The Lakesider…….Spring 2020

The Annual Newsletter of the Lake Mitchell Improvement Board.

Lake Mitchell Improvement Board
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Cadillac, MI 49601
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Wexford County Drain Commissioner

Shari Spoelman
Vice Chairperson
City of Cadillac Representative

Marty Williams
Cherry Grove Township Representative

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Newsletter editor
Selma Township Representative

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Wexford County Commission Representative

Ron Klimp
Riparian Representative

Lake Mitchell Property Owners Association Officers

Dave Stinger - President
Jackie Erway - VP
Ron Moelker - Secretary
Bob Sales - Treasurer
Dave Kuyers - Board Member at large

Lake Mitchell Improvement Board Meeting Dates for 2020:
* Saturday, April 18, 2020 @ 10:00 AM - **CANCELED.**
* Monday, June 22, 2020 @ 10:00 AM
* Saturday, August 22, 2020 @ 10:00 AM
* Monday, October 19, 2020 @ 10:00 AM

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 2020:
Meetings will begin 15 minutes after the conclusion of LMIB meetings. (See above schedule.)LMIB meeting typicall 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. (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 rermiders 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 2015-2020
- 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 between the Lake Mitchell Improvement Board and the Lake Mitchell Property Owners' Association. This information might help you sort it out. The Lake 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.

Roadside pickup takes care of weeds
The Lake Mitchell Improvement Board will again provide roadside pickup of weeds. Pick-up will begin May 18, 2020 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 weeds 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.

EGLE Modifies Herbicide Use Rules in Shallow Areas
EGLE (formerly MDEQ) has implemented an important rule change beginning in 2020. In order to increase the protection of native aquatic plants along developed shoreline and protect the water resource, the standard allowance of treating 300 feet from shore will be reduced to 100 feet. This affects many lakes in Michigan and will especially affect Lake Mitchell. The standard permit condition will be: ‘‘Except for waterbodies with a total surface area of less than 10 acres, chemical treatment of developed shorelines for the control of native algae (planktonic, filamentous, or macroalgae) or native submersed macrophytes is limited to 100 feet of frontage out to the 5-foot depth contour or 100 feet (whichever is closer to shore) per residential property.”
This will impact Lake Mitchell. Our historic treatment allowed treatment of native vegetation out 100 feet from the end of docks. This will limit treatment to 100 feet from shore. Many docks are 50 feet or greater so there will be a reduced distance out from the docks. This ruling does not effect the treatment of invasive species. In other words, Eurasian watermilfoil will be treated wherever we find it.

The first white man to see Lake Mitchell
Of course there's no way to confirm who the first Caucasian was to view Lake Mitchell, but I've found two references that point to Alexander Henry. The first came from a historical account of the settling of Midwest written by Alan Eckert. In the *Wilderness Empire,* Ecket talks about Alexander Henry, an Englishman who came to the Upper Great Lakes in 1760 looking to get rich from the fur trade. For several years he lived at Fort Michilimackinac on the Straits of Mackinac with a contingent of English traders. Henry befriended a Chippewa chief, Wawatom and in the summer of 1762 when the English were massacred by hostile natives, Wawatom saved Henry and adopted him. A hard winter and scarce food forced Henry and his Chippewa tribe to move to Ludington. Heading inland on a hunting trip in December of 1763, Henry became separated from his tribe. Alone, he wandered about and came upon the north shore of a lake so large he could scarcely discern the opposite shore. Eckert and Karl Bohnak, author of *So Cold A Sky,* both believe that Henry was looking at Lake Mitchell. Henry, traveling alone, managed to hike back through the snow to reunite with his tribe in Ludington. Henry became a wealthy fur trader and lived until1824.

What does it cost to live on Lake Mitchell?
I contacted Amy Devereaux who has been working at Coldwell Banker/Schmidt realty for over 20 years to inquire about the current price of frontage on Lake Mitchell. She told me the price can vary depending on the house and location on the lake, but in 2020 one can expect to pay approximately $1800 to $2000 per front foot.

A brief history of Lake Mitchell fish stocking and the walleye fishery

Written by Mark Tonello MDNR fisheries biologist. Summarized by Dave Foley (2020)

The first documented fish stocking of Lake Mitchell took place in 1874, when lake whitefish were stocked. Other stockings in the 1800s included Chinook salmon, lake trout, smallmouth bass and walleye. The shallow warm nature of Lake Mitchell makes it unsuitable for cold-water species like trout, salmon,and whitefish. Walleye and smallmouth bass were again stocked in 1909 and 1910. From 1929-1940 intensive stockings of bluegill, yellow perch, and emerald shiners were made.

The Lake Mitchell fish community has undergone major changes in the last thirty years. Largemouth bass have become abundant while the once self-sustaining walleye fishery now requires stocking to maintain. No walleye stocking was done between 1940 and 2004. Walleye reproduction declined noticeably in the late 1990s. A 2012 survey noted only one fish dating from an unstocked class, all other fish fish were stocked. Clearly stocking plays a major role in the Lake Mitchell walleye fishery, although, even with stocking, the walleye population is much smaller than it was in the 1980s and early 1990s.

The exact reason for the lack of walleye reproduction is unknown, it may have something to do with the recent abundance of largemouth bass. Almost seven times more largemouth bass were taken in the 2003 net survey than were found in the 1993 nets. Studies show that largemouth bass prey on juvenile walleye, which may have an effect on the walleye population.

Fish growth may also have an effect. In 1980 and 1988, most fish species in Lake Mitchell were growing faster than the state average. However, starting in 1993, growth rates began to diminish and by 2012 only two species, walleye and smallmouth bass were growing faster than the state average. The decline in growth rates among other species may be due to reduced numbers of walleye, a major predator of panfish. The increased number of panfish may create more intraspecific competition among panfish species, leading to slower growth.

Another plausible explanation is the loss of mayflies that has occurred in both lakes. Mayflies are an important food item for many fish species. Although a few flies hatch every year, the last significant hatch occurred in 2001. Although the exact reason for the disappearance of mayflies is unknown, it may be linked to copper sulfate, which is known to negatively effect invertebrate populations and mayflies, in particular. Lakes Cadillac and Mitchell were treated with large amounts of copper sulfate to prevent swimmer's itch until the practice was discontinued in the mid-1990s.

In the early 1990s Eurasian water milfoil (EWM), an invasive aquatic weed became prevalent first in Lake Mitchell and later in Lake Cadillac as well. The plant has been held at bay in the lakes due to annual chemical treatments of 2, 4-D, but the presence still poses a problem. Typically the plant survey done in Lake Mitchell in May finds about 300 acres of milfoil which is chemically treated in June. If untreated, over time, EWM would undoubtedly dominate much of Lake Mitchell creating negative effects on fish populations. In 2010 hybrid milfoil appeared and is now the predominant form of milfoil in the lake. The hybrid plant is more resistant to treatment and requires higher dosages to kill the plant. The vast increase of aquatic plants in Lake Mitchell that has occurred over the last twenty years has resulted in much more silt covering lake bottom that was once gravel and sand. Yellow perch, walleye, and smallmouth bass favor hard bottom habitat and the loss of that may have contributed to the decrease in the numbers of these fish in Lake Mitchell.

Mark Tonello, the MDNR fisheries biologist, who prepared this report recommends that since surveys have shown no signs of natural reproduction in walleye since 2003, stocking in Lake Mitchell should continue at a rate of 50/acre (130,000 fish) every other year. Since a full complement of walleye was stocked in 2012. Stocking continued in 2104 (200,000), 2016 (143,150), 2018 (133,854), and 2019 (50,881).

What lakeshore property owners can do to preserve the fishery

According to Tonello's report, there are some things that lakeshore residents you can do to preserve the fishery. Nearly 75% of the shoreline contains seawalls or riprap and many lawns are mowed right down to the water's edge. This results in loss of native vegetation that holds back erosion and catches runoff of lawn fertilizers into the lake. Applying fertilizers containing phosphorus to lawns puts nutrients into the soil that, if allowed to leech into the water, will stimulate growth of aquatic plants. Allowing native plants to grow along the shoreline in a green belt will provide habitat for amphibians and invertebrates. If shoreline erosion seems imminent, then riprap rather than seawalls should be used and native vegetation should be permitted to grow in front of the barrier. *Tonello's report, in its entirety, is found on our website www.lakemitchell.org*

What happened on Lake Mitchell?
A summary of 2019 RLS aquatic vegetation and water quality program
By: Dave Foley, Lake Mitchell Improvement Board

I have put together this summary of the annual report prepared by Dr. Jennifer Jermalowicz-Jones CEO of Restorative Lake Science. The full report can be found at www.lakemitchell.org.
Overall, Lake Mitchell is doing well. Water clarity, which in 2009 was less than 5 feet, now averages about 9 feet. Additionally, the lake has nutrients (phosphorus and nitrogen) which result in some algae and submersed aquatic plant growth in shallow soft bottomed areas. Overall nutrient levels are considered moderate with higher concentrations in the tributaries.

Status of native aquatic vegetation

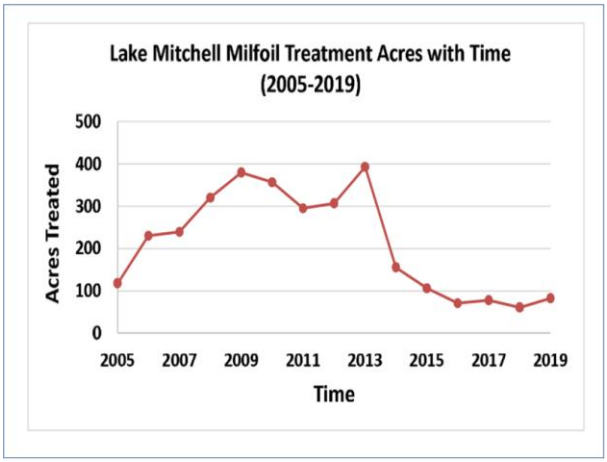
Lake Mitchell has 26 native species of native aquatic plants. This hasn't changed over the years. This high biodiversity is likely a significant reason for the great fishery in the lake. The overall % cover of the lake by native plants is low relative to the lake size. These plants should be protected and not treated unless they become a nuisance in shallow coves or the Torenta Canal. In these cases, RLS may recommend harvesting.
The invasive Eurasian watermilfoil (EWM) has been a challenge to Lake Mitchell's ecosystem since the late 1980s. In 2019, approximately 53 acres of EWM were treated throughout the entire lake. (There are 2,580 acres in Lake Mitchell.) The Torenta Canal was not treated in 2019 as it was not needed. Approximately 28 acres were treated in Big Cove and 3.3 acres in Little Cove. Franke North and South Coves received 8.1 acres of treatment. Whereas only EWM was treated in the main lake, the coves were treated for both EWM and nuisance pondweeds. A new systemic herbicide product, ProcellaCOR® was successfully in used in Big Cove. (A systemic product kills the entire plant including the roots. A contact herbicide just kills the leaves and stems.)
The purple loosestrife beetle stocking is recommended in 2020 to increase control of the plant or spot-treatments with an aquatic herbicide for emergents.

Water quality parameters measured

Lake Mitchell is considered a eutrophic lake because it has more weed growth than most lakes in the shallows as well as ample phosphorus or nitrogen. It has good water clarity and moderate algal growth.
Phosphorus is the primary nutrient necessary for abundant algae and aquatic plant growth. Phosphorus concentrations are usually higher at increased depths due to higher release of phosphorus from lake sediments under low oxygen conditions. Phosphorus may also be released from sediments as pH increases. Fortunately, even though phosphorus levels in Lake Mitchell are moderate, the dissolved oxygen levels are good enough at the bottom to not cause release of phosphorus from the bottom. Phosphorus, during the sampling event in 2019, was about the same as it has been in 2011.
Alkalinity determines whether lakes are “hard water”, having high concentrations of CaCO3, or “soft water.” Total alkalinity may change on a daily basis due to the re-suspension of sedimentary deposits in water and respond to seasonal changes due to the cyclic turnover of the lake water. Lake Mitchell's alkalinity is quite low making it a soft water lake.
pH in most Michigan lakes ranges from 6.5 to 9.5 S.U.. Acidic lakes (pH less than 7) are rare in Michigan but are more common in the UP. Lake Mitchell's 8.3 S.U. pH is considered “neutral” on the pH scale.
Conductivity is a measure of the number of mineral ions 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 as water temperature rises. The conductivity values for Lake Mitchell are relatively low for a large inland shallow lake, ranging from 148-214 mS/cm during 2019 sampling. Severe water quality impairments do not occur until values exceed 800 and are toxic to wildlife at around 1000. Conductivity may be increasing due to more road salt applications during harsh winters.
Chlorophyll-a measures green plant pigment present in water often in the form of planktonic algae. High chlorophyll -a are indicative of nutrient enriched lakes. Chlorophyll-a readings of greater than 6 are found eutrophic lakes. Readings of less than 2.2 µg/L are found in nutrient poor lakes. Lake Mitchell recorded a 1.8 µg/L reading in mid-August.
Toxic blue-green algae vs tree pollen Blue green algae can be found in many lakes including Lake Mitchell. When it grows in high abundance, it may produce a toxin that humans and animals should avoid contact with when swimming. Animals and humans should avoid surface water algal scums when present as they can be toxic. Tree pollen which appears more yellow and may coat the lake surface in some areas, is not harmful and will soon dissipate.

Management recommendations for 2020

As in past years, detailed aquatic vegetation surveys will be done by GPS in late May or early June to locate invasive plants as well as nuisance species that may be causing imbalance or recreational issues. Along with the surveys, bottom scans will be conducted to determine changes in aquatic bio-volume and distribution of aquatic vegetation. Post-treatment surveys will be conducted and these may result in additional treatments. The Torenta Canal will be assessed for the need of a possible harvest and scheduled if necessary.
Detailed information on chemicals that will be used in 2020 treatments is available in the full RLS report that can be found on the LMIB website:(www.lakemitchell.org)
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 indicated by the many fishing tournaments held on the lake. Temporary algal blooms occur during hot windless periods or after intense rainfall events. RLS will continue to monitor for any problematic algal blooms.
These measures are designed to stop invasive species from being introduced into our lakes. That is likely how Eurasian watermilfoil and zebra mussels entered Lake Mitchell and Cadillac.



A Guide to living on the lake 2020

With more than 700 properties on Lake Mitchell, at times it can feel pretty crowded. This guide should provide answers to situations residents might likely encounter.

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. Our lakes have a reputation as offering some of the best bass fishing in the state. Tournaments start between 6 and 8 in the morning. The sound of dozens of boats racing to the best fishing spots is a common summer wake up call. Tournaments usually run until mid- afternoon. The number of boats can range between a dozen and a hundred. This many visitors is a boon to Cadillac's economy as many stay overnight, eat at our restaurants, shop, buy gas and sporting equipment.

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. Tournament rules prohibit drinking and you will find fishermen are friendly and courteous. They will usually tell you what techniques and baits are catching fish.

Lost and found

Last year it seemed like after every windstorm on Lake Mitchell I would get queries in the Lake Board email box lakemitchellboard@gmail.com about lost and found float toys, kayaks, and lawn chairs. I would include information about these strayed items in our regular emails concerning dates and information about herbicide treatments. Passing on this information helped get many items back to their owners.

This year I will make this a regular feature of our emails which will be sent out about every two weeks during the summer months. If you lose or find something of value, send me a description of the item along with your name, phone number and/or email.

Michigan fireworks law

The Michigan Legislature passed a law in 2011 legalizing fireworks. The use of fireworks became so widespread that by 2017 it seemed like fireworks displays were occurring almost every week of the summer. The legislature modified the law in 2108. Under current law, fireworks may be used on on the Saturday and Sunday of Memorial Day weekend until 11:45 PM, June 29 – July 4 until 11:45 PM and July 5 when it occurs on a Friday or Saturday, as well as on the Saturday and Sunday of Labor Day weekend. You also can use fireworks December 31 to 1 AM on January 1.

Swimmers' Itch

Swimmers' Itch used to be common in the lakes and was caused by a parasite that burrows into a bather's skin causing irritation. The parasite was produced by an interaction between snails and duck feces. Now there are fewer snails and the feeding of ducks has been discouraged so swimmers' itch is less prevalent. To reduce chances of getting the itch, towel off after swimming and take a shower. If you get a red itchy rash you may have the itch. It will go away by itself although applying an anti-itch cream will reduce discomfort.

Boating hazards

Most of Lake Mitchell's 2500 acres provides safe boating. Yet every year boats are damaged after hitting rocks or running aground in shallow water. Most boaters recommend that when entering Lake Mitchell from the Canal, head straight out or veer to the southwest. To the north or northwest are rocks. There are also several rock hazards lying offshore along the west side of the lake between Camp Torenta and Little Cove. Where there are reeds there is often shallow water. Take it easy in these areas. The entrances to the Franke Coves are shallow. Until you know the lake well, exercise caution when boating.

Bears and bird feeders

Yes, bears live here. The are often seen on West Lake Mitchell Drive by folks driving around the back of the lake. Bears can, and do show up in people's yards anywhere on the lake. They won't hesitate to demolish your birdseed

buffet. After they come out of hibernation in late winter, they are hungry and will look for an easy meal. Although they generally wait until after dark to visit feeders, they have been known to show up during the day. You can continue to feed birds but between March and December. It is best to take your feeders in at night. During winter, when birds appreciate feeders the most, you can leave them out all the time. If bears are regulars in your area, it might be better to be a bird watcher rather than a bird feeder.

Green belts keep geese away and chemicals out of the lake

Every year several flocks of Canada geese take up residence along the Lake Mitchell shoreline. 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.

If fertilizer is needed use phosphorus free products

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 and nitrogen to grow lawns. 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. We must also monitor the use of nitrogen, which is why we encourage decreased use of fertilizers in general. Nitrogen adds to weed growth and algal blooms. The Michigan legislature has passed a law banning the use of phosphorus fertilizers that went into effect January 1, 2012. The degradation of lakes caused by phosphorus has attained national attention with several states regulating the use of fertilizers containing phosphorus. Cherry Grove and Selma Townships both have passed resolutions recommending that fertilizers on lakeshore properties be phosphorus-free. The City of Cadillac now uses only phosphorus–free chemicals on its lakefront property.

Dispose of leaves and yard waste properly

Although it is tempting to rake your leaves, especially if you have a strong tailwind, into the lake. Please dispose of them in a wooded area or bag them for the landfill. Leaves that end up in the lakes will sink to the bottom and provide mulch that will encourage weed growth. 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.

Eliminate loosestrife or phragmites.

While these plants may be attractive, they are invasive and harm native wetland vegetation. These plants should be uprooted and removed. The seeds will travel on the wind and water to new locations. Photos of these plants are on our website.

Preserving our dark night skies

As our lakeshore gets more populated, more homeowners are installing bright yard lights and shining floodlights on flags. The night sky often appears more brown than black. This is tough on stargazers or those who appreciate the night sky. The glare from your neighbor's outside lights will definitely impair your night viewing. I can understand concerns about safety and safeguarding your home from intruders. What might be a logical compromise for those wishing to illuminate their property would be installing lighting that is activated by motion. This would give the property owner light for moving about their yard and as well as detect anyone that approaches. When no one is about, it would be dark and the stars would be visible. In recent years fewer fireflies have been seen. To mate, fireflies must find each other. It has been speculated that if an area is bathed in artificial light, fireflies cannot see the flickering light of other fireflies.

Lake Levels – 2020 -- History of the Court Order Regulating the Levels of Lakes Cadillac and Mitchell

The Wexford County Board of Supervisors (now the Board of Commissioners) petitioned under Michigan Statues for the establishment of a legal lake level or levels on Lakes Cadillac and Mitchell. Two lake level studies had been completed by the Michigan Department of Conservation on the lakes. An engineering study of the lakes and surrounding watershed was completed in 1967, updating a more exhaustive study that was completed in 1955. The Court Order process was based on those two studies and input from concerned citizens.

When Hearings were held, formal proofs were limited to the engineering studies prepared by the Department of Conservation (now the DNR), and the opinions of H. J. Hanes, the Conservation Department Engineer who approved the reports. Numerous communications and opinions from riparian owners and others were provided to the court. A substantial majority favored higher lake levels to promote boating activities, with fewer urging lower levels for safeguarding septic systems, to keep basements from flooding, and preventing beach erosion by ice and wave action. Circuit Judge William Peterson noted in his opinion that no order could be made which would have the effect of destroying or impairing the rights of riparian owners. “There must, therefore, be a limit of height at which a lake level could be established, and this limit is the average annual high that has occurred prior to the imposition of systematic controls of recent years” (prior to 1967). “Any higher levels would in effect constitute a wrongful taking of property without compensation”. The opinion also notes that properties have been developed which are lower than the average levels any year and the owners of these properties have made their improvements at their own peril. (Much of the above was quoted or paraphrased from the Opinion of the Court issued with the Court Order.)

Court Order 585, issued by Judge Peterson September 11, 1967, established the legal lake levels for Lakes Cadillac and Mitchell. It ordered an annual maximum level of 1290.00 feet above sea level and minimum winter level of 1288.90 feet. It further established a summer minimum of 1289.70 feet which shall be maintained at the beginning of each summer.

At the time the court order was issued; lake levels were maintained by a wooden structure on the Clam River located about half-way between the present location of the dam and Lake Street. Some remnants of the old structure can still be found. Boards were added or removed to change lake levels. The Wexford County Board of Public Works (BPW) in 1973 commissioned a study/design of a new dam with gates for controlling the water levels of the lakes; and at the same time permitting enough water to flow through to the downstream Clam River water course to “sustain marine life”. In June 1974 Granger Engineering provided plans for the proposed new dam to the County BPW. The dam was then constructed in 1974 and 1975. The Granger report, like previous reports, explains that the limited capacity of the Clam River when compared to the large volume of Lakes Cadillac and Mitchell makes short term response times virtually impossible. It cites the Mitchell Street Bridge as a principal restriction that limits the ability to lower lake levels quickly, and also addresses the need for maintaining a minimum flow in the Clam River, as a management limitation that can result in a continuing drop in lake levels under drought conditions.

Court Ordered lake levels can be challenged. It is usually a contentious issue that is often-times very costly. Higgins lake is undergoing legal action to try to get some change in their order. There have been three court hearings to date with no change occurring. The State of Michigan’s Attorney General’s Office has historically participated in such cases to protect the State’s rights under “waters of the state” doctrine.

Dam Operation

In 2019 we had 44.39 inches of rain, second only to the 44.64 inches in 2008 (30 years of record). Because of the high rainfall amounts, the dam has been fully open since September 15, 2019. The lakes continued to exceed spring levels (1290.00 feet) until late February 2020. The dam is left open in the winter with the desire to reach 1288.90 feet to provide storage for the expected spring melt. Despite opening the dam’s gates earlier than the Opinion of the Court suggests there has been only one year in the last 30 years that the recommended winter value has been reached. In 2020 the dam’s gates will remain open following spring melt until lake levels drop to 1290.00’, at which time they will be closed to preserve water levels going into the summer. 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 amount of “head” above the hole. The need for a continuous flow into the Clam River was cited in the County BPW minutes and correspondence concerning the dam’s design. Both the State of Michigan’s Environment, Great Lakes and Energy (EGLE) and Fisheries Division of the Department of Natural Resources are supportive of flow into the Clam River. Changes to streamflow fall under Part 301 of the Natural Resources and Environmental Protection Act. 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 change in this flow would require an EGLE permit.

It has been fairly-well established that weather patterns have been changing in the last 20 to 30 years. More

rainfall, less severe winters, larger storm events (Mason County set a new 24-hour rain event of over 13 inches in 2019 the highest ever recorded in Michigan), and more frequent storms have become the norm. 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, that resulted in lower than normal water levels that did not rebound until fall. It appears that we can expect lake levels to vary through a wider range than they did 40 or 50-years ago, but we are still lucky to have two large lakes with substantial inflow and springs that keep water levels more stable than other area lakes such as Pleasant, Stone Ledge and Meauwataka. We have a wonderful privilege to live on or near these lakes. Let's continue to enjoy and protect them. -- Report prepared March 2020 by Mike Solomon, Wexford County Drain Commissioner

Looking back, 16 months on Lake Mitchell – January 2019-April 2020

2019

January 19 – 31 – COLD! Sub-zero nights, daytime highs in the teens.
January 28-30 – Polar Vortex extreme cold and wind. No mail delivery 1/30. State declares cold emergency. Nightly lows -17 & -19.
February 24 – Blizzard – Many roads closed. This February was one of snowiest on record.
March 10 - 24'' of snow on ground.
March 14 -Canada geese and red winged blackbirds return.
Cadillac Schools closed for record 17 days this winter Usually about 5.
April 8 – Sandhill cranes appear along lake
April 12 – Ice is out on lake Mitchell
April 14 – 2 inches of snow falls. Spring struggles to arrive
April 16 - Wood frogs and peepers sing from the swamp lands
April 22 – First blue heron appears on lake
June 3 – Franke South Cove treated for nuisance weeds
June 4 – First noticeable hatch of mayflies in 25 years
June 14-15 – Four pelicans stopover in Big and Little Cove
June 18 - Main Lake/ Little/Big Cove treated for milfoil
August 18 - Little Cove, Franke North, and main lake treated
September – 7 ½ inches of rain, double the average.
October 11-17 – Peak color in Cadillac area
October 31 – 2 inches of snow falls. Early snow ends cold autumn.
November 13 – Lake Mitchell freezes
November 27 – Lake reopens, I go kayaking
November's avg. temp 31; 5 degrees colder than avg. since 2000

2020

December 1 – 6'' of snow falls/ lakes refreeze
December 3 – Cross country skiing begins on forest trails
January avg. temp was 27; 8 degrees warmer than 20 yr avg.
February 9 – 6 inches of snow
March 16 - Governor issues stay at home order due to COVID19
March 30 - Lake Mitchell is open water again.

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 – 26
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

NOTICE 2020

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

IN 2020, 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, Schooner	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	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	Diquat Dibromide	Tribune	1 Day(s)	3 Day(s)	5 Day(s)	1 Day(s)
X	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
X	PLM Blue, Cygnet Select: water dye (tracer), SeClear and SeClear G,: chelated copper, Cygnet Plus, PolyAn: Adjuvant,:, M.D. pellets: gram negative, naturally occurring bacteria.			**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, Jaimee Desjardins, Bill D'Amico, Jeff Fischer, BreAnne Grabill, Dustin Grabill, Steve Hanson, Kyle Heath, Jake Hunt, Adam Kehr, Justin Krueger, Blake Mallory, Michael Pichla, Eric Reed, James Scherer, Alison Schermerhorn, Ben Schermerhorn, Casey Shoaff, Lucas Slagel, Jeff Tolan, Andy Tomaszewski, Dennis Vangessel,

Permit Information Department of Environmental Quality Water Bureau PO Box 30273, Lansing, MI 48909-7773 DEQ-LWM-ANC@michigan.gov

If the big one didn't get away, you're a master angler

Dave Foley

Let's talk about the one that didn't get away. You've got photos with your trophy catch and everyone you know has heard your fish story. What if the whole world could read about your great catch on the Internet? That can happen when your fish qualifies for the Michigan DNR Master Angler program. If it reaches the minimum length standard and they have a photo of it, your name and your catch will be there for anyone perusing the Master Angler page to see. And they send you an embroidered patch.

In checking the Master Angler records on the Michigan DNR website for the last three years, 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.

As I reviewed the data on the DNR Master Angler website, some Mitchell/Cadillac fish ranked in the top ten in their category. Here's a listing of those lucky anglers:

Lake Cadillac

Kyle Thurston, 4th largest northern pike, 41 ¾ inches, 2017
Devin Miller, 4th largest bowfin, 29 ½ inches, 2017.
Riley Flint, 4th largest bowfin, 29 ½ inches, 2017
Michael Harder, 4th largest bullhead, 15 ½ inches, 2018
Randy Sanders, 8th largest bullhead, 14 ¾ inches, 2018
Randy Cornell, 5th largest, 15.1 inches, bullhead, 2019
Nelda Anderson 6th largest, 14 ¾ inches, bullhead, 2019
Jason Clevenger 8th largest, 14.63 inches, bullhead, 2019

Lake Mitchell

Zachery Meeuwenberg 3rd largest, 30 inches, bowfin 2017
Dave Foley, 3d largest, 29 ¼ inches, bowfin 2018
Kenneth Bacha, 6th largest, 22 inches largemouth bass, 2018
Joshau Barnes, 9th largest, 29 ½ inches, walleye, 2018
Ryan Onions, 1st largest, 31 ¼ inches, bowfin, 2019
John Culp , 3rd largest 30 ¼ inches, bowfin, 2019

Channel catfish from Lake Mitchell? According to the record sheet, Dan Smith landed the 8th largest catfish caught in all of Michigan in 2018. I asked DNR fisheries biologist, Mark Tonello about this. He noted that that this was the first he had heard of being caught in our lakes. He suspects it had been a pet that had been released or that it had been accidentally sold with minnows as bait.

Want to enter? Here's the minimum size requirements for Master Angler:

Largemouth bass 22”
Rock bass 11 ½ “
Smallmouth bass 21”
Bluegill 10”
Bullhead 14”
Bowfin 27”
Crappie 14”
Northern pike 40”
Sunfish pumpkinseed) 9”
Walleye 29”
Yellow perch 14”

If you catch a qualifying fish you may release it, but remember to lay a measuring tape along the fish to verify its length and take a clear photo of it. New to the entry process for 2020 is the requirement that all entries must be done online. No printed or emailed entries will be accepted. For more information and the entry blank go to www.michigan.gov/dnr.m There's more than 50 species that can qualify of the Master Angler Patch. Now it's up to you to put your bait in front of the fish.

Lake Mitchell Improvement Board
203 Peninsula Drive
Cadillac, MI 49601