

The Lakesider.....Spring 2022

The Annual Newsletter of the Lake Mitchell Improvement Board.

Lake Mitchell Improvement Board
4830 East M-55
Cadillac, MI 49601

Mike Solomon
Chair
Wexford County Drain
Commissioner

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Vice Chair
City of Cadillac
Representative

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Representative

Dave Foley
Secretary
Newsletter editor
Selma Township
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Mike Bengelink
Wexford County
Commission
Representative

Ron Klimp
Riparian Representative
Treasurer

Email us at:
lakemitchellboard
@gmail.com

Lake Mitchell Improvement Board Meeting Dates for 2022:

- * Monday, June 13**
- * Saturday, August 20**
- * Monday, October 17**

All meetings begin at 10:00 AM at the Cherry Grove township fire Hall on M-55. The public is encouraged to attend. **Contact Lake Mitchell Improvement Board at: lakemitchellboard@gmail.com.**

Lake Mitchell Property Owners Incorporated Meeting for 2022:

Saturday, July 9 at 10 AM at Cherry Grove Township Fire Hall on M-55.
Email contact: lakemitchellpropertyowners@gmail.com
Website: www.LakeMitchellIPO.com

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 lakemitchellboard@gmail.com and we will add your email to our list which has over 350 addresses.** Benefits of being on the email list: notifications of lake treatments and reminders of 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 native and invasive vegetation
- Photos of Lake Mitchell activities and weather events in 2015-2022
- 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 mobile website: www.lakemitchell.org.



What is the Lake Mitchell Improvement Board?

There seems to be confusion about the difference between the Lake Mitchell Improvement Board and the Lake Mitchell Property Owners' Incorporated. This information might help you sort it out.

The Lake Mitchell Improvement Board is empowered to collect special assessments from benefiting properties for approved lake improvements. Virtually all assessment monies is spent to control invasive and nuisance native vegetation as well as monitor water quality and protect the fishery.

The Lake Mitchell Improvement Board was formed in accordance with Michigan's Inland Lake Improvement in 1993 and brings together local citizens and governments to manage the lake. Under provisions of Public Act 451 of 1994, Part 309 as amended), the lake board membership includes a riparian representative who is elected for a four-year term, appointed representatives from Selma Township, Cherry Grove Township, the city of Cadillac, a Wexford County Commissioner, and the Wexford County Drain Commissioner. Township, County Commission and City Commission representatives are appointed for indefinite terms. The Drain Commissioner who is elected in a county election.

Email contact: lakemitchellboard@gmail.com - - Website: www.lakemitchell.org

What is the LMPOI?

Prepared by Dave Stringer President LMPOI

Lake Mitchell Property Owners Association was established in the early 1970's to promote a healthy environment for the lake. Members worked to establish the Lake Mitchell Improvement Board with a focus on lake navigation and weed control. From that time to 2018 the association continued to monitor issues concerning property owners for the lake. The LMIB moved primarily to invasive weed management.

In 2018 a new board was formed for the Lake Mitchell Property Owners Association and was incorporated as a 501c 4. This is the same organization but we realized that to be effective and accomplish our goals we needed to become a dues paying organization. We converted to a member only organization. All members must own or have deeded access on Lake Mitchell and dues are \$50 yearly. We communicate with our members through surveys, petitions, Facebook, and our website and hope everyone will join. Please attend our July 9th meeting as well.

While the Lake Mitchell Improvement Board focuses primarily on weed control we have a much broader agenda to include lake water quality, lake levels, dam management, sewer, the health of fish and wildlife, and all questions related to property owners on the lake. Even though we are a dues paying organization, the issues we address usually benefit all property owners. Over half of the property owners actively support our initiatives.

2021 was a busy year for us with ongoing sewer issues, petitions, membership drives, etc. Lake levels were improved last year with more rain, less evaporation, and good dam management.

Email contact: lakemitchellpropertyowners@gmail.com – Website: www.LakeMitchellIPO.com

Roadside pickup takes care of weeds

The Lake Mitchell Improvement Board will again provide roadside pickup of weeds. Pick-up will be done the first and third weeks of May and continue weekly from Memorial Day through Labor Day with additional pickups the second and fourth weeks of September.

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.

Free compost available

The weeds picked up along the shore of Lake Mitchell are deposited and composted at Ron Klimp's residence on the south side of Lake Mitchell. (7288 S. 33 ½ Mile Road). You can pick up the compost at no cost, or for a small fee, Ron will load your truck or trailer. The weeds that were once a nuisance in the lake can now be helping enrich your lawn or garden. Contact Ron at 616-295-8686.

Summary of Lake Mitchell Annual Report

by Dave Foley

This report was prepared by Jennifer Jermalowicz-Jones PhD Principal Limnologist of Restorative Lake Sciences (RLS). The entire report can be found at www.lakemitchell.org.

The overall condition of Lake Mitchell in 2021 was good with favorable water clarity, reduced phosphorus concentrations, and reduced Eurasian watermilfoil (EWM) growth. Water clarity averaged 9.5 feet. In 2021 RLS used the new systemic herbicide ProcettaCOR® along with diquat. The contact herbicide diquat and/or flumioazin will continue to be used to control nuisance native weeds in coves. An additional Phoslock treatment may be desired in Franke South to reduce nutrients that are resulting in enhanced weed and algal growth. The Torenta Canal will be assessed for the need for a possible harvest and scheduled if necessary. Temporary algal blooms occur during hot windless periods or after intense rainfall events. RLS will monitor the lake for problematic algal blooms.

A survey on September 21, 2021 determined that there were a total of 26 native aquatic plant species in Lake Mitchell. This includes 17 submerged species, 4 floating leaved species and 5 emergent species. This indicates a high biodiversity of aquatic vegetation which is a significant reason for the great fishery in the lake.

Analyzing water quality including clarity, phosphorus, alkalinity, pH, conductivity, chlorophyll-a and algal species composition leads to the conclusion that Lake Mitchell would be considered eutrophic. Eutrophic lakes have a good amount of vegetation which means ample phosphorus, nitrogen, aquatic vegetation and moderate algal growth.

Extensive surveys using GPS locate EWM which is then treated. In 2021, approximately 64.6 acres of EWM were treated throughout the lake. RLS recommends alternating use of different systemic herbicides to reduce the probability of herbicide tolerance which reduces efficacy. Since 2015 the amount of EWM found each year has been less than 100 acres. In 2013 EWM became resistant to treatment and 400 acres appeared in Lake Mitchell. Alternating treatment chemicals have improved effectiveness of treatment. And extensive GPS surveys allow for better detection of invasive species locations. The amount of EWM varies each year and is dependent upon climatic conditions, especially runoff associated nutrients. Significant growth can occur when there is a large increase in air and water temperatures and high sunlight periods such as occurred in spring of 2021.

Phosphorus levels have remained consistent between .020 to .03 mg/L units Phosphorus is the primary nutrient necessary for abundant algae and aquatic plant growth. The alkalinity of Lake Mitchell is quite low and is indicative of a “soft water” aquatic system.

Most Michigan lakes have pH values that range from 6.5 to 9.5. Lake Mitchell measures as “8” and is considered neutral on the pH scale.

Chlorophyll-a is a measure of the amount of green plant pigment present in the water, often in the form of planktonic algae. Chlorophyll-a concentrations on September 21 was 7.5 micrograms per liter which was elevated for an inland lake and higher than in years past.

Purple Loosestrife grows four to ten feet high and produces spikes of purple flowers. It is found on the shoreline of coves in Lake Mitchell. It negatively effects both wildlife by displacing native plants eliminating food, nesting and shelter for wildlife. By reducing habitat it has a negative effect on fish spawning and waterfowl habitat.

The beetle, *Galerucella* sp., has been stocked in Lake Mitchell wetlands infested with Purple Loosestrife. The goal was to introduce enough beetles to create a sustainable population to manage this invasive plant.

Beetle counts were performed each year to evaluate the damage caused to plants. Recent evaluations show the beetle population is declining. Beetles have not been available so LMIB may consider topical treatment of the plants.

Zebra mussels appear in Lake Mitchell

While zebra mussels are commonly found in Lake Cadillac, last summer they appeared in Lake Mitchell. When docks were removed, the structures were encrusted with the tiny snails. Zebra mussels negatively impact ecosystems in many ways. They filter out algae that native species need for food and they attach to, and incapacitate, native mussels. There is no way to control a population of zebra mussels. Beyond that ecosystem impact, the sharp edges of zebra mussel shells may cut the feet of those who step on them. You may need water shoes for wading in the lake this summer.

Lakes infested with zebra mussels may have an improvement in water clarity as adult mussels feed by filtering large amounts of plankton and detritus from the water. Each mussel can filter one liter of water per day! Zebra mussels thrive in nutrient-rich water which supports healthy populations of plankton.

Michigan DNR Master Angler Program

Anglers that catch fish that meet minimum lengths qualify as Master Angler fish. If you catch one of these, measure it from tip to mouth to tail and send that photo to [michigan.gov/Master Angler](http://michigan.gov/Master_Angler). Check that site for further information on the program. Anglers that catch fish certified as Master Angler will receive a patch.

Master Angler minimum lengths for Lake Mitchell species:

Largemouth Bass	22"
Smallmouth Bass	21"
Rock Bass	11.5"
Bluegill	10"
Bullhead (all species)	14"
Bowfin	27"
Black Crappie	14"
Northern Pike	40"
Yellow Perch	14"
Pumpkinseed sunfish	9"
Walleye	29"
Warmouth sunfish	9"

As this issue went to press the 2021 Master Angler rankings had not been posted. Based on data from 2020, I noted 3 entries from Lake Cadillac and 10 from Lake Mitchell. While our lakes are best known for their walleye, pike, bass, bluegill and crappie fishing, those four species had no entries. If you're looking to take trophy-sized fish, look to bullheads and pumpkinseed (commonly referred to as sunfish).

Master Angler catches from Lakes Cadillac and Mitchell in 2020:

<u>Species</u>	<u>Date</u>	<u>Length</u>	<u>Lake</u>	<u>Angler</u>
Bullhead	6/28	15.88"	Cadillac	unknown
Bullhead	5/30	15	Mitchell	unknown
Bullhead	7/23	14.5	Cadillac	Joesph Eisele Jr.
Bullhead	5/23	14.5	Cadillac	Paul Higgins
Bullhead	12/26	14.5	Mitchell	unknown
Bowfin	7/8	28.50	Mitchell	unknown
Pumpkinseed	6/17	10.25	Mitchell	Dave Malone
Pumpkinseed	6/18	9	Mitchell	Ann Graves
Pumpkinseed	6/20	9	Mitchell	Ian Cross
Pumpkinseed	5/27	9	Mitchell	Mark Tonello
Pumpkinseed	5/29	9	Mitchell	Dave Foley
Pumpkinseed	4/28	9	Mitchell	Mark Johnson
Rock Bass	6/13	11.5	Mitchell	Cody Pritchard

Walleye scheduled to be planted in Lakes Mitchell and Cadillac

After two years with no walleye being planted in Lake Mitchell and Lake Cadillac due to the pandemic in 2020 and the failure of walleye rearing ponds in 2021, according to Mark Tonello DNR Fisheries Biologist, walleye fingerlings will be added to the lake this summer.

The last three years have been the best for walleye fishing since the 1990s. This is largely due to regular plantings at a rate of 50/acre (130,000) every other year. A full complement of walleye was stocked in 2012. Stocking continued in 2014 (200,000), 2016 (143,150), 2018 (133,854), and 2019 (50,881).

LMIB – 2021 Financial Report

Beginning Balance - 1/1/21 241,653
Income
Interest 41
Penalty 26
Refund - Misc 1,845
Assessments 69,212
TOTAL 71,769

Expenditures
Weed trtmt/pickup 84,782
Legal/audit/bkkpg/insur 3,241
Print and mailing 1,535
Misc 200
TOTAL 89,758
Ending Balance - 12/31/21 223,664.32

16 Months on Lake Mitchell

2021

January - Temp averages 4.5 degrees warmer. Much less snow.

November, December 2020 and January 2021 all average 4 ½ to 5 ½ degrees warmer than normal.

February 5 – Blustery 8 inches of fresh snow.

February 6 – 16 Into the deep freeze. Lows around 0. Highs low teens.

February 17 Coldest temp. since March , 2015.... -16

February averages 2 degrees colder than normal.

Winter snowfall was below average.

March 8 - Red winged blackbirds return

March 9 – Canada geese fly over

March 18 – Robins return

March 19 - Sandhill cranes fly over

March 20 – Trumpeter swans in Big Cove.

March 24 – Lake Mitchell is 90% open.

March 26 -Blue heron in Little Cove

March 30 – Peepers start cheeping

March weather - after cold start averaged 5 degrees above normal.

Overall not a snowy winter – Lake levels are low

April - much warmer than average

May 12 – First oriole was seen.

May 13 – Hummingbird appears at feeder

May 25 – Fire burns 400 acres near Manistee River. Planes scoop water from Lake Mitchell to fight fire.

May 29 – Peeper frogs stop peeping

August 8-9 – 4 ½ inches of rain

August 10-11 – Windstorm blows down trees. Lake Mitchell loses power.

September – Huge numbers of acorns drop from oaks.

October 11 – Record warmth 78 degrees.

October 18 – First frost. Much later than usual.

October 20-30 – Fall colors peak 2 weeks later than usual.

October - average 4-5 degrees warmer than usual.

November 3 – First snow cover. Gone by noon.

November – unseasonably warm

December 6-7 – 10-12 inches of snow falls. Barometer goes to 28.9

December 11 – Lake Mitchell freezes

December 16 – Lake Mitchell opens. Trees down. Power outages.

December 19 – Lake Mitchell refreezes.

December 25 – Green Christmas. No snow

January/February – Slightly colder than normal. Much less snow

March 3rd – First Canada geese fly over.

March 8 – Red-winged blackbirds return

NOTICE 2022

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



IN 2022, SELECT AREAS OF LAKE MITCHELL WILL BE TREATED PERIODICALLY THROUGHOUT THE SUMMER BEGINNING IN APPROXIMATELY EARLY JUNE 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:

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
Endothall	Aquathol K, Hydrothol 191,	1 Day(s)	N/A	14 Day(s)	14 Day(s)
Flumioxazin	Clipper, Propeller Schooner,	1 Day(s)	3 Day(s)	5 Day(s)	N/A
Imazapyr	Habitat	1 Day(s)	120 Day(s)	120 Day(s)	N/A
Chelated Copper Herbicide	Komeen Crystal, Nautique, Harpoon	1 Day(s)	N/A	N/A	N/A
2,4-D ester	Navigate 2,4-D	1 Day(s)	INDEFINITE or until approved assay indicates a concentration of 100ppb or less for ornamentals; No restriction for established turf	INDEFINITE or until approved assay indicates a concentration of 100ppb or less	N/A
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	N/A
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	N/A
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	N/A
Diquat Dibromide	Tribune	1 Day(s)	3 Day(s)	5 Day(s)	1 Day(s)
Florpyrauxifen-Benzyl	ProcellaCOR	1 Day(s)	Site-specific recommendation* No restriction for established turf/grasses	N/A on domestic; assay indicates no detect at the water intake	N/A
PLM Blue.; water dye (tracer), Cygnet Plus, PolyAn: Adjuvant, M.D. pellets: gram negative, naturally occurring bacteria, Phosphorus mitigation products: Eutrosorb, Phoslock;				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

*Site-Specific recommendations to limit ornamental irrigation with ProcellaCOR, 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 Department of Environment, Great Lakes and Energy. 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, Adam Cichon, Bill D'Amico, Jaimee Desjardins, William Ducham, Jeff Fischer, Christopher Garner, BreAnne Grabill, Dustin Grabill, Steve Hanson, Kyle Heath, Jake Hunt, Caleb Hutchinson, Jacob Irons, Shannon Leifker, Blake Mallory, Michael Pichla, Eric Reed, Colton Risner, Cameron Robinson, James Scherer, Alison Schermerhorn, Ben Schermerhorn, Casey Shoaff, Lucas Slagel, Keith terHorst, Jeff Tolan, Andy Tomaszewski, Dennis Vangessel, Andrew Weinberg

Method of Application: Chemical application will be made via boat, back pack, and/or land vehicle applying liquid surface products by surface spray and/or injection. Granular product application will be surface broadcast.

Drain Commissioner's Corner

By Mike Solomon, Wexford County Drain Commissioner

Many of you have heard of or seen the Court Order 585 (1967) by Judge William Peterson. It basically states the following:

1. That the annual maximum level is set at 1290.0 feet
2. That a minimum winter level is established at 1288.9 feet
3. That a summer minimum level is established at 1289.7 feet

Along with the basic court order Judge Peterson gave much additional information about lake levels. Most of this information came from two studies done by the Michigan Department of Conservation in 1955 and 1967. These were the basis for the determination of the legal lake levels and I feel are important to understanding the Order and knowing the background information of "why?" the levels were set as they were. The following will be direct quotes from Judge Peterson's write up entitled "Opinion of the Court".

The Judge cites "...the engineering studies disclose that there are improvements adjoining the lakes which have annually suffered from flooding or the effects of the annual spring high. Some properties have been developed which are lower than the average of any year. The owners of such property have made their improvements at their peril with reference to an existing condition of the lakes and cannot now justifiably claim that the protection of their property warrants a reduction in levels which are disadvantageous to other owners and the public..."

Judge Peterson discusses the spring runoff that raises lake levels and evaporation exceeding summer rainfall that causes lake level reductions. He states "The average summer loss has been approximately 1 foot; in the wettest summer it has been as low as 0.4 of a foot. In the driest summer it has been as much as 1.6 feet."

"Over the years of recorded lake level experience, the fluctuations from an annual high to an annual low has been as much as 3 feet. In any given year, the fluctuation has never been less than 0.9 feet and as much as 2.0 feet. It is the purpose of the proceedings under the statute to attempt to stabilize the lakes so far as possible, taking into consideration the natural phenomena noted, and to reduce the extremes of high and low water each year."

The Judge cites: "The following facts are pertinent and worthy of note:

1. The annual high level of the lake has generally been over 1290.0 feet above mean sea level and in at least one year has come close to 1291. Continued maintenance of a level of 1290, or higher will have adverse effect on septic tanks surrounding the lake, basements and other improvements, and increases erosion of shoreline by ice or wave action.
2. "The annual low has generally been below 1289. feet below sea level. Only four times since 1942 has the lake failed to fall to that level and once it has fallen as low as 1288.0 (1955). A low is desirable as the winter approaches from the standpoint of minimizing of ice erosion and as a means of preparing for spring runoff which will follow. A low level in the spring or early summer, however, leaves the lake vulnerable to further reduction by the summer evaporation and a continued low has an adverse effect on the lake as such, not only from the standpoint of boating and recreational use and appearance, but also because of the increased marine growth."

Lake levels are a reflection of the combination of precipitation, evaporation and dam operation. We have had 5 of the last 6 years with above normal precipitation. Warmer summer temperatures and high winds result in more evaporation. With the conversion of small summer homes to large homes with patios and large driveways and garages has resulted in much more impervious surface. This increases rapid runoff that often times drains directly into the lake. We have over 4,000 acres of surface water and a large watershed (28,593 for Lake Mitchell alone) that all outlet down a 25 foot channel of the Clam River.

It is an interesting challenge to operate the lakes within the Court Ordered levels and to receive the input from lake users and riparian owners that have their own thoughts on lake levels. Occasionally I have had people comment that the lake is too high and others say it is too low on the same day. Some users are interested in having the Court Order modified. I do not think that is a good idea because I think Judge Peterson's interpretation of the findings are accurate and his Opinion of the Court explains his reasoning very concisely. Furthermore, we have no indication where further studies would lead us and we would need to be prepared to implement the results.

On our website www.lakemitchell.org. There is more information on lake levels archived in the "Lakesider 2021." and filed under Lake Levels."

**LAKE MITCHELL IMPROVEMENT BOARD
203 PENINSULA DR.
CADILLAC, MI 49601**