

# ***The Lakesider.....Spring 2021***

***The Annual Newsletter of the Lake Mitchell Improvement Board.***

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

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Chairperson  
Wexford County Drain  
Commissioner

Shari Spoelman  
Vice Chairperson  
City of Cadillac  
Representative

Marty Williams  
Cherry Grove Township  
Representative

Dave Foley  
Secretary  
Newsletter editor  
Selma Township  
Representative

Mike Bengelink  
Wexford County  
Commission  
Representative

Ron Klimp  
Riparian Representative  
Treasurer

Email us at:  
lakemitchellboard  
@gmail.com

## **Lake Mitchell Improvement Board Meeting Dates for 2021:**

- \* Saturday, April 17
- \* Monday, June 14
- \* Saturday, August 21
- \* Monday, October 18

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' Association Meeting Dates for 2021:**

*(Note: Two meetings a year, after the April and October LMIB meetings.)* Meetings will begin 15 minutes after the conclusion of LMIB meetings. (See above schedule.) A Zoom connection will be provided. LMIB meetings typically run about an hour. Meetings held at the Cherry Grove Township Fire Hall on M-55. Email contact: lakemitchellpropertyowners@gmail.com  
Website: www.LakeMitchellPO.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](http://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 2015-2021
- 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](http://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](http://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' Association. 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.

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 three-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 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

### **Assessment for 2021 lowered**

The Lake Mitchell Improvement Board assessment for 2021 was lowered to \$100 for lakefront, \$50 for back lot, and \$200 for Commercial lot. These numbers were based on averages of expenses for last three years. This lower assessment should gradually bring the fund balance down to the goal of \$150,000.

### **Roadside pickup takes care of weeds**

The Lake Mitchell Improvement Board will again provide roadside pickup of weeds. Pick-up will begin May 17, 2021 and continue weekly through 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.

### **Ice in, ice out – The freezing and thawing of our lake**

This year, Lake Mitchell was 90% ice free on March 24<sup>th</sup>. That's earlier than normal, but nowhere near a record. Looking over data collected since 1934, the earliest ice out was March 9 in 2000. Over the last 20 years the other early dates were March 17<sup>th</sup> in 2012 and 2016. The latest ice out was April 28, 1972.

Here's some data on the average ice out through the decades:

1930s – April 11  
1940s – April 13  
1950s – April 14  
1960s – April 11  
1970s – April 13  
1980s – April 7  
1990s – April 6  
2000s – April 4  
2010s - April 3

When it comes to freezing, many years the Lake will freeze completely over around Thanksgiving. Since 1984 the earliest dates were November 12<sup>th</sup> in 1995, November 19<sup>th</sup> in 1992, November 19 in 2014, and November 18<sup>th</sup> in 2018. This year it froze on December 12<sup>th</sup>.

Late freezes included December 30<sup>th</sup> and 31<sup>st</sup> in 1984 and 1986 and 2015. In 1995 it didn't freeze until January 2<sup>nd</sup>.

## Lake Mitchell History

Dave Foley

In last year's newsletter I noted that Alexander Henry, a captive of Chippewa Indians, was the first white man to see Lake Mitchell. I had several tell me I should write more about Lake Mitchell history so I contacted Cliff Sjogren, author of *Timber Town Tales*, a book about Cadillac history from 1871-1946 and an active member of the Wexford Country Historical Society. He provided me with sources of info on Lake Mitchell. Deb Bricault's *Cadillac Vintage Postcard Memories* also provided history information. There isn't much out there, but here is some of what I learned. If you have material to share about Lake Mitchell and early settlements on it, I would like to hear about it and it may be included in future updates.

When they were making the Cadillac Country Club, excavators found several Indian mounds believed to be from Ottawa, Chippewa, and Pottawatomie Indians who used this land as a meeting and burial ground. The mounds/graves contained hatchets, knives, bones, and beads.

At one time a settlement was planned to go on the east shore of Lake Mitchell (then known as Big Clam Lake). But when George Mitchell made a deal with the Grand Rapids and Indiana Railroad Company to lay tracks on the east side of Lake Cadillac (then known as Little Clam Lake), the interest in a settlement shifted away from the between-the-lakes area and the village of Clam Lake (later named Cadillac) was established. The Clam Lake Canal (Cadillac Canal) is 1/3 mile long and was made by George Mitchell in the 1870s. The main purpose of the canal was to facilitate of logs to sawmills.

Although this area is best known for logging operations, from the 1870s through the 1930s, our lakes provided ice for refrigeration purposes. The operation centered on Lake Cadillac and, at its peak from the month of April through August, it was estimated that it would take a 15-car train departing daily to fill the need. Until about 1912, when steam-powered cutting tools appeared, manpower and horsepower did all the work. At least one large ice house was located on Lake Mitchell.

At the turn of the century, the Chamber of Commerce was looking to promote Cadillac as a resort destination. In August 1920 the Rotary Club was chartered and Mrs. W.W. Mitchell purchased and donated the land which today is Mitchell State Park.

Prior to that, the area between the lakes was known as Idlewild. Beginning in 1873, a tugboat was converted into a flat bed scow to transport people to the north shore of Little Clam Lake and on to Idlewild, the wooded area between the lakes.

On land, now occupied by *Pilgrim Village*, was once known as the Baptist Assembly Grounds. The first shoreline to be used on Lake Mitchell for vacationers was immediately north of the canal and was known as White City. The first permanent cottages were built along the east shore of the lake. In the 1920s resorts and tourist cabins were established on both lakes. The Indian Trail Inn was built at the site of the Sun and Snow Resort and Lakeside Charlies

On a point located on the west side of the Lake Mitchell, Camp Doxey was established in 1906 by the YMCA. By the 1930s it was becoming difficult to maintain the camp and in 1938 the 4½ acre point of land was sold to Cadillac Schools for \$3000. In 1942 165 acres of additional land and was purchased for the camp. In 1953 it was renamed Camp Torenta which means "land of tall pines."

By the early 1900s, steamships took tourists to pick berries along the shore of Lake Mitchell. Canoes and rowboats could be rented in the Park of the Lakes livery, situated on the canal and taken on onto either lake. The Oak Ridge Pavilion was built at the north end of Lake Mitchell in 1925. At that time it was the largest resort dance hall in the north. It was later known as "the Spot" and "Skatetricity." It was destroyed in a fire on October 12, 2017.

The Platters, located on the north shore of the Canal near Lake Mitchell booked groups in the 1960s like the Supremes, the Dave Clark Five, and the McCoys and became a major teen attraction. Originally known as the Park of the Lake Pavilion, it was built by the Holmen Brothers in 1917 as a recreational facility. When the roof collapsed in the late 1970s, it was torn down and the Carl T Johnson Museum was built on the site.

## Lake Mitchell 2020 Aquatic Vegetation and Water Quality Report

Summarized by Dave Foley. Prepared by Jennifer Jermalowicz-Jones CEO of Restorative Lake Sciences. The entire report can be found at lakemitchell.org

### Water quality

Overall condition of Lake Mitchell in 2020 was good considering heavy spring rains. Water clarity averaged around 8 feet which continues an overall trend of improved clarity. In 2009 clarity was just over 4 feet. Water tends to be clearer in spring and decreases as more aquatic plants and algae appears. Clarity may vary depending on turbidity and amount of suspended particles in the water caused by wind.

### Phosphorus

Although 2020 recorded higher levels of phosphorus than in recent years, nutrient levels are still considered moderate. Lake Mitchell is eutrophic (meaning it supports a good amount of plant growth) since it contains ample phosphorus, nitrogen, and aquatic vegetation growth.

Phosphorus levels, after dropping for several years, went up slightly.

Phosphorus is the primary nutrient necessary for algae and plant growth.

### Alkalinity

The alkalinity of Lake Mitchell is quite low and is indicative of a “soft water” aquatic system. Lakes with high alkalinity are able to handle larger acid inputs. High concentrations of CaCO<sub>3</sub> with high alkalinity are categorized as “hard water”.

### Ph values

Most Michigan lakes have pH values that range from 6.5 to 9.5. Acidic lakes (pH less than 7) are rare in Michigan. Lake Mitchell is considered “neutral” on the pH scale. The pH of Lake Mitchell in 2020 was similar to previous years and was 8.0 S.U.

### Conductivity

Conductivity is a measure of the number of mineral ions present in the water, especially those of salts and other dissolved inorganic substances. Conductivity generally increases as the amount of dissolved minerals and salts in a lake increases and also increases as water temperature increases. The conductivity values of Lake Mitchell are moderately low for a large shallow inland lake. Mitchell's levels were slightly higher during the 2020 sampling and were recorded at 227-271 mS/cm. Severe water impairments do not occur until values exceed 800 mS/cm. Conductivity may be increasing due to more road salt applications during harsh winters.

### Chlorophyll-a

Chlorophyll-a is a measure of the amount of green plant pigment in the water, often in the form of planktonic algae. High chlorophyll-a concentrations are indicative of nutrient enriched lakes. Chlorophyll-a concentrations greater than 6 Hg/L are found in eutrophic or nutrient enriched aquatic systems, whereas chlorophyll-a concentrations less than 2.2 Hg/L are found in nutrient poor or oligotrophic lakes. In mid-August Lake Mitchell did not exceed 3.0 Hg/L which is quite low for an inland Michigan lake but higher than in recent years.

### Native aquatic vegetation

Native aquatic vegetation is essential for overall health of the lake and the support of a fishery. An August 6, 2020 survey found 26 native species in Lake Mitchell, including 17 submerged species, 4 floating- leaved species, and 5 emergent species. The results were similar to recent year surveys. This indicates a very high biodiversity of aquatic vegetation in Lake Mitchell is likely a significant reason for the great fishery in the lake. The overall percent of cover of the lake by native aquatic is low relative to the lake size. These plants should be protected and not treated unless they become a nuisance in shallow coves or the Torenta Canal. In these cases RLS may recommend the use of mechanical harvesting in some areas of Big Cove, Little Cove and/or Franke Coves and the Torenta Canal.

### Status of invasive aquatic plant species

The amount of Eurasian Watermilfoil (EWM) varies each year and is dependent upon climatic conditions, especially runoff-associated nutrients. A June survey found 27.3 acres of EWM. A late season August 6 survey found an additional 36 acres of EWM.

### **Evaluation of purple loosestrife beetles**

The beetle, *Galerucella*, is stocked each season in Lake Mitchell areas infested with purple loosestrife. The goal has been to introduce enough beetles each season to create a sustainable population, that will control the infestation of purple loosestrife. Beetle counts are performed to evaluate number of beetles along with the damage to plants. The beetle population is declining and did not have marked effects on the purple loosestrife. More stocking is recommended for 2021 as the budget allows or the LMIB may consider topical treatment of the plants with triclopyr. Beetles will not be available in 2021

### **Management recommendations for 2021**

Surveys will be done in May and June to locate invasive and nuisance plants. Bottom scans will be done to determine the changes in aquatic biovolume and distribution of aquatic vegetation. Post treatments will be scheduled to see if additional treatment is needed. Restorative Lake Science staff will oversee all treatments as in previous years.

This year RLS is recommending treatment of large offshore areas with Sculpin (2, 4-D) as well as some small isolated areas. Navigate (2, 4-D) will be used where Sculpin was applied in 2020. Changing chemicals helps deter EWM from forming hybrid plants that are resistant to chemicals. Near shore areas will continue to be treated with Renovate OTF (triclopyr). Diquat and/or Clipper will continue to be used in the cove areas for nuisance natives. The canal will be assessed for the need for possible harvest and scheduled if necessary. Water quality will continue to be monitored in the lake and tributaries. Lake Mitchell is a healthy lake with excellent aquatic plant diversity. Nutrients are at acceptable levels and there is a robust fishery. Temporary algal blooms will occur during hot windless periods or after intense rainfall events. RLS will continue to monitor the lake for any problematic algal blooms.

### **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.

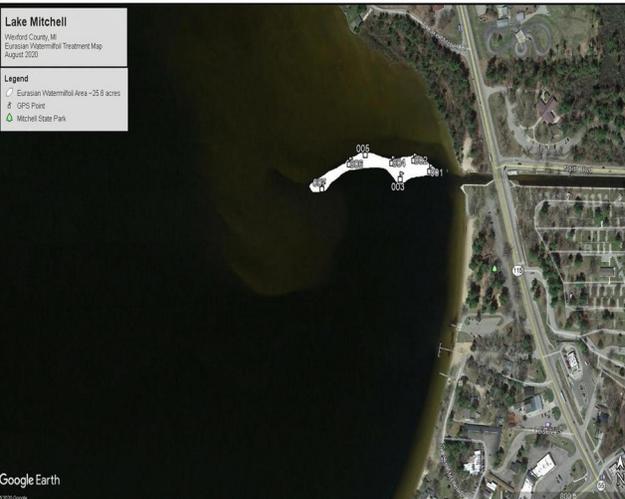
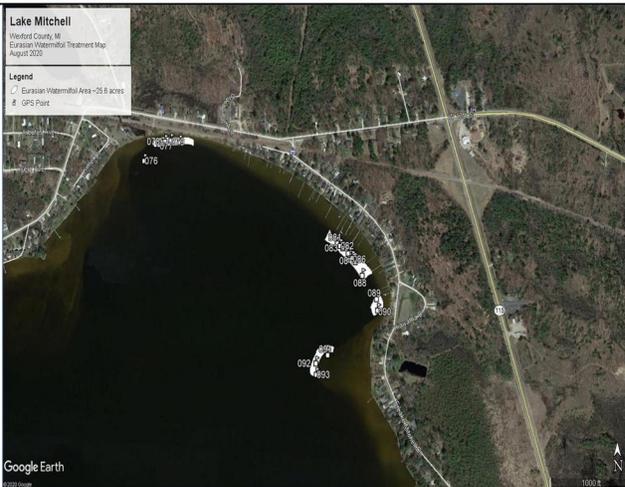
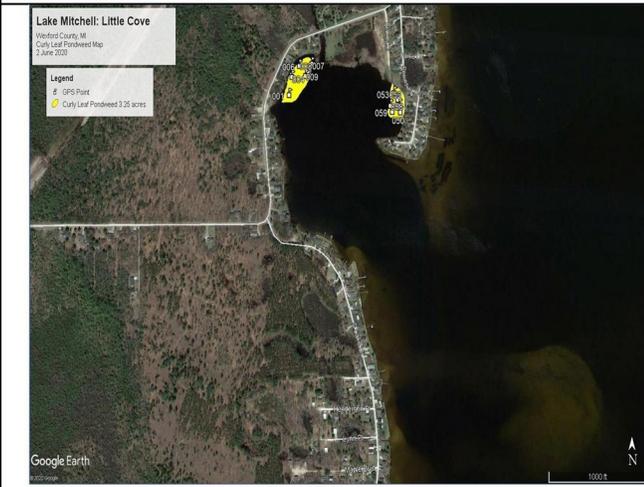
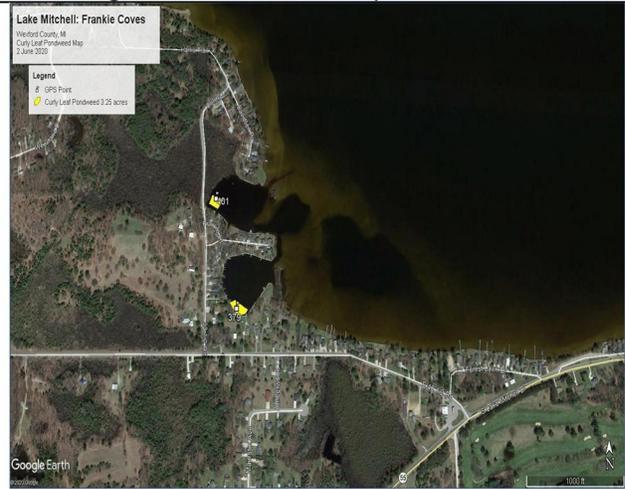
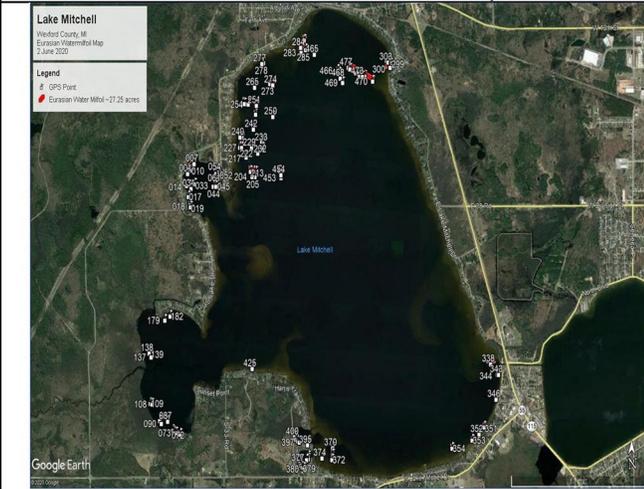
Master Angler minimum lengths for Lake Mitchell species:

- 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 2020 Master Angler rankings had not been posted. Based on data from 2017-2019, I noted 23 entries from Lake Cadillac and 23 from Lake Mitchell. While our lakes are best known for their walleye, pike, bass, and crappie fishing, those four species have only ten entries. If you're looking to take trophy-sized fish, looks to bullheads and bowfin (commonly referred to as dogfish) as over half of Master Angler winners come from these scavenger fish. Lake Cadillac is the hot spot for taking bullheads, producing 13 of the 14 award winners. If you want big bowfin, try Lake Mitchell where 7 of the 10 entries once swam. Those who might scoff at bowfin, probably haven't hooked one. I caught a master angler qualifier and it put up a terrific fight.

## 2021 TREATMENT MAPS

There are six treatment maps. The full size photos of these maps and downloadable pdf versions are on our website at <https://www.lakemitchell.org/treatment-area-maps/>.



## A worrier's guide to living on Lake Mitchell

Dave Foley

There's not much to be concerned about if you're spending time on or around Lake Mitchell. But people do worry so I thought I'd address some common concerns.

**Algal blooms** – More often in Lake Cadillac, but occasionally in Lake Mitchell the water turns green, a scummy pea soup green. This results from the presence of blue-green algae.

Blue-green algae can be toxic and has been known to kill pets that drink it. It can produce neurotoxins that cause health problems including itchy skin, runny eyes, asthma like symptoms or gastrointestinal problems. If you feel that you might be suffering the effects of an encounter with an algal bloom, seek medical attention. If algae is discoloring the water, keep pets and yourself out of it. Although there are occasionally algal blooms, No cases of bloom-related health problems have been documented in the Cadillac area. If there was a bloom of toxic algal, it would be noted in the *Cadillac News* and EGLE may shut down beaches.

Warming weather patterns in recent years may contribute to the appearance of algal blooms. Nutrients pouring into the lake from fertilized lawns on the lakeshore or storm drains in Cadillac feed the bloom. Shoreline residents are encouraged to plant a buffer of plants along the shore to catch nutrients flowing from lawns.

**Zebra mussels** -These invasive shells probably arrived in our lakes on the bottom of a boat about ten years ago. Most are smaller than a thumbnail and are painful if stepped on as their sharp edges can cut feet. Although found in Lake Mitchell, primarily on the southeast side of the lake, they are more numerous in Lake Cadillac. These sharp mussels cling to rocks, woody debris, and dock stanchions. Wearing neoprene water shoes can offer some protection for your feet.

**Swimmers' itch** - The parasite that causes swimmer's itch uses ducks and snails as hosts before infesting humans. Children often are most affected because their skin may be more sensitive, and they spend time playing in shallow water where the swimmer's itch parasites are more concentrated.

Infected swimmers may notice red spots within a half-hour of leaving the water. These spots may enlarge for the next 24-30 hours and may itch for a week. Toweling off may help. Others find protection by applying baby oil before swimming or taking a shower after leaving the water.

By not feeding ducks, not only will you help prevent the spread of swimmer's itch but, if fed, ducks (and geese) will congregate in that area leaving copious amount of duck poop on lawns and docks.

Swimmer's itch is not as common as it once was, but last summer there were a few cases.

**Chemical treatment** – Since the late 1980s Lake Mitchell and Lake Cadillac have used chemical treatments to control the invasive Eurasian watermilfoil. In recent years less than 100 acres of Mitchell's 2500 acre area have been treated. Chemicals are also used to treat areas in coves and the Torenta Canal where native weeds make it difficult for boat travel. The first priority in selecting herbicides for use is "Do no harm." All treatments are made with product that is not harmful to humans or negatively effects the food chain used by fish or other aquatic life.

Several times a year Restorative Lake Sciences, the consulting company that we hire to administer our aquatic vegetative program, analyzes lake samples to make sure water quality is not being harmed by treatments. A more detailed overview of the aquatic vegetative program is found on our website [www.lakemitchell.org](http://www.lakemitchell.org).

**Underwater hazards** – Last year water levels stayed high for much of the season, but in dry years, rocks show up in shallow areas to damage boat motors. Out from the Canal to the west and north, the water is shallow and there are prop eating rocks. As you enter Mitchell either head straight out or swing to the southwest into deeper water.

Be careful when near reed beds on the west and south side of the lake as there are some rocks as well as shallow water.

Weeds often clog parts of Little Cove, Franke Coves, and the back end of Big Cove as well. These may bog down motor boats and clog the intakes of personal watercraft. The entry to South Franke Cove is shallow.

**Docks** – Most years the lakes freeze sometime in late November to early December. Be sure and make arrangement to have your dock out as the spring breakup will often crush docks that are left in the lake. Typically the lakes open up around the second week of April.

**Duck hunting** – Duck hunting is legal on Lake Mitchell during the season which runs from the first week of October through the second week of December. Shooting begins at dawn and ends at sunset. Hunters must be at least 450 feet from occupied dwellings.

**Bass Tournaments** - Between the opening of bass season on Memorial Day weekend and into September, Lakes Mitchell and Cadillac will host a couple dozen tournaments. Tournaments start between 6 and 8 in the morning and usually run until mid- afternoon. The number of boats can range between a dozen and a hundred.

Depending on the tournament, anglers can keep between one and five fish per boat. All fish are released at the end of the tournament. Virtually all fish survive the release. Points are deducted for fish that die or appear sick. You might enjoy watching a tournament weigh-in

It is likely you will see boats casting lures under your dock and boats on lifts. That's where the fish are. Although it may be disturbing to see fishermen hovering close to your dock, they can legally do that as long as they don't trespass on your property.

**Lost and found** – Windstorms can blow float toys, deck chairs, and kayaks into the lake. If you lose something or find something email [lakemitchellboard@gmail.com](mailto:lakemitchellboard@gmail.com) with a description of the item. Every week or so I will send out a mass email describing lost and found items as well as details about lake treatments and Lake Mitchell Improvement Board meeting information. Send us an email with your address and we will put you on our mass email list. Last year we reunited quite a few folks with their lost items. If you find a drifting motor boat, call the State Police with the boating registration number.

**Bears and Raccoons** – Bears and raccoons are common in the Lake Mitchell area. They are shy and will usually run away when seen. But they are attracted to bird feeders and trash. In early spring, bears emerge from hibernation and raccoons wake up from their winter sleep. These animals are active until they head for their dens when winter arrives, they will be looking for accessible food. Bird feeders should be put away each night when bears and raccoons are active. Unless a trash bin is closed tightly, it may be ravaged by hungry critters that come after dark. It is best not to leave trash out overnight.

**Snapping turtles** – Especially prevalent in the coves, snapping turtles are commonly seen. They pose no threat to humans, unless you stick your fingers near its mouth. However, they will prey upon fish left on stringers in the lake. I made that mistake. After tying up a pike overnight, I found only the fish head the next day.

**Leeches** – Yes, there are a few leeches in Lake Mitchell. Not nearly as many as there were thirty years ago. If one attaches itself to you, sprinkle some salt on the leech and it will curl up and fall off.

**Canada geese** - Among the first waterfowl to return to the north and among the last to leave, You can plan on sharing the lake with Canada geese from early April until November. When they visit your yard, they will definitely defecate there. The poop is fertilizer but not what most need or want on their lawn. One way to discourage geese is to string a trip line along your lakeshore. While these may be effective, geese often still find a way onto your property.

A better solution is to create a shoreline greenbelt by planting a band of natural vegetation, such as wildflowers, grasses, perennials, and shrubs. These buffer strips stabilize shoreline to help prevent erosion and filter pollutants and sediments. Greenbelts slow surface runoff before it enters the water, allowing sediments, excess nutrients, and other pollutants to settle out. Uncontrolled sedimentation will alter the habitat of crayfish, mayfly larvae, and fish as well as increase phosphorous loads in the lake. Leaving a strip of natural vegetation between your lawn and the water's edge is one of the best things you can do to maintain our lake's water quality.

Lawns with greenbelts along the shoreline are not often visited by geese as these birds fear these patches of vegetation may provide hiding places for predators.



## Lake Levels and Dam Operation

As we enter the summer boating season for 2021, we find that our levels on Lake Mitchell and Lake Cadillac are relatively low when compared to what we normally expect in the spring after snow melt. Why are lake levels so low right now and what might it mean for the coming summer? Not surprisingly, the answer to that question is largely tied to the amount of rain and snow the area received in 2020.

During 2020, we had 34.01 inches of total precipitation, compared to our annual average over the past 30-years of 35.45 inches. So, our precipitation amount in 2020 was about 1.5 inches below the average and then we received very low snow amounts for the first three months of 2021. Ten inches of snow is roughly equivalent to one inch of rain. The question has been raised as to whether the lake levels can be raised by reducing or even eliminating flow into the Clam River at the outlet dam near the Cadillac Schools complex.

Management of the Clam River dam is a duty of the Wexford County Drain Commissioner and the procedures and target winter and summer lake levels are tied to past Circuit Court decisions. The dam was fully opened on October 24, 2020. The dam has historically been left open in the winter with the objective of reaching a lake level 1288.90 feet. That procedure established on the basis of the court decision is intended to provide storage for the expected snow melt and spring rains that we see most years.

Despite opening the dam's gates earlier in the fall than the Opinion of the Court suggests, there has been only one year in the past 30 years that the recommended winter target lake level has been reached. Precipitation from December 2020 through March 2021 was only 4.45 inches compared to the long term expected amount for those 4 months of 7.73 inches. Recognizing the moisture deficit was going to lead to lower lake levels, early action was taken to close the dam gates on March 29, 2021, which is fully two months before they have normally been closed.

Even when the dam outlet gates are closed, there is an 8 inch by 8-inch square hole in the concrete structure of the dam that provides a continuous flow to the Clam River. The discharge through this hole varies by the height of the lake levels or a measure of "head" above the hole. The need for a continuous flow into the Clam River was cited in the Wexford County Board of Public Works minutes and correspondence concerning the dam's original design. Both the State of Michigan Department of Environment, Great Lakes and Energy (EGLE) and the Fisheries Division of the Department of Natural Resources support the continuous flow into the Clam River. Severely restricting or periodically drying up that flow would have adverse consequence on fish and aquatic habitat in the Clam River.

Any changes to streamflow fall under Part 301 of the Michigan Natural Resource and Environmental Protection Act (1994). Under Part 301, a person shall not structurally interfere with the natural flow of an inland lake or stream, or create, enlarge or diminish an inland lake or stream. Any proposal to change the Clam River flow would require a permit that would have to be obtained through EGLE. Such a proposal would likely be opposed by the MDNR Fisheries Division and would involve a potentially lengthy and expensive process that may ultimately fail. A change of the procedure would have a variety of effects on the watershed of Lake Mitchell and Lake Cadillac, all of which would need to be addressed. It is for similar reasons that Circuit Court became involved in setting target lake levels decades ago.

It has been fairly-well established that weather patterns have been changing during the past 20 to 30 years. More rainfall, less severe winters and associated snowfall amounts, and larger and more frequent storm events have become the norm. For example, Mason County to our west set a new 24-hour rain event of over 13 inches in 2019, the highest ever recorded in Michigan. What have historically been classified as 50-year and 100-year storm events seem to be occurring with much greater frequency and have lost a certain amount of meaning.

That being said, we still will have dry summers, such as occurred in 2018, resulting in lower-than-normal water levels that did not rebound until fall. The winter of 2020-2021 was again abnormally dry by historic measure. It appears that we can expect lake levels to vary through a somewhat wider range than they did 40 or 50-years ago; and attempting to alter established lake management procedures on a yearly basis is not a practical solution. We are still lucky to have two large lakes with substantial inflow and springs that keep water levels more stable than are seen in many other area lakes such as Pleasant, Stone Ledge and Meauwataka.

As of April 7, 2021, the lakes are about 2.25 inches below the Court Established target summer level. This does not suggest that we should already write-off the 2021 boating season, there is still hope. The normal average rainfall in April is 3.54 inches, May normally brings 3.62 inches and June 3.69 inches. This is a total three-month average rainfall of 10.85 inches, and it's the highest expected rainfall for any consecutive three-month period out of the year. Expected summer rainfall has July at 3.52 inches, August at 3.57 inches, and September at 3.16 inches, based on 30 years of data. Hopefully, our average spring and summer rainfalls will come and help to raise our water levels.

We have a wonderful privilege to live on or near these lakes. Let's continue to enjoy and protect them.

## Sixteen Months on Lake Mitchell

After a long winter, spring is eagerly awaited. I have noted reliable indicators, mainly birds, of the coming of spring.

2020

January – Mild month, daytime highs often 30s; only 1 (-3) sub-zero AM.

February – Warmer than normal.

March 4 – Canada geese return to Clam River.

March 7 -Red winged blackbirds return to swamps

March 18 – Merganser ducks in Canal

March 22 - 1<sup>st</sup> robin in yard

March 23 – Grackles arrive

March 30 – Lake Mitchell is ice-free. Lake Cadillac opened 3/29.

April 1 - Swamp wakes up – peepers, chorus and wood frogs sing.

April 2 - Sandhill cranes arrive

April 6 – Trumpeter swans in Little Cove

April 12 – Loons arrive in Lake Mitchell

May 10 – Orioles appear at feeder

May 16 - 1<sup>st</sup> Hummingbird

May 17-18 – High winds and 3 inches of rain.

June 1 - Survey of lake found 28 acres of Eurasian watermilfoil (EWM)

June 2 – Mayfly hatch. Much smaller than years ago. But still a return.

June 2 - 1<sup>st</sup> 90 degree day.

June 9 – 28 acres treated and snapping turtles laying eggs.

June 20 – Fireflies light up the night.

June 26- July 12 - 16 days of 80+ degree high temps. 8 days reached 90

July 7 – Retreatment of locations still having nuisance weeds or milfoil

July 19 – Hard Rain. 2 ¼ inches in 1 ¼ hours.

July 20 - Grackles and red winged blackbirds depart

August 6 – Survey of lake found 36 acres of EWM

August 10 – 33 acres treated

August 20 – 6 acres treated

Hot summer – numerous 80 to 90 days.

September 27- October 15 – Peak fall colors.

November 1 - First light covering of snow.

November 6-10 - Record heat. Highs in the 70s.

December 15 – Lake Mitchell freezes.

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 over arrive.

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 weather - after cold start averaged 5 degrees above normal.

Overall not a snowy winter – Lake levels are low

April - much warmer than average

# NOTICE 2021

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



**IN 2021, 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), Cutrine Plus-Ultra, Captain-XTR, SeClear and SeClear G,: chelated copper, Cygnet Plus, PolyAn: Adjuvant, M.D. pellets: gram negative, naturally occurring bacteria.				<b>No Restrictions</b> 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.

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