The Lakesider.....Spring 2012

The Annual Newsletter of the Lake Mitchell Improvement Board.

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

Lake Mitchell Improvement Board tentative meeting dates for 2012:
- Monday, April 23 @ 3:00 PM
- Saturday, June 9 @ 10:00 AM
- Saturday, July 21 @ 10:00 AM
- Saturday, August 11 @ 10:00 AM
- Monday, October 1 @ 3:00PM

All meetings are held at the Cherry Grove township fire Hall on M-55. The public is invited to attend.
Contact Lake Mitchell Improvement Board at info@lakemitchell.org.

Lake Mitchell Property Owners' Association Meetings:
- Saturday, May 26 @ 10:00 AM
- Saturday, September 1 @ 10:00 AM

Cherry Grove Township Fire Hall on M-55.

If you received this newsletter, please consider saving the board the $2 it costs to print and mail this newsletter by reading it online at www.lakemitchell.org. (We would rather use our money to fight milfoil than print and mail newsletters). All the contents of the newsletter are available online plus photos, minutes of our meetings, and features about Lake Mitchell not found in our annual newsletter. Email us at info@lakemitchell.org and we will add your email to our list which has over 265 addresses.

Those on our email list are notified about important Lake Mitchell information including days when the lake will be treated as well being alerted to upcoming meetings. If weather events such as floods, ice storms, or heavy snows occur, which could possibly damage property, emails may be sent. These are especially appreciated by Association members who are not lakeside residents. The email list will not be sold or offered to anyone and will only be used for Lake Mitchell Improvement Board and Association business.

Information ONLY on lakemitchell.org
- Photos of native and invasive vegetation and Lake Mitchell activities during 2011-2012
- Lake Mitchell Progress Report (entire report)
- Lake Mitchell By-Laws
- Minutes of Improvement Board meetings

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

Lake Mitchell Progress Report

by Dave Foley

New challenges to weed control program

Hybrid milfoil requires changes in chemical treatment

During the latter part of May, a survey team headed by Jennifer Jermalowicz-Jones from Lakeshore Environmental Inc surveyed Lake Mitchell creating a pattern consisting of 1,986 grid points. At each point the lake bottom was examined, meaning sampling a rake was tossed and dragged to discover what species of aquatic plants are present. If Eurasian water milfoil (EWM) is found, that point is scheduled for chemical treatment. This year 295 acres of EWM was found. By comparison nearly 500 acres were found in 2009 and 400 acres in 2010.

As stated in the Prioritized Goal statement that was passed by the Lake Mitchell Improvement Board on February 11, 2011, the number one goal is stated as follows: *Treatment of Eurasian water-milfoil to maintain navigation in the main lake, maintain a healthy balance of native aquatic vegetation,* and prevent the spreading of nuisance aquatic vegetation.

The full list of goals is on the www.lakemitchell.org website and as well as in this newsletter. To achieve this goal of controlling EWM, $130,000 was budgeted for chemical treatment of weeds.

In the course of surveying Lake Mitchell, for the first time a significant amount of hybrid milfoil was found. Hybrid milfoil are plants that are a combination of EWM and native northern milfoil. The hybrid plant may have a red stem and differs from EWM which has a a green stem. Treatment of hybrid milfoil is problematic since the plant is not killed by Fluridone used at the dosage permitted by Michigan law nor 2,4-D at the 120 lbs per acre level that has been used in previous years at Lake Mitchell. Chemical treatment occurred June 15-17 this year. To eliminate hybrid plants, the 2,4-D dosage was increased to 150 lbs per acre for this year's treatment. Even at that level some patches of hybrid plants survived.

The appearance of hybrid milfoil was not limited to Lake Mitchell. Numerous lakes around the state have reported a similar problem. Jennifer, along with the staff of Lakeshore Environmental, are working with chemical applicator companies to come up with a more effective method of meeting the challenge posed by hybrid milfoil.

In the late summer, A&T Service LLC, the company hired to do chemical application on Lake Mitchell, treated 5 acres of hybrid milfoil in Big Cove at no charge to test Renovate Max G which is a combination of 2,4,-D and Triclopyr 3 @ 150 pounds per care. Checking the area several weeks later, it was found that the Renovate Max 3 had killed the plants.

It was hoped that because fewer acres of milfoil were found this year that less money would be spent on chemical treatment. However, having to use the higher dosage of 2,4-D, (150 lbs per acre this year compared to 120 lbs per acre in previous years) consumed the $130,000 budgeted for chemical treatment. To combat the hybrid plants this year, MAX G 3 will likely be used for all acres found to have EWM.

Weed problems persist in coves and canal

The shallower coves and the canal located near Camp Torenta have had thick build ups of weeds and chladophora algae. To deal with this in past years, the areas were first treated with 2,4-D to kill milfoil and contact herbicides, such as Reward and Renovate, to deal with nuisance native plants. Following this, usually around the last week of June, harvesting was done. Initially the cutting was effective in clearing weed problems but typically by August the native weeds and chladophora had returned.

Seeking a better result, last summer, a stronger chemical, Cutine**,** was applied in a hundred foot band behind boat docks. Clearing the area behind the docks is the number two objective in the Lake Board's *Prioritized Goal Statements* and is done to create open navigation lanes for moored boats. The Cutine effectively killed vegetation in these areas and the weeds did not return during the boating season in the coves. The untreated areas in the middle of the coves grew thick vegetation which lay in mats across the water surface.

In the canal initially the algae control chemical worked creating several feet of open water between the surface and the bottom layer of algae. However, chladophora became problematic in the last weeks of the summer. This probably was due to very low water conditions caused by a extremely dry August. In 2012 the canal will be treated with chelated copper to control cladophora and contact herbicides such as Reward@ and Aquathol-K@ to decrease growth of nuisance native plants.

Lake Board members, association members, and Jennifer viewed the thick vegetation in the coves as a problem. At a January meeting of the Improvement Board, Jennifer proposed to use a new chemical, *Clipper,* in the coves. Tests show that a single application of Clipper eliminates weeds for the entire season. *Clipper,* however, is expensive and using it would probably limit cove work to just what is specified in "Harvest Guidelines, which was amended in 2012 (now renamed as "Weed management Guidelines") and found at www.lakemitchell.org**.**

The installation of a Laminar Flow Aeration System in which pipes and diffusers aerate the water causing organic matter to breakdown. Laminar Flow Systems are being tested in several lakes in central and northern Michigan. More information and a possible workshop for Association members will occur this year. To learn more about Laminar Flow check out the power point on our website found in the "Lakeshore Environmental October Report.'

Native plants abundant in Lake Mitchell

Lake Mitchell, with most of its 2580 acres less than 12 feet deep and having much of its lake bottom covered in decaying vegetation and silt, provides an ideal environment for growing weeds. Although it has always been a weedy lake, the arrival of EWM in the 1990s significantly increased the amount of aquatic vegetation. Whether destroyed by chemical or dying at the end of its growing season, the buildup of decaying plant matter on the lake bottom covered areas of hard bottom that hadn't ever grown weeds before. The acreage of the lake that supported plant growth has significantly increased in the last fifteen years.

Although the acreage of milfoil has decreased by forty per cent in the last two years, areas where EWM used to grow has been replaced by beds of native plants. Jennifer has identified nearly thirty different species of plants, which makes for a very healthy lake. While this can be a boon for fish populations, at times it is vexing to boaters. The DNR does not allow chemical treatment farther than 250 feet from shore to control native plants without a special permit. Lake Mitchell does not have the permit to do this work.

Weevil plantings not succeeding

Using a $10,000 grant from the National Forest Service, 10,000 weevils were planted in Big Cove near the mouth of Mitchell Creek, an area that should be ideal habitat for weevils to survive. Samples collected in 2010 and this year indicate that while some milfoil has been damaged by the weevils, most of the EWM has not been effected. There are no plans to add more weevils.

Phragmites eradicated. Beetles coming for Loosestrife.

Phragmites and purple loosestrife are two invasive plants that grow along Lake Mitchell's wetland shoreline. Phragmites, which looks like monster-sized wheat plants, were found in 2010 near the end of the Camp Torenta Canal and were eradicated through a chemical treatment. If you see phragmites plants in the Lake Mitchell area, please contact us at info@lakemitchell.org.

Purple loosestrife, a plant with magenta colored flowers dominates the shoreline along North Franke Cove and Big Cove. Although some plants are in Little Cove, Jim Vick has undertaken the arduous task of hand pulling and digging out the roots of plants there. As a result the loosestrife infestation is minimal there.

The Lake Board plans to use funds from a grant provided by the Forest service to purchase and plant loosestrife-eating *Galerucella* beetles in Big Cove.

Photos of Lake Mitchell plants, aquatic control on website.

To help you identify loosestrife and phragmites, see the difference of between hybrid and native milfoil as well as other native plants in Lake Mitchell refer to www.lakemitchell.org. We have photos of all of them as well shots of harvesters and chemical applicator boats.

Zebra Mussels rare in Lake Mitchell but Asian Clams appear

Although zebra mussels are abundant in Lake Cadillac, they are hard to find in Lake Mitchell. Jennifer Jermalowicz-Jones of Lakeshore Environmental Inc, speculates that the soft water in Lake Mitchell is not conducive to sustaining a large population of zebra mussels. Asian clams were found in Lake Mitchell this year. Although they are invasive, they do not pose a problem.

Roadside Pickup 2012

The Lake Mitchell Improvement Board will again provide roadside pickup of weeds. Weed hauling begins May 21 and continues through September 7. Aquatic weeds need to be removed from the lakeshore by the property owners and put on the edge of the road. **Only aquatic vegetation will be picked up.** There is no hotline to call; the weed hauler will pick up weeds according to this schedule:
Monday – From the canal north to the roller rink.
Tuesday – From the roller rink along West Lake Mitchell Drive checking all lakefront roads ending with the Camp Torenta loop.
Wednesday – From the canal south and west including all roads with lake front property to the end of Sunrise Point Road.
Thursday and Friday– Days for collecting weeds not picked up during the week.

Compost can be purchased from Ron Klimp (231-775-6577) for $5 per load
If you would like to hire someone to collect and move your weeds from the lakeshore to the roadside, or do yard work, Joe Luis of Luis Maintenance is available. To contact Luis call 779-5895. Northern Sunrise Lawn care and Landscaping 231-775-7740 is also available to help with weed removal.

What is a Lake Board?

The Lake Mitchell Improvement Board was formed in accordance with Michigan's Inland Lake Improvement in 1993.Under provisions of Public Act 451 of 1994, Part 309 as amended), the lake board includes a Lake Mitchell Association member, representatives from Selma Township, Cherry Grove Township, the city of Cadillac, a Wexford County Commissioner, and the Wexford County Drain Commissioner. All board representatives are appointed for indefinite terms, except for the Drain Commissioner who is elected in a county election. If a change in representatives is desired, that should be communicated to the group the individual represents.The Lake Board is empowered to collect special assessments from benefiting properties for approved lake improvements. To determine how the collected assessments will be spent The board established a budget based on the following principles:

Prioritized Goal Statements for the LMIB
The Lake Mitchell Improvement Board developed and established prioritized goals for the three year assessment period that begins July 10, 2010. These were discussed at length by the Board over several meetings and given opportunity for public input. They consist of maintaining the existing program of work and trying to establish a financial reserve to cover any unforeseen increase in our milfoil program.
*Treatment of Eurasian water-milfoil to maintain navigation in the main lake, maintain a healthy balance of native aquatic vegetation, and prevent the spreading of nuisance aquatic vegetation.
*One herbicide or mechanical weed harvest each year according to the Lake Mitchell Weed Management Guideines approved by the LMIB (January 2012) to mainain navigational channels.
* Curbside weed pick-up from approximately Memorial Day to Labor Day.
* Chemically or biologically treat other areas as needed to maintainnavigation,control purple loosestrife, and eliminate Phragmites.
*Establish a financial reserve to cover years with higher than normal weed growth, control new invasive plants, or to reduce future assessments if aquatic weed management continues to be successful. Goal is to build a $60,000 reserve by July 1, 2013.
* Conduct additional herbicide or mechanical weed harvest to maintain navigation if needed and approved by the LMIB.
* Consider up to a 10% financial incentive to support large capitol expenditures that benefit specific areas such as dredging, aeration systems, or other innovative concepts.

Criteria for Lake Mitchell Special Assessment district Approved October 15, 2007

Factors:
1. The Lake Mitchell Special Assessment District includes all properties that have direct access and back lots that have either deeded or dedicated lake access to Lake Mitchell.
2. The Lake Mitchell Special Assessment Roll is based on the assumption that special assessments shall be applied to each parcel number.

Special Assessments will be levied against benefiting properties as outlined below:

1. Commercial Properties are defined as properties open to the public and have the potential to generate revenue for its owner. Commercial Properties with direct access or back lots that have either deeded or dedicated access to the lake shall be assessed as 2 units ($550.00 per parcel based on the present assessment).
2. Non-commercial properties are defined as properties owned by private individual(s) as domiciles or vacant land and shall be assessed according to their direct, deeded or dedicated access to the lake.
3. Non-commercial waterfront properties (including canals) having direct access shall be assessed at the rate of one unit ($275.00 per parcel based on the present assessment).
4. Non-commercial back lot properties that have deeded or dedicated lake access shall be assessed at the rate of one half a unit ($138.00 per parcel based on the present assessment).
5. The owner(s) of condominiums or multi-family domiciles while under construction shall be assessed according to their defined lake access; direct, deeded or dedicated, as one parcel. As each condominium or multi-family unit is sold a new property code shall be established for each unit and assessed according to their defined lake access of direct, deeded or dedicated.

Questions and Answers examples for assessment: (Using existing assessment rate)

1. If a party owns a parcel that has vacant frontage on a park and that lot is not contiguous to another parcel owned by the same party does it qualify for a $275.00 special assessment?
Ans: Assuming these two (2) parcels have different parcel code numbers and the subdivision charter specifies direct access the owner would pay $275.00 for each parcel for a total of $550.00.
2. If a party owns a parcel that is improved and it has a non-improved parcel contiguous to it, does it pay one or two special assessments?
Ans: Assuming these two (2) parcels have different parcel code numbers and both parcels have direct access to the lake, the owner would pay $275.00 for each parcel for a total of $550.00.
3. If a party owns a parcel that is improved and it has more than one dwelling on multiple combined lots registered under one property code. Do we levy one or multiple special assessments?
Ans: Assuming this parcel has direct access to the lake, the Lake Mitchell Special Assessment District will levy one assessment for $275.00.
4. If a party owns adjacent parcel(s) that legally cannot combined because the parcel(s) are in separate subdivision(s) and/or a metes and bounds description and it is stated on the roll that these parcel(s) are to be assessed as one parcel; do they only receive one special assessment?
Ans: Assuming that this anomaly has been research and processed through the Township assessor/treasurer office and the Office of the Wexford County Equalization Department and that this exception has been documented using Lake Mitchell Improvement forms 1-07 or 2-07 and that the property has direct access to the lake, there will only be one assessment of $275.00.
5. If a party owns a parcel that has direct access to the lake and also owns adjacent parcel(s) across the road, do they pay one special assessment if they are on one description (i.e. one parcel number)?
Ans: Assuming that this property has direct access to the lake and is registered on only one property code even though there may be multiple domiciles there will only be one special assessment of $275.00.
6. If a party owns a parcel that has direct access to the lake and also owns adjacent parcel(s) across the road, recorded under separate parcel codes, how many special assessment(s) are levied (i.e. multiple parcel number(s)?
Ans 1: Assuming that these back lot property(s) have either deeded or dedicated access to the lake and are registered on multiple property codes(s) and the front lot with direct access to the lake is recorded under a separate property code there will be one special assessment of $275.00 with an additional special

assessment of $138.00 for each back lot.
Ans: 2: Assuming that these back lot property(s) *do not* have either deeded or dedicated access to the lake and are registered on multiple property codes(s) and the front lot with direct access to the lake is recorded under a separate property code there will be one special assessment of $275.00 with no special assessment(s) for each back lot.
7. APPROVED EXCEPTIONS: The LMIB approved exceptions require the use of forms 1-07 and 2-07. Past CLERICAL errors may be entitled to reimbursement or to back collection, at the discretion of LMIB for a period not to exceed two years.

Drain Commissioner's Corner

By Mike Solomon, Wexford County Drain Commissioner

More Than You Ever Wanted To Know About Lake Levels!

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 <u>any year</u>. 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 statue 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."
3. "Careful management over the past five years indicates that prudent management can generally reduce the level in the fall adequately to prepare for the accumulation of the spring runoff and maintain the lake at a

level which will minimize the summer fluctuation. The dry season of the 1966 demonstrates that even careful controls cannot prevent loss up to a foot in summer evaporation, but the lake has generally been kept above 1289 minimum in every summer of the last five years. The effect of the controls of the past five years have, therefore, been not only to reduce the average annual fluctuation with particular reference to the high, but also to reduce the average summer fluctuation as well." I note here the "past 5 years" appears to indicate the 5 years just preceding the Court Order of 1967.

Judge Peterson goes on to say "It will be the order of the Court that a lake level be established providing for an annual maximum of 1290.0 feet above sea level. It is further recognized that in many years it will not be possible to prevent a temporary rise above this level any more than it has been possible to prevent it in the past. A minimum 1288.9 designated as the winter level is established with the lake to be reduced during the fall with the end in view of reaching said minimum by December 15th of each year."

"The Department has recommended a summer level of 1289.4 above sea level. It's engineer, H. J. Hanes indicated, however, that it would be possible to start the summer at a higher level of 1289.7 without the necessity of a higher spring maximum and the level will, therefore, be established for a summer maximum of 1289.7. It is recognized that summer evaporation will unavoidably cause the lake to fall below this level at the end of summer in any event, but it is deemed desirable, following the hearing and taking into consideration all pertinent interests, not to commence the summer at a level below 1289.7."

I think the most important part of the Opinion of the Court is the fact that the Judge ordered the summer level of the lakes to commence at 1289.7 feet (see above) instead of the Department of Conservation's recommendation of 1289.4 feet. This 0.3 feet (3.6 inches) makes an incredible difference in summer boating use and would be even more critical for late season fishing.

Drain Commissioners have recorded lake levels on Lake Cadillac and Mitchell on a monthly basis since 1975. These data show the lake levels are usually within the levels cited in the Opinion of the Court, though an all time new high was reached on June 18, 2008 with a level 1291.5 feet. This was the result of 11.83 inches of rainfall for the month.

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. Looking at the recent data it appears it is more difficult to reduce lake levels both in the summer and to try to obtain the winter water level. This could be a result of several factors. 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. Additionally there are over 2 million gallons per day in groundwater cleanup being discharged to the Clam River that were not present at the time of the Court Order. There are also obstructions in the river that may impede flows.

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.

I had the privilege of knowing Judge Peterson quite well in the 1970's. His order reflects his thoughtful approach to life. I only wish that I would have known that I would become Drain Commissioner 25 years later and would have picked his mind much more.

I appreciate the help that Jack Linn has provided with assembling and analyzing lake level data and providing a sounding board and recommendations to help with lake level decisions.

Lakes Cadillac and Mitchell 2010 Fisheries Survey Report

Mark A. Tonello, December 2011

Environment

Lake Cadillac is a 1,150-acre eutrophic lake located entirely within the city limits of Cadillac, MI, . Its maximum depth is 28 feet, with approximately 50% of the lake shallower than 15 feet. Lake Cadillac is in the Muskegon River watershed. There is a lake-level control structure on the Clam River just downstream from the outlet of Lake Cadillac. There is very little natural shoreline remaining on Lake Cadillac. Other than one small wetland area remaining on the northern portion of the lake, the shoreline consists entirely of houses, condominiums, roads, or public parks. Lake Cadillac has had issues with Eurasian milfoil in recent years, requiring treatment with 2,4-D.

Lake Mitchell is a 2,580-acre eutrophic lake. Its maximum depth is 22 feet, with approximately 90% of the lake shallower than 15 feet. Lake Mitchell is in the Muskegon River watershed, as the creeks flowing into Lake Mitchell are the extreme headwaters of the Clam River watershed. Most of the Lake Mitchell shoreline is heavily developed with permanent residences. The largest area of natural shoreline is in Big Cove, where the riparian wetland remains intact. That land is owned by USDA Forest Service as part of the Manistee National Forest.

History

Lake Cadillac and Lake Mitchell had self-sustaining walleye populations for many years. However, shortly after the year 2000, anglers began to comment about a decline in the number of walleyes in Lakes Cadillac and Mitchell. Fall walleye electroshocking surveys were done on both Lake Cadillac and Lake Mitchell in 2002 and 2003 to determine whether or not natural reproduction was occurring, and general fisheries surveys were conducted on both lakes in the spring of 2003. Although fair numbers of walleye were caught from both lakes in those surveys, most of them were older fish that had been produced prior to 1999. For some reason, it appears that walleye have not had a strong natural year class on either lake since prior to the turn of the century. Other game and panfish populations looked very healthy in the 2003 netting surveys. Therefore in the summer of 2004, MDNR Fisheries Division personnel stocked 67,549 spring fingerling walleye into Lake Cadillac, and 94,431 spring fingerling walleye into Lake Mitchell . These were the first walleye to have been stocked into Lakes Cadillac and Mitchell since the 1930s. In the spring of 2006, a total of 7.5 million walleye fry were stocked into Lakes Cadillac and Mitchell, and another 20,470 fall fingerlings were added later that year. Nearly 90,000 fall fingerlings were again stocked in 2008. In 2011 another 32,000 spring fingerlings were stocked.

Fisheries surveys have been conducted to assess walleye natural reproduction and the success of the stocking efforts. . Surveys have been conducted in the falls of 2004-2006, and the springs of 2007, 2008, and 2010. Initially the surveys were not productive and few walleye were caught. However, when the surveys were conducted in the spring (2007, 2008, and 2010), more walleye were caught. In particular, the fall fingerling stocking efforts of 2006 and 2008 appeared to have been successful.

Current Status

The most recent surveys of Lakes Cadillac and Mitchell were conducted on April 29, 2010 . On Lake Cadillac, 24 walleye from the 2008 year class and five from the 2006 year class were caught. On Lake Mitchell, 46 walleye from the 2008 year class and six from the 2006 year class were caught. In addition, the spring and summer of 2011 brought some of the best walleye fishing seen in the lakes in a number of years (Steve Knaisal, Pilgrim Village, personal communication). Therefore, it appears that the stocking efforts conducted in recent years by the DNR have been at least moderately successful. While the walleye fishery may not be quite as robust as it was 10-15 years ago, it has again become a viable fishery in which anglers can directly target and regularly catch walleye.

Conclusions

Walleye in Lakes Cadillac and Mitchell still do not seem to be naturally reproducing to the extent that they did throughout much of the 20th century. The reason for this remains unknown, although expanding largemouth and smallmouth bass populations are suspected of limiting recruitment.

The walleye stocking efforts conducted by DNR between 2004 and 2011 have been moderately successful, at least partially restoring the walleye fishery in both Lakes Cadillac and Mitchell. Fishing for other gamefish species, including northern pike, smallmouth bass (Lake Cadillac) and northern pike, and largemouth bass (Lakes Cadillac and Mitchell) continues to be excellent. Fishing for black crappie also continues to be excellent on both lakes, with some decent catches of bluegill, pumpkinseed sunfish, and yellow perch also to be had.

Management Direction

MDNR Fisheries Division will continue to manage Lakes Cadillac and Mitchell for a number of game and panfish species, including walleye. Hopefully, at some point walleye natural reproduction will resume and stocking will no longer be necessary. Until that point we will continue to use stocking as a tool to overcome the current lack of natural reproduction.

Walleye should again be stocked into Lakes Cadillac and Mitchell in 2012. Although fall fingerling stocking efforts have been successful in recent years, fall fingerling walleye production is extremely variable and not always reliable. Therefore, we recommend that spring fingerlings be stocked into Lakes Cadillac and Mitchell. While some walleye were stocked into Lakes Cadillac and Mitchell in 2011, the numbers stocked were well short of stocking goals. Therefore, in 2012, 60,000 spring fingerling walleye should be stocked into Lake Cadillac, and 130,000 spring fingerling walleye should be stocked into Lake Mitchell. If spring fingerlings are unavailable, fall fingerlings can substituted if they are available, including up to 30,000 for Lake Cadillac and 60,000 for Lake Mitchell.

You Can Help Deter Growth of Lake Mitchell Weeds

By Dave Foley

The principle threat to Lake Mitchell's water quality comes from phosphorus, nitrogen, and sediments. While they are naturally occurring elements vital to maintaining living organisms in our lake, excess amounts wreak havoc on the balance of life.

Here's what you can do to protect Lake Mitchell:

1. Use Phosphorus-free fertilizers -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.
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.

2. Create a shoreline greenbelt - A greenbelt is a band of natural vegetation growing along a lake shoreline. 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. **A bushy greenbelt along your shore is the best way to discourage Canada geese from invading your shoreline.**

3. Do not feed the waterfowl – It will only encourage them to reside on your lawn and leave their nutrient rich weed-growing defecation there and in the water.

4. Check to be sure you are not growing loosestrife or phragmites in your garden or on your property. Photos of these plants are on our website.

Lake Cadillac is site of natural Shoreline demonstration.

Last May members of the Natural Shoreline Partnership, along with local volunteers, installed a 100-foot natural shoreline along Lake Cadillac just west of the beach near the Senior Citizens Center. The project included a six-foot wide buffer strip of 900 native wetland and emergent aquatic plants to stabilize soils,slow runoff, and create habitat for fish,frogs,turtles, songbirds,and butterflies. Biodegradable coir log wave-breaks protect the project against wave and ice action

2011 Calendar Year Financial Report

Prepared by Alan Anderson, Treasurer

2011 Income	Jan.1-June 30	July 1-Dec. 31	Total
Interest	201.52	176.39	377.91
Selma Twp Contribution	1,650.00		1,650.00
Summer Assessment		185,624.17	185,624.17
Total	1,851.52	185,800.56	187,652.08

2011 Expenditures	
Roadside Weed Pickup	7,250.00
Lakeshore Environmental Administration	16,000.00
Chemical Treatment	145,070.00
Weed Harvesting	
Cladophora Harvesting	
Bass Tournament Monitor and fish return	
Insurance/Bond	635.00
Service (audit, assessment, permit fees)	2,510.65
Print (mailings, newsletter, website, supplies)	1,792.27
Misc. (Conference registration fee)	
Total	173,257.27

Fund Balance Jan.1, 2011	164,903.15
2011 Revenue	187.652.08
Total	352,555.23
2011 Expenditures	173,257.27
Fund Balance Dec.31, 2011	179,297.96

LAKE MITCHELL 2012 TREATMENT NOTICE

PLEASE TAKE THE TIME TO READ THIS NOTICE: IT IS FOR YOUR INFORMATION!!

RESIDENTS IN THIS AREA ARE PLANNING TO HAVE THE WATERS IN THIS AREA TREATED FOR CONTROL OF LAKE WEEDS AND/OR ALGAE. This notice is being circulated at least 7 days and not more than 45 days in advance of the treatment in accordance with MDEQ procedures. A permit for the treatment has either been secured or will be secured from the MDEQ before the treatments are to begin. You are receiving this notice if you are within 100 ft of the treatment area.

Aquatic Herbicide Applicator Procedures for Weed Control.

If we are treating for weed then there are restrictions on the use of the water and we will post the shoreline with 8.5 x 11 inch signs before these chemicals are applied to the lake. Treatment with the weed chemicals does not occur without posting first.

Each lake is treated according to a schedule or season plan worked out with the persons in charge of your lake treatment program. However, due to the differences in season plans and the uncertainty of weather please watch your shoreline for the posting of the 8.5 x 11 inch signs, particularly in **late April to late August**. **YOUR LAKE MAY BE TREATED MORE THAN ONCE EACH SEASON. CHECK THIS WITH YOUR ASSOCIATION or LAKE BOARD**. The signs will indicate the date of the treatment, the chemicals used, and the restrictions as to the use of the water for swimming, irrigation and the consumption of fish taken from these waters. We use NEW SIGNS for each application.

Only chemicals, which have been registered by the State of Michigan and the Federal Government are to be used. These chemicals are applied in amounts approved by the MDEQ.

Method of Application: Chemicals are applied as either liquid or granular formulation, liquids are either surface sprayed or sub-surface injected, granular formulations are applied with broadcast spreaders.

Another requirement of our permit is that we locate all wells (**when using granular 2,4-D or granular Endothall products Aquathol-K and Hydrothol 191 only**) and maintain a distance of 75 ft from all wells and 250 ft from any well that is less than 30 ft in depth. **IF YOU ARE AWARE OF SUCH A WELL, PLEASE NOTIFY THE LAKE MITCHELL IMPROVEMENT BOARD.**

We anticipate using one or more of the chemicals listed below. Please be aware of the restrictions on each. We will post signs as necessary. If we have not posted it means we are using products that require no posting. If the MDEQ changes any restrictions they will be noted on the signs we post. **PLEASE READ THE SIGNS WE POST!**

CHEMICAL/RESTRICTIONS

Reward (Diquat Dibromide): Do not use the treated water for swimming for 24 hours. Do not use the treated water for watering lawns or gardens, animal watering (farm stock–not incidental drinking by a domestic pet), or drinking for 5 days after treatment. There is **NO** restriction on fish consumption.

2,4-D(Dichlorophenoxyacetic Acid,Butoxyethl Ester): Do not use the treated water for swimming for 1 day. Do not use the treated water for irrigation, agricultural sprays, watering dairy animals, or domestic water supplies. "Irrigation" includes water gardens--however, it does **NOT** include watering lawns. 2,4-D is often used by lawn spray companies to kill weeds in lawns–watering lawns when only 2,4-D has been applied will not hurt your lawn (but see restrictions on the other products). "**Domestic use**" means using lake water inside your house. Fish and wildlife are not effected. There is no restriction on fish consumption.

Renovate (Triclopyr)

Do not use the treated water for swimming for 24 hours. Do not use the treated water for irrigation for **120 days** following application. As an alternative to waiting 120 days, treated water may be used for irrigation once the Triclopyr level has reached a non-detectable level. This can be done by laboratory analysis (immunoassay). **There are no restrictions on the use of water from the treatmented area to irrigate established grasses.**

Aquathol-K,Aquathol(Dipotassium Endothall), & Hydrothol 191 (Mono(N,N-Dimethylalkylamine) salt of Endothall:

Do not use the treated water for swimming for 24 hours. Do not use the treated waters for household uses, irrigation (lawn or gardens), animal watering (farm stock), or similar uses for 14 days.

Cutrine-Plus(Cutrine Alkanolamine Chelated Copper Complex) NO RESTRICTIONS.

Cygnet Plus (adjuvant) NO RESTRICTIONS

Clipper (flumioxazin) No swimming, drinking, fishing restrictions; Minimum 5 day irrigation restriction.

If you have any questions, please contact the Lake Mitchell Improvement Board who is in charge of the treatment. Visit their website for the most updated information at: http://www.lakemitchell.org

A Year on Lake Mitchell – Events from 2011
February 2-3 Blizzard-like conditions drop 9 inches of snow.
March 23 - Late season storm brings 10 inches of snow.
March 25 - Coldest morning of winter -13
April 8 - Last day for safe ice fishing. Longest fishing season in memory.
April 11- Ice goes out after spectacular warm up.
April 20 - 3 to 7 inches of wet snow closes schools.
April 26-28 - Three days of rain raises lake. Lowland flooding occurs.
June 15-17 - Chemical treatment of 295 acres of Eurasian water milfoil
July, August - Summer is hot and dry. Numerous days in the low 90s.
September – Dry month drops water level to lowest since 2007.
October – Wet autumn brings water levels back to normal.
December 10 - Lake Mitchell freezes
December 15 - All ice disappears on lake
December 17th - Lake Mitchell refreezes
December 25 - Barely a white Christmas - 1" of snow on the ground.
2012
January 1-2 Winter begins. Snowstorm drops six to eight inches.
January 13 - Temp reaches 50. Snow disappears. Bicycles return to roads.
January 14 – Winter returns.

Lake Mitchell Improvement Board
203 Peninsula Drive
Cadillac, MI 49601