolific plant life.

**Watersheds** are an area of land where all of the water that is under it or drains off of it goes into the same place. John Wesley Powell, scientist geographer, said that a watershed is, "That area of land within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community." Everyone lives in a watershed. We depend on the water that flows through watersheds for everything from drinking water to agriculture to recreations. In the continental US, there are 2,110 watersheds. Michigan has 85 major watersheds. Wall Lake is in the Thornapple Watershed.

**Agricultural** practices affect water quality. Agriculture is the source for nearly half of all water pollution in the United States. Not only does this damage the environment and kill animals including fish, it sickens and kills people. Open access for cattle, in particular, has a severely detrimental effect on lakes. Feces, urine, bacteria, and antibiotic residue enter lakes and devastate the environment. In addition, families that rely upon private drinking water wells are especially vulnerable to the harmful effects of water pollution from agricultural pollution.

The Environmental Protection Agency encourages Agricultural Management Practices for Water Quality Protection. This introduces eight basic types of agricultural Best Management Practices that are suitable for reducing or minimizing water quality impacts, as part of an overall watershed approach. These practices include: Conservation Tillage, Crop Nutrient Management, Crop Nutrient Management, Conservation Buffers, Irrigation Water Management, Grazing Management, Animal Feeding Operations (AFOs) Management, and Erosion and Sediment Control. The State of Michigan has comprehensive support for agricultural Best Management Practices and if Wall Lake were ever threatened by irresponsible agricultural land use, there are many resources available to an active citizenry, lake association, and effective local government.

**Wetlands** are defined as lands characterized by the presence of water at a frequency and duration sufficient to support wetland vegetation or aquatic life, and are commonly referred to as bogs, swamps, or marshes. Wetlands can also be grassy meadows, shrubby fields, or mature forests. The land does not have to be wet all the time to be a wetland. It simply needs to have a high water table and saturated soils. Wetlands serve many important roles, including managing flood waters, trapping sediment runoff, providing nutrients, removing acid, and holding water so lakes and streams still receive water in dry periods. The plants in wetlands filter pollutants so lakes, streams, and groundwater wells have clean water.



Since the 1800's over 50% of Michigan's wetlands have been destroyed from either being drained or filled in. Given their importance, the State of Michigan now regulates activities that occur in wetlands. The Michigan Department of Environmental Quality (MDEQ) Wetlands Program is responsible for protecting Michigan's wetlands. Since 2007 all of the State's Wetland Protection Law (Part 303 of Act 451) applies to Barry County. This means that wetlands up to and including 5 acres that are connected to or located within 500 feet of an inland lake, pond, river or stream, and any wetland greater than 5 acres is protected by the MDEQ. In Barry County, which has over 22,000 wetlands, all but 2% are regulated. The law requires that a landowner obtain a permit from the MDEQ before certain activities are carried out with a regulated wetland, including depositing, dredging, developing, and draining. Pollutants can negatively impact lakes.

**Pollutants include:**

Nutrients such as phosphorous and nitrogen. These come from agricultural manure and human activities.

Ammonia and nitrates. These come from agricultural manure.

Bacteria and other pathogens. These come from agricultural manure and human activities. The impact of pathogens from manure is severe: according to the Centers for Disease Control, in every waterborne disease outbreak in the United States from 1986 to 1998 where the pathogen could be identified, it most likely originated in livestock. Numerous studies have demonstrated that waterways are a prominent means of transmitting these dangerous types of bacteria to humans.

Antibiotics and hormones. These come from livestock waste. An estimated 75% of all antibiotics administered to livestock are excreted, and for certain common antibiotics that figure can be as high as 90%. The overuse of antibiotics for livestock contributes to the development of antimicrobial-resistant bacteria, and some studies suggest that growth of these resistant bacteria may be promoted in waterways with high levels of antibiotics. Hormones can remain functional in manure up to 270 days after excretion, and there have been many documented cases of hormones discovered miles downstream of farms. Although it is unclear whether these hormone concentrations can be high enough to affect humans, they have been shown to compromise the reproductive processes of fish.

Heavy metals. These are added to animal feed. These include copper, zinc, chromium, lead, arsenic, and cadmium. Farm animals excrete these in their manure which then gets spread as fertilizer and ends up in lakes, rivers, and well water. Exposure to heavy metals causes many health problems in humans, including kidney disease, nervous system disease, headaches, cardiovascular disease, and cancer.

Salts. These come from livestock waste. These include sodium, calcium, magnesium, potassium, chloride, sulfate, bicarbonate, carbonate, and nitrate. When introduced to the environment, these salts increase the salinity of waterways, leading to changes in aquatic ecosystems and making water brackish, and therefore unfit for drinking.

Organic matter and other solids. These come from animal farming and include animal bedding, wasted feed, soil, dust, hair and feathers. These items get mixed with manure and enter the waterways and decompose and cause increased levels of bacteria and decreased levels of oxygen which kills fish.

Sediments. This comes from erosion and runoff from agriculture and housing.

Mercury. This comes from coal-fired power plants through the atmosphere when mercury trapped in coal is released when it burns. It enters the water via precipitation. It accumulates in fish.

**Water quality** variables, such as temperature (colder holds more oxygen), and turbidity (increased turbidity blocks light and is measured using a Secchi disc) are important to a lake's viability. Measures to reduce turbidity are encouraged. Algae blooms increase turbidity and are a big problem for lakes. Herbicides that kill invasive milfoil have had mixed results and can cause algae blooms. These herbicides are not very effective on native or hybridized milfoil. Also, these herbicides kill some non-target plants. This disrupts the ecosystem. If the dead plants are not harvested they will act as fertilizer and green algae blooms will result. It is possible to determine if a lake has natural, hybrid, or invasive milfoil through testing, and Michigan State University can help with this testing. Whole lake milfoil treatment is discouraged. Patch testing of true invasive milfoil followed by removal of dead plants is a good compromise to this difficult problem.

**Managing lakes** is difficult work. According to the faculty at The Pierce Cedar Creek Institute, managing lakes is a universally challenging problem. A typical pattern of behavior that is seen on inland lakes is a divide between those residents who view their lake as a big swimming pool that exists for their pleasure, and those who understand that a lake is part of a delicate ecosystem, and that we need to minimize our typically negative impact on this system. The lakes that survive humanity's abuses are those that have few people near them, or those that are managed well. Those lakes that are managed well typically have a lake association, and the association typically has a volunteer board. These lake boards typically have members that cycle through periods of inspiration, leadership, and sacrifice and make a difference for their lakes. Roles of lake associations typically include education, organization, and community activities. Lake associations are typically funded by memberships and donations. Let me say how proud I am of every one of our Greater Wall Lake Association members and the many sacrifices they have made for Wall Lake.

Wall Lake has survived everything Mother Nature could throw at her for 10,000 years. In just 100 years, human activities - especially those that threaten her wetlands, could destroy her.

**Thank you** in advance for doing whatever you can to preserve our treasured lake.

Hi Everyone,

For this issue of the newsletter I was asked to explain our lakes involvement in the Cooperative Lake Monitoring Program (CLMP) and why I think it's so important. The CLMP was brought to my attention by another resident, Jodi McManus, who was involved in assisting Gull Lake in their participation in the program. She explained what was involved and helped us get started.

The CLMP is jointly administered by the Michigan Lake and Stream Associations, Inc. (MLSA) and the Michigan Department of Environmental Quality (DEQ) and it is now a component of the MiCorps programming. The goals of the CLMP are:

Provide baseline information and document trends in water quality for individual lakes.

Educate lake residents, users, and interested citizens in the collection of water quality data, lake ecology, and lake management practices.

Build a constituency of citizens to practice sound lake management at the local level and build public support for lake quality protection.

Provide a cost-effective process for the DEQ to increase baseline data for lakes state-wide.

CLMP volunteers monitor a lake's productivity which is the amount of plant and animal life that can be produced within a lake. Over time lakes gradually increase in productivity through a natural process called eutrophication, or lake aging. If a lake's water quality becomes impaired it can often lead to excessive productivity which leads to problems such as excessive plant growth, algal blooms and mucky bottom sediments. While all these things are normal and will always occur over time the objective of most lake management programs is to slow down the process by reducing the input of plant nutrients, such as phosphorus, and sediments to the lakes.

Scientists developed the Carlson Trophic State Index (TSI) which is widely used to express a lake's productivity on a numerical scale. It incorporates a lake's transparency, as measured by a Secchi disk; the algal plant pigment chlorophyll a; and total phosphorus as indicators of lake productivity. The CLMP was designed to capture and provide data on these parameters which can then be used to determine a lake's health. Currently our lake is at 45 on the scale which is quite healthy for a naturally occurring lake in this area.

By monitoring our lake's water quality we can work more closely with our lake management partner, Professional Lake Management (PLM), to keep it clean and protect it for our enjoyment as well as that of future generations. Long-term monitoring will help us recognize changes and trends and give us advance warning should we ever need to change or take additional action to protect our lake. It also gives us an independent assessment which we can compare to the information we receive from PLM to ensure that we're doing everything we can to ensure our lake remains a safe healthy environment for years to come.

The CLMP has both training and experience requirements and last year we were only able to participate by taking Secchi disk readings throughout the summer. This year however, with additional training we're going to be able to obtain samples for both Spring and Summer Phosphorus testing as well as Chlorophyll testing. Going forward we can choose to participate in additional data gathering such as Exotic Aquatic Plant Watch and Aquatic Plant Mapping. All this will help us to appreciate and manage our lake with much greater understanding. We are only one year into the program so there is very little data at this time but if you are interested in viewing our lake's report for 2014 it can be found here:

[http://www.micorps.net/documents/CLMPReports/wall\\_barry\\_080294.pdf](http://www.micorps.net/documents/CLMPReports/wall_barry_080294.pdf)

Thanks and have a great summer!

Alan Freid

