

The Lakesider.....Spring 2016

The Annual Newsletter of the Lake Mitchell Improvement Board.

**Lake Mitchell
Improvement Board**
4830 East M-55
Cadillac, MI 49601
info@lakemitchell.org

Mike Solomon
Chairperson
Wexford County Drain
Commissioner

Shari Spoelman
Vice Chairperson
City of Cadillac
Representative

Dave Stinger
Secretary
Cherry Grove Township
Representative

Dave Foley
Newsletter editor
Selma Township
Representative

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Wexford County
Commission
Representative

Tom Jacobson
Treasurer
Representative At-Large
representing Lake
Mitchell

Lake Mitchell Association Officers

Tom Jacobson
President

JoAnn Engels
Vice President

Lois Poag
Secretary/Treasurer

Lake Mitchell Improvement Board meeting dates for 2016:

- * Saturday, April 9 @ 10:00 AM
- * Saturday, June 25 @ 10:00 AM
- * Monday, August 8 @ 10:00 AM
- * Monday, October 24 @ 10:00 AM
- * Monday, January 19, 2017 @ 10 AM

All meetings are held at the Cherry Grove township fire Hall on M-55. The public is invited to attend. All meetings begin at 10:00 AM.

Contact Lake Mitchell Improvement Board at info@lakemitchell.org.

Lake Mitchell Property Owners' Association Meeting:

- * Saturday, May 14 @ 10:00 AM

Meeting is held at the Cherry Grove Township Fire Hall on M-55.

If you received this newsletter, please consider saving the board the \$2 it costs to print and mail this newsletter by reading it online at www.lakemitchell.org. (We would rather use our money to fight milfoil than print and mail newsletters). All the contents of the newsletter are available online plus photos, minutes of our meetings, and features about Lake Mitchell not found in our annual newsletter. Email us at info@lakemitchell.org and we will add your email to our list which has over 350 addresses. Those on our email list are notified about important Lake Mitchell information including days when the lake will be treated as well being alerted to upcoming meetings. If weather events such as floods, ice storms, or heavy snows occur, which could possibly damage property, emails may be sent. These are especially appreciated by Association members who are not lakeside residents. The email list will not be sold or offered to anyone and will only be used for Lake Mitchell Improvement Board and Association business.

Information ONLY on lakemitchell.org

- Photos of Lake Mitchell activities and weather events in 2015-2016
- Photos of native and invasive vegetation
- Years of archive photos (Your home might be a star.)
- Lake Mitchell Annual Progress Report (entire report)
- Lake Mitchell By-Laws
- Minutes of Improvement Board meetings
- Maps showing location of invasive vegetation

Website of the Lake Mitchell Improvement Board: www.lakemitchell.org
Scan this QR code with the QR Reader on your phone or tablet to get the Lake Mitchell website: www.lakemitchell.org.



Summary of 2015 Lake Mitchell RLS Aquatic Vegetation Program

This is a summary of the “Lake Mitchell Improvement Feasibility Study and Aquatic Vegetation Management Plan.” prepared by Jennifer Jermalowicz-Jones CEO of Restorative Lake Sciences, January 2016. Parts of this report are incorporated in newsletter features “Commonly asked questions” and “Lake Mitchell facts.” The full 57 page report can be found at www.lakemitchell.org.

Based on the most current study, Lake Mitchell has approximately 20 acres of invasive hybrid watermilfoil; however, that may change significantly within a single season as it has in previous years due to the aggressive and unpredictable growth of hybrid watermilfoil. This plant threatens the biodiversity of the submerged aquatic plants, as well as threatens navigation and recreational activities, and may harbor bacteria and other nuisance algae that are not beneficial to the lake's ecosystem. Waterfront property values may be reduced. The native plant diversity in Lake Mitchell is very high with 27 native aquatic plant species present.

Nature of the lake -- Lake Mitchell has an average depth of 8.7 feet and water clarity averaging 7.5 feet during the year. This will allow aquatic vegetation to grow at depths less than 12 feet. The result is much of Lake Mitchell is shallow enough to grow weeds. The accumulated muck on the bottom created by years of decomposing plant makes for ideal conditions for growing weeds.

Water Quality -- The overall water quality of Lake Mitchell was measured and found to be quite good with moderate amounts of nutrients such as phosphorus, nitrogen, which still allows for moderate water clarity. The pH and alkalinity of the lake indicates that it is a soft water lake with neutral pH and low conductivity. A prime source of nutrients comes from the three tributaries – Brandy Creek entering Little Cove, Gytta Creek entering the north side of the lake, and Mitchell Creek entering Big Cove.

Lakes that are high in nutrients (such as phosphorus and nitrogen) and chlorophyll-a, and high in transparency are classified as eutrophic; whereas those that are low in nutrients and chlorophyll-a and high in transparency are classified as oligotrophic (examples Crystal and Torch Lakes). Lakes that fall in between these two categories are classified as mesotrophic. Lake Mitchell is classified as eutrophic. Although Lake Mitchell has a fair level of nutrients, the water quality has been traditionally favorable for fish stocking of walleye (as recently as June 2014) by the DNR.

According to measures of water clarity made by a Secchi Disk over the last seven years, water clarity has improved ranging from 4.5 feet in 2009 to averaging 7.5 feet in 2015.

Lake Mitchell Plant management methods -- Contact herbicides such as diquat and hydrothol cause damage to leaf and stem structures; whereas systemic herbicides are assimilated by the plant roots and are lethal to the entire plant. Whenever possible, it is preferred to use a systemic herbicide for longer-lasting aquatic plant control. There are often restrictions with usage of some systemic herbicides around shoreline areas that contain shallow drinking water wells. Contact herbicides are used in shallow water near-shore areas to kill nuisance native plants that can hinder boat navigation.

Systemic herbicides are used to treat hybrid watermilfoil. Mechanical harvesting was used to remove a build-up of algae and plant matter in the Torenta Canal in 2015.

The Galerucella beetle has been effective in the treatment of shoreline purple loosestrife and in July of 2012 beetles were reduced around the shoreline of Lake Mitchell where there were adequate stands of the plant. The beetles have significantly reduced the density of the loosestrife infestation. Loosestrife has showy magenta-colored flowers that bloom in mid-July. It grows and spreads rapidly and may out-compete plants such as cattails and other native plants which are necessary for the ecological health of an area and its population of fish and amphibians.

Shoreline practices that promote nutrient source control -- The construction of impervious surfaces (i.e. paved roads and walkways, houses) should be minimized and kept at least 100 feet from the lakefront shoreline to reduce surface runoff potential. In addition wetland areas around Lake Mitchell should be preserved to act as a filter of nutrients from the land and to provide valuable wildlife habitat.

The following procedures are recommended by RLS to reduce the input of phosphorus, which creates additional algal and aquatic plant growth, into the lake:

1. Don't allow raked leaves or empty grass clippings into the lake. Leaves or grass, once they decompose, will provide fertile areas to grow aquatic plants. Burning yard waste near the lakeshore is not a good solution either. Ashes contain phosphorous and nutrients that can easily make their way into the lake resulting in excess weed and algae growth.
2. Use phosphorus-free fertilizers and traditional fertilizers sparingly. Rain, lawn sprinkling, and snow melt all will

wash fertilizers and sediments from yards into the lake unless there is a substantial greenbelt along the shoreline. The soil in the Lake Mitchell watershed generally has more than adequate amounts of phosphorus to grow lawns. With nitrogen, apply the correct amount at the right time to maximize plant uptake and minimize off target movement. You may purchase a soil sample kit at the Michigan State Extension in the Wexford County Lake Street Building in Cadillac. They will test your soil to determine what, if any, fertilizers are needed. If you must use fertilizers, select bags that are phosphorus-free and with slow release nitrogen. If the label on the package has a zero in the middle such as 12-0-20 then you know it contains no phosphorus. Excess nitrogen can add to weed growth while phosphorous can enhance algal blooms.

3. Preserve or plant riparian vegetation buffers along the shoreline around the lake such as cattails, bulrushes, and wild native plants. They act as a filter to catch nutrients and pollutants that occur on land and may run into the lake. As an additional bonus, Canada geese usually do not prefer lakefront lawns with dense riparian vegetation because they are concerned about potential of hidden predators within the vegetation.

Protecting the shoreline environment -- Construction practices near the lake should minimize the chances of erosion and sedimentation by keeping land areas adjacent to the water stabilized with rock, vegetation and wood retaining walls. Sea walls should consist of rip-rap (stone, rock), rather than metal, because rip-rap offers a more favorable habitat for lakeshore organisms, which are critical to the to the ecological balance of the lake. Rip-rap should be installed in front of areas where metal seawalls are currently in use.

Recommendations -- Restorative Lake Sciences (RSL) recommends that selective spot-treatments with highly selective granular systemic aquatic herbicides be used to treat the exotic hybrid watermilfoil within the lake and that strong contact herbicides be used to control the nuisance native aquatic plant and algae over growth in the Coves and in the Torenta Canal. Harvesting may be used to remove excessive plant or algae matter. A reduction in the herbicide treatment is projected for ongoing years of the program if no other invasives enter the Lake Mitchell ecosystem. Additionally, RLS recommends continued education of lake riparians on nutrient reduction to the lake and lake protection practices.

Natural Shoreline Protection Workshop

CADILLAC, MI – Plan now to take the “Protecting Your Shoreline: A Workshop for Inland Lakefront Property Owners” on Thursday, May 12, 2016 at the Carl T Johnson Hunting and Fishing Museum, Cadillac, MI. Now is the time to plan to create, restore and manage natural shorelines to promote water quality and encourage wildlife. On Thursday, May 12, 2016, from 4:30 pm to 9:00 pm, MSU Extension is sponsoring an educational workshop for those interested in creating, restoring and managing natural shorelines. This workshop is designed to educate lakefront property owners on natural erosion control methods, techniques for using natural landscaping along the shoreline for habitat value, and maintaining the aesthetic value of the lakefront.

Featured workshop topics include:

- healthy lake ecosystems,
- designing and maintaining natural lakescapes on lake shorelines
- bioengineering techniques to address high impact shorelines
- using native plants in shoreline landscapes
- attracting fish and wildlife to your shoreline
- shoreline invasive plants to watch for
- Michigan rules and regulations

Local examples of natural shoreline projects will be discussed. Registration and more information for this workshop can be found at the MSU Extension events registration page at <http://events.anr.msu.edu/inlandlakepo16/>. The cost for the workshop is \$50 if registered before April 4.

For more information contact:

Shari Spoelman
District Coordinator
MSU Extension, 401 N Lake St, Cadillac, MI 49601
(231) 779-9480

<i>Proposed Lake Mitchell Management Improvement Item</i>	<i>Estimated 2016 Cost</i>	<i>Estimated 2017 Cost^c</i>	<i>Estimated 2018-2019 Cost^c</i>
Herbicides (2,4-D/Triclopyr) for Hybrid Watermilfoil ¹ (plus MDEQ permit fee)	\$98,000	\$98,000	\$98,000
Weed Pickup	\$8,000	\$8,000	\$8,000
Professional Limnologist Services (limnologist surveys, contractor oversight, education) ²	\$16,000	\$16,000	\$16,000
Attorney Fees	\$5,000	\$5,000	\$5,000
Assessment Appeals	\$3,000	\$3,000	\$3,000
Purple Loosestrife Control	\$2,000	\$2,000	\$2,000
Website Newsletter	\$2,000	\$2,000	\$2,000
Newsletter Preparation	\$800	\$800	\$800
Audit, Bond, Insurance	\$1,400	\$1,400	\$1,400
Professional Membership	\$100	\$100	\$100
Mailings, Publication	\$800	\$800	\$800
Contingency (15%) ³	\$20,400	\$20,400	\$20,400
TOTAL ANNUAL ESTIMATED COST	\$157,500	\$157,500	\$157,500
APPROX. ANNUAL COST PER UNIT OF BENEFIT	\$225.00	\$225.00	\$225.00

Table 8. Lake Mitchell Improvement Program Proposed Budget (2016-2019).

¹ Herbicide treatment scope for the treatment of Hybrid watermilfoil is proposed to decline annually due to aggressive treatment with the use of systemic herbicides which attack the entire plant in the first year of treatment. As a result, it is hypothesized that 75% of year 1 (systemic herbicide) budget be allocated for year 2.

² Professional services includes annual GPS-guided, aquatic vegetation surveys, pre and post-treatment surveys for aquatic plant control methods, oversight and management of the aquatic plant control program, processing of all invoices from contractors and others billing for services related to the improvement program, education of local riparians, and attendance at all regularly scheduled Lake Mitchell Improvement Board meetings.

³ Contingency is 15% of the total project cost, to assure that extra funds are available for unexpected expenses. Note: Contingency may be advised and/or needed for future treatment years.

Commonly asked questions

The Lake Mitchell Improvement Board has been overseeing aquatic plant control programs since 1988. Each year at our Lake Board meetings, through our website, and from personal encounters Board members receive questions. I'd like to address some of the most common inquiries.

Who sits on the Lake Improvement Board? According to the Natural Resources and Environmental Protection Act Part 451 of 1994, the Lake Mitchell Improvement Board is composed of the Wexford County Drain Commissioner, a commissioner from the Wexford County Commission, a representative from the City Council of Cadillac, a representative from each of the townships, Selma and Cherry Grove that border Lake Mitchell, and a lake resident representative. The Drain Commissioner is elected by the country but all (except the lake resident representative) other representatives are appointed by the organizations that they represent. The lake resident representative is appointed by the Improvement Board for a three-year term and may be reappointed by the Board. Other than the Drain Commissioner who is elected by country residents to serve a specific term, there is no defined term for other members of the Board.

Who oversees the plant control program? Plant control activities are coordinated under the direction of the Lake Board's environmental consultant, Jennifer Jermalowicz-Jones, CEO of Restorative Lake Sciences (RLS). Beginning in May and continuing through August biologists from RLS conduct GPS-guided surveys of the entire lake to identify problem areas and create detailed plant control maps. RLS then conducts follow-up surveys to evaluate contractor performance, and provide regular status reports to the Lake Board.

Who conducts the herbicide treatment and mechanical harvesting work? The Lake Mitchell plant control program includes a combination of herbicide treatments and mechanical harvesting. Herbicide treatments are conducted by Professional Lake Management Corp. (PLM). The contractor (PLM) is only compensated for work that is done satisfactorily.

Why are there so many weeds in the lake? Lake Mitchell supports abundant plant growth for a number of reasons. The Torenta canal as well as Little and the Franke Coves are shallow water areas with a high level of nutrients and these sheltered "still waters" favor plant growth. Brandy Creek entering Little Cove and Mitchell Creek which feeds into big cove are nutrient rich streams whose inflows promote plant growth. Much of the main lake is shallow enough to support the growth of aquatic vegetation.

Why are there still plants in the lake following treatment? Not all plants are treated. The goal of the program is to strike a balance by controlling invasive plant species and maintaining beneficial species. We do not want to remove all the plants in the lake. This would devastate the fishery and cause a host of other problems, such as massive algae blooms.

Which plants are targeted for control? The Lake Mitchell plant control program focuses primarily on invasive aquatic, exotic species. An exotic species is one that is found outside of its natural range. Outside their natural range, exotic plants have no natural competitors or predators to keep them in check. They can quickly out-compete native plants and gain dominance in the lake. Eurasian watermilfoil is the primary exotic species targeted for control in Lake Mitchell. Because Eurasian watermilfoil spreads by fragmentation, mechanical harvesting of the plant is ill-advised since it can fragment and spread the plant. Early season treatments in Lake Mitchell target Eurasian watermilfoil and, once the milfoil has been treated, remaining funds are used to target other nuisance plant growth.

What about hybrid milfoil? Several years ago it was discovered that most of the milfoil in Lake Mitchell was of a hybrid variety. Hybrid milfoil is a cross between exotic Eurasian watermilfoil and the native northern milfoil. This hybrid watermilfoil was more resistant to herbicides compared to Eurasian watermilfoil. New dosages and herbicide mixtures applied in recent years has produced better results in the treatment of hybrid plants.

Is there a permanent fix to the problem? If conditions are favorable, aquatic plants will grow, and conditions in Lake Mitchell are favorable for aquatic plant growth. It is very unlikely that milfoil will ever be eliminated from our lake. However, there are steps property owners can take to help minimize the amount of plants in the lake such as limiting the use of lawn fertilizers and avoiding those containing phosphorus and maintaining natural vegetation along the shoreline to act as a filter for nutrients that wash into the lake.

Are herbicide treatments safe? The aquatic herbicides that are permitted by the Department of Environmental Protection Agency (DEQ) are registered by the United States Environmental Protection Agency and the Michigan Department of Agriculture and Rural Development. They also undergo toxicological review by the DEQ. In Michigan, aquatic herbicide use requires a DEQ permit. The permit lists herbicides approved for use in the lake, respective dose rates, and shows specific areas in the lake where treatments are allowed. If herbicides are applied according to label instructions and permit requirements, they should pose no danger to public health and the environment.

How do the treatments impact fish? If applied properly, herbicides have no direct impacts on fish. A lake like Mitchell with a variety of plants will support a productive fishery. Our lake's aquatic vegetation control program is designed to remove invasive milfoil plants while preserving plants that provide habitat and cover for fish. Why didn't my property get treated? Treatments occur where the targeted invasive plants are found during the lake surveys. Nuisance native vegetation may be treated if it impedes boat navigation away from docks.

How will I know about use restrictions? All lake residents will receive a written notice as part of this newsletter or an email notice will be sent directing one to the website (lakemitchell.org) where the DEQ permit will be posted regarding pending treatments. At the time of treatment, state regulations require that areas within 100 feet of treatment areas be posted with a sign that lists specific herbicides, applied and the associated use restrictions. If there is no sign posted along your property, it means your property was not treated and there are no use restrictions.

When is it safe to swim after treatment? All herbicides have a 24-hour swimming restriction that will be posted on signs along areas that have been treated. However, if you do not have a sign posted or the sign indicates that only algaecides were applied and there are no swimming restrictions.

When can I water my lawn following treatment? If you draw water from a lake irrigation, be sure to read the sign posted along your shoreline at the time of treatment. Most irrigation treatments do not apply to established lawns. However, if you water flowers or a garden, adhere to the restrictions posted on the sign.

What can be done about ducks and geese defecating on our lawn? Water fowl avoid shorelines with greenbelts of bushy foliage as the birds may fear predators hiding there and it is more difficult to walk through foliage than up onto a lawn or seawall directly from the water. You may also stretch a thin line about a foot off the ground along your shoreline.

What are those green balls of algae that lie in the shallows and cover our beach? Cladophora is a green ball-like algae commonly found in nutrient rich waters. Research links these blooms to high levels of phosphorus in the water. Fertilizers with phosphorus contribute to the problem. Wind and wave action cause the algae to break free from the lake bottom and wash up on the shore. In Lake Mitchell the Improvement Board uses fine mesh harvesters to pick up cladophora and is investigating the use of algae killing chemicals and aeration systems to solve the problem.

Are walleye scheduled to be planted in Lake Mitchell? According to DNR fishery biologist Mark Tonello, in June, Lake Mitchell will receive 130,000 1 ½ inch fingerling walleye and Lake Cadillac will receive 60,000. How is the aquatic control program financed? The Lake Mitchell Improvement Board receives its funding from those with property on Lake Mitchell or having deeded access to the lake. This assessment is part of property tax bill. This involves about 800 assessments. Lake front lots pay \$225; deeded access lots pay ½ \$113; commercial lots pay 2 units \$200.

Are there regulations concerning docks and boat hoists on Lake Mitchell? Lake Mitchell has no regulations concerning dock length or when docks or boat hoists must be off the lake. However, except for the small protected coves or the canal, the movement of ice during the spring break up can destroy or damage docks left on the lake. Docks, hoists, or moored boats must not be erected or floating over neighboring bottom lands. There is no law regulating the length of a dock, however a dock should not interfere with navigability or rights of other property owners to use their property.

Areas of Lake Mitchell receiving chemical treatment in 2015 map



History of chemical treatment



NOTICE 2016

PLM Lake and Land Management Corp
PO Box 424, Ewart, MI 49631
(800) 382-4434(o) (231) 372-5900(f)
www.plmcorp.net



IN 2016, SELECT AREAS OF MITCHELL LAKE WILL BE TREATED PERIODICALLY THROUGHOUT THE SUMMER BEGINNING IN APPROXIMATELY LATE MAY FOR THE CONTROL OF WEEDS AND/OR ALGAE. Below is a list of herbicides that may be applied to the lake and associated use restrictions. On day of treatment, signs will be posted along the shoreline within 100 feet of treatment areas that indicate what products were used and specific water use restrictions that apply:

Check all that apply	Chemical product/active ingredient	Chemical trade name	Do Not Use this water for swimming or bathing until	Do Not Use this water for ornamentals or turf irrigation until	Do Not Use this water for domestic purposes or agriculture irrigation until	Do Not Use this water for livestock watering or similar purposes until
X	Endothall	Aquathol K, Hydrothol 191	1 Day(s)	N/A	14 Day(s)	14 Day(s)
X	Flumioxazin	Clipper	1 Day(s)	3 Day(s)	5 Day(s)	N/A
X	Imazapyr	Habitat	1 Day(s)	120 Day(s)	120 Day(s)	N/A
X	Chelated Copper Herbicide	Komeen Crystal , Nautique	1 Day(s)	N/A	N/A	N/A
X	2,4-D ester	Navigate 2,4-D	1 Day(s)	INDEF or until approved assay indicates a concentration of 100ppb or less for ornamentals; No restriction for established turf	INDEF or until approved assay indicates a concentration of 100ppb or less	INDEF or until approved assay indicates a concentration of 70ppb or less
X	Triclopyr liquid	Navitrol , Renovate 3	1 Day(s)	120 Day(s) or until approved assay indicates 1ppb or less; No restriction for established turf/grasses	120 Day(s) or until assay indicates 1ppb or less. N/A on domestic	See product label
X	Triclopyr granular	Navitrol DPF , Renovate OTF	1 Day(s)	Site-specific recommendation* No restriction for established turf/grasses	120 Day(s) or until assay indicates 1ppb or less. N/A on domestic	See product label
X	Triclopyr/2,4-D amine	Renovate Max G	1 Day(s)	Site-specific recommendation* No restriction for established turf/grasses	120 Day(s) or until assay indicates 1ppb or less triclopyr and 100 ppb or less 2,4-D. N/A on domestic	See product label
X	2,4-D amine	Sculpin G	1 Day(s)	Site-specific recommendation* No restriction for established turf/grasses	N/A on domestic; assay indicates levels under 100ppb at the water intake	See product label
X	Carfentrazone-Ethyl	Stingray	1 Day(s)	14 Day(s)	14 Day(s)	1 Day(s)
X	Diquat Dibromide	Tribune	1 Day(s)	3 Day(s)	5 Day(s)	1 Day(s)
X	PLM Blue, Cygnet Select: water dye (tracer), Copper Sulfate Alonglife: copper sulfate, Cutrine Plus-Ultra, Captain-XTR, Algimycin, Earthtec, SeClear and SeClear G, Formula F-30, K-Tea: chelated copper, Cygnet Plus, PolyAn: Adjuvant, Pak 27, AquaSticker, Green Clean L and Green Clean 5.0: oxidizer, AquaPrep: enzymes & non-ionic surfactants, Nutrisorb., M.D. pellets: gram negative, naturally occurring bacteria.PLM Enzyme: enzymes, Phoslock: phosphorus locking technology.					No Restrictions on swimming, bathing, irrigation, domestic purposes or livestock watering.

For a complete listing of all product labels, please see our website.

N/A= Not Applicable INDEF= Indefinite

***Site-Specific recommendations to limit ornamental irrigation with Renovate & Sculpin granular treated water will typically last 2-14 days. Contact PLM for further information.**

The chemicals used for Aquatic Nuisance Control are registered by the U.S. Environmental Protection Agency and the Michigan Department of Agriculture. The potential for damage to fish and other non-target organisms is minimal provided that the product is used as directed on the product label and the permit. To minimize the possible effects on health and the environment, the treated water is restricted for the above purposes.

PLM Lake & Land Management Corp. Certified Applicators: Salvatore Adams, Jason Broekstra, Jim Chatel, Jaimee Conroy, Bill D'Amico, Jeff Fischer, BreAnne Grabill, Dustin Grabill, Benjamin Halbersma, Steve Hanson, Jake Hunt, Nate Karsten, Justin Krueger, Blake Mallory, Michael Pichla, James Scherer, Ben Schermerhorn, Casey Shoaff, Lucas Slagel, Jeff Tolan, Andy Tomaszewski, Dennis Vangessel, Mathew Warddell

What is the LMPOA?

This is the Lake Mitchell Property Owners' Association (LMPOA).

Everyone who owns property on Lake Mitchell or land with deeded access to the lake is a member of the Lake Mitchell Property Owners' Association. The LMPOA will meet on 10 AM on the Saturday, May 16 at the Cherry Grove Township Hall. The current officers are Tom Jacobson, president; JoAnn Engels, vice-president; Lois Poag, secretary/treasurer.

The LMPOA makes recommendations to the Lake Mitchell Improvement Board on how it should proceed in want with its aquatic plant control program. The Lake Board is empowered to collect special assessments from benefiting properties for approved lake improvements.

The following information was supplied by the LMPOA:

Mission Statement -- The Lake Mitchell Property Owners' Association is dedicated to representing the best interests of lake property owners and the deeded access community. The Association's primary responsibilities include improving, protecting, and preserving the environmental health and use-ability of Lake Mitchell.

Our Vision -- Our vision is to communicate policies and practices, to educate and inform members on all issues and actions that affect the quality and use of Lake Mitchell. We represent and protect the overall interest of LMPOA and hope to enhance their ability to maximize enjoyment for our shared resource.

The LMPOA will focus in issues important to our members which include the following:

- Boat navigation and swimming
- Safety for our members and lake visitors
- Lake quality and health
- Lake levels
- Propagation and health of fish and wildlife
- Update members on success of lake management programs like weed control and removal.
- New lake threats like zebra mussels, hybrid super weeds and algae.
- Promote residential best practices (how you can help)
- Respond to issues concerning the good of Association members.

Roadside pickup 2016

The Lake Mitchell Improvement Board will again provide roadside pickup of weeds. Weed hauling begins May 23 and continues through September 12. Aquatic weeds need to be removed from the lakeshore by the property owners and put on the edge of the road. **Do not leave sticks, brush, yard waste or sand by the roadside. Only aquatic vegetation will be picked up.**

There is no hotline to call; the weed hauler will pick up weeds according to this schedule:

Monday – From the canal north to the roller rink.

Tuesday – From the roller rink along West Lake Mitchell Drive checking all lakefront roads ending with the Camp Torenta loop.

Wednesday – From the canal south and west including all roads with lake front property to the end of Sunrise Point Road.

Thursday and Friday– Days for collecting weeds not picked up during the week.

Weed compost, black peat and mulch available

The weeds picked up along the shore of Lake Mitchell are deposited and spread out to dry at Ron Klump's farm on the south side of Lake Mitchell. (7288 S. 33 ½ Mile Road). Contact Ron at 616-295-8686. You can pick up the weeds at no cost or for a small fee Ron will load them for you. The weeds that were once a nuisance in the lake can now be helping enrich your garden. The black peat from the Franke Cove dredging project is also available.

2015: Lake Mitchell year in review

January – Average temperature is 6 degrees below average; Jan. 2014 was 8 degrees below average.

February 20 – low temp was minus 30; high temp of day was 1 degree.

Feb. 23 - low temp was minus 29.

Feb. 27 - low temp was minus 27

February - Coldest February ever; average temperature was 6.2 degrees; that's 14.5 degrees below normal. 2nd coldest month ever.

March 21 this was 4th coldest winter in last 30 years.

April 10 - Ice goes out of Lake Mitchell

June 1 - 1st treatment of coves, canal, and shallow water areas

June 17-18 – Herbicide treatment done on main lake

July 27 – Franke South and Little Coves receive 2nd treatment

July 28 – Hottest day of summer 91, one of several 90 degree days

July 31 - Additional treatment for canal and Little Cove

August 5 – Treatment 30 acres new milfoil, 2 acres retreatment

August – Canal and Franks Cove are harvested

October 8—13 Peak fall color

November 2-5 – 4 days of near record temperatures 67-73

November was 2nd warmest on record. El Nino weather pattern is here.

December 23 – Temp. soars to 57; a record

December 24 - Overnight windstorm blows down trees on Mitchell shoreline

December 25 – No snow on ground for Christmas

December 28 – Winter begins. Snow cover will continue until

December 30 – Lake Mitchell freezes. Latest date ever.

December - warmest on record; 12 degrees above normal. Normal temperature is 23.5 degrees.

*A complete 2015 On The Lake is on our website at lakemitchell.org. This includes a slideshow of photos with captions. Also, there is an archive of photos from 2009-2014.

Changes in Lake Mitchell; walleyes make a comeback

By Dave Foley

Since I moved to Cadillac in 1974, the fishing has changed. In the 1980s my ice fishing catch was about a 50-50 mix of pike and walleye. By the mid 1990s walleyes were getting scarce and it was getting hard to find good numbers of smallmouth bass and decent-sized perch in Lake Mitchell. With bluegills, while there was an abundance of silver-dollar sized ones, it seemed like it was hard to consistently take bluegills that were bigger than six inches. The pike population continued to thrive and it seemed like the crappie were more plentiful, but it was largemouth bass that suddenly were everywhere. Whereas I rarely took a bigmouth bass prior to 1990, I was now making limit catches.

The fluctuations in the Lake Mitchell fishery puzzled me and I talked with DNR Fisheries Biologist Mark Tonello and he shared with me a comprehensive report he had done on Lake Mitchell. That report provides most of the information for this article.

The DNR has been doing fish surveys and planting fish in Lake Mitchell since the 1800s. Failed plantings in the 1880s of whitefish, lake trout and chinook salmon showed that Lake Mitchell could not sustain a population of cold water fish. More success was had when bluegills, perch, smallmouth bass, and walleye were stocked. No fish were planted in Lake Mitchell after 1940, until walleye were stocked in 2004. Since then, walleye have also been stocked in 2006, 2008, 2011, 2012 and 2014 and are scheduled to be planted again in 2016.

In the late 1990s, anglers reported catching few walleye and numbers of perch and smallmouth bass were significantly lower. The DNR net surveys done in 2003 confirmed that these fisheries were in decline. Net catches that averaged 11.3 walleye in 1988 and 1993 now were 2.9 walleye in individual nets. No walleye smaller than 16 inches, typically a five year old fish, were found. Surveys in 1988 and 1993 had smaller and younger fish. Most fish in the 2003 survey were 8 or 9 years old. Apparently natural reproduction was no longer happening in the lakes.

The exact reason for the end of walleye spawning is unknown, but it may be do to the suddenly increase in the numbers of largemouth bass. Whereas the typical net catch in the 1980s and in 1993 yielded about one largemouth, the 2003 survey had nets about seven bass. The increasing numbers is important because studies have shown that largemouth bass prey on juvenile walleye.

Walleye, in turn, prey on panfish such as bluegill, sunfish, and perch. The reduction in walleye predation may have allowed panfish numbers to increase creating an abundance of undersize fish. In recent years anglers have reported it being harder to catch eating-size panfish.

The decline in the walleye fishery, as well as the perch and smallmouth, may be due to loss of spawning habitat brought about the introduction and rapid spreading of Eurasian watermilfoil. This invasive has increased the acreage of aquatic plants in the lakes and when it dies it spreads layers of silt over the hard bottom areas used for spawning by walleye, perch, and smallmouth bass. Silt covering areas that were formerly hard bottom acts as mulch to promote growth not just of Eurasian milfoil but native vegetation as well.

Until the late 1990s, the first week of June was notable for the mayfly hatch. For several days, masses of flies would rise from lakes, covering the windows and screens of lakeside residents and floating up on beaches. Although an annoyance to property owners, the larvae and flies were a food source for walleye and other fish. About twenty years ago the hatch disappeared, its demise likely due to the toxic effect of copper sulfate which had been sprayed on the water to kill snails which were part of the cycle that spread swimmer's itch. The copper in this chemical does not dissolve and the buildup of this element on the lake bottom over the years likely reached a level that killed the mayfly larva.

Most anglers agree that the walleye fishing in our lakes today is better than it was a few years, although it is not likely yield the catches of years ago. The quality of the fishery will depend on periodic plantings as natural spawning is almost non-existent. Chemical treatment of the lakes which has reduced the presence Eurasian milfoil, should also improve the habitat for walleye.

Lake Mitchell facts

Lake surface area – 2580 acres

Maximum depth – 25 feet

Mean depth of lake – 8.7 feet

Shoreline length – 11.4 miles

Watershed – 58,256 acres

Number of aquatic plant species in lake – 27

Elevation of Lake Mitchell – 1289 feet

Average water clarity – 7.5 feet

Lake Mitchell is in the Muskegon River watershed.

Typical total freezing of the lake – last week of November

Typical ice out on the lake – second week of April

**Lake Mitchell Improvement Board
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