The Lakesider……Spring 2010

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 Association Officers

Website of the Lake Mitchell Improvement Board: www.lakemitchell.org

Lake Mitchell Improvement Board tentative meeting dates for 2010:
- Monday, April 26 @ 3:00 PM
- Saturday, June 12 @ 10:00 AM
- Saturday, July 24 @ 10:00 AM
- Saturday, August 14 @ 10:00 AM
- Monday, October 4 @ 3:00PM

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

Lake Mitchell Property Owners' Association Meetings:
- Saturday, May 29 @ 10:00 AM
- Saturday, September 4 @ 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 220 addresses.

Those on our email list are notified about important Lake Mitchell information including days when the lake will be treated, and harvested, as well being alerted to upcoming meetings. If important news happens emails are sent. When heavy snow threatened to crush roofs winter of 2008, emails were sent and especially appreciated by Association members not living on the lake. Information was also sent about the algae bloom and snail die-off that occurred last summer. The email list will not be sold or offered to anyone and will only be used for Lake Mitchell Improvement Board and Association business.

LMIB Lake Levels and Water Quality -- 2009

Water levels: We had another wet year in Water Year 2009 which runs from October 1, 2008 to September 30, 2009. The water year coincides closely with the hydrologic cycle that Hydrologists use to balance water systems. In 2009 we received 36.92 inches of precipitation including snowfall converted to water compared to a long term average of 30.81 inches. This is about a 20% increase over normal conditions. This obviously has an impact on lake levels and most months were close to the 1290.0 feet mean sea level that the courts set for a spring goal. Right now because of a dry early winter we are at 1289.60 feet which gives us a 0.4 feet or almost 5 inch buffer to absorb winter snow accumulations and spring melt. Hopefully we will drop another 0.25 feet before spring melt. The dam is wide open and has been since early October. It takes a long time to pull approximately 4,000 surface acres of water through a 30 foot structure!!!

Water Quality: We now have eight (8) years of water quality data that we have collected on Lake Mitchell. This is a very good base level of data to measure any future changes in lake water quality. Most of our water quality parameters have stayed pretty steady in the "good" range but we did see some potential problem areas. Many of us are aware of the algal bloom that was the worst any of us can remember that occurred last summer. We all remember it as the "pea soup" weeks. This corresponds to the highest phosphorous levels that we have recorded on Lake Mitchell in the eight years of sampling. Algal blooms seemed to be wide spread in inland lakes in Michigan last year so at least we had company!!! All 4 of the lakes that we sample in Wexford County (Mitchell, Cadillac, Berry and Stone ledge) had the highest phosphorus levels ever recorded. I feel it may be related to the flood of June 13, 2008 and a flushing of nutrients from surrounding wetlands over time due to the high water levels that we experience throughout 2008 and 2009. I don't have empirical data to support that, but because the blooms were so wide spread, it seems to be a logical conclusion.
Let's all remember to use phosphorus free fertilizers, consider buffer strips and other management techniques which minimize our impacts to the lake. We all look forward to a warmer summer and good times on the lake in 2010. If you have any questions concerning drain issues, please call at 231-779-9110.
Mike Solomon, Wexford County Drain Commissioner

A Year on Lake Mitchell - 2009

January 12-18- Coldest week in a decade lows range from -7 to -22.
February 20- Cadillac reaches 207 inches of snow. The most since records were began in 1960s.
April 4 - Ice goes out ending snowiest coldest winter of the decade.
April 5 – Sod island breaks loose in Little Cove and drifts across lake.
April 15 – *Lakesider* newsletter mailed. www.lakemitchell.org updated.
May 15 – Large snail die-off occurs, probably because of sudden change of lake water temperature.
May 18 –Roadside pickup of weeds begins
May 28-31 – Lakeshore Environmental Inc conducts 990 GPS point survey of Lake Mitchell and finds 412 acres of Eurasian water milfoil (EWM).
June 2-4 – Initial chemical herbicide treatment.
June – Dredging begins in South Franke Cove in $119,000 project financed by cove property owners.
June 9 - Major algae bloom covers lake for six weeks. Algae isn't just on Mitchell, the bloom occurred on many lakes throughout the state.
June 24 – Temperature hits 90 degrees for the only time of what will be remembered as a cold summer.
June 25 – Harvesting begins in coves.
July 10th – 10,000 milfoil-eating weevils put in Big Cove by Mitchell Creek.
August 2-4 - Harvester returns
August 11 –Survey finds of 55 acres of EWM. Twenty acres located where 2-4-D was used in June along with 35 acres of new plants.
September brings the warm weather July and August didn't provide.
September 10 – Roadside pickup of weeds ends.
October - Twice the average rainfall. Temperature averages 10 degrees below normal degrees.
November was unseasonably warm.
December 8 – Lakes Mitchell and Cadillac freeze 2 weeks later than usual.
December 9-10 – Schools close for two days as 12-15 inches of snow falls.

2009 Financial Record

2009 Income	Jan.1-June 30	July 1-Dec. 31	Total
Interest	449.87	313.04	762.91
2009 Collections from 2008	73,078.59		73,078.59
Summer Assessment		175,459.56	175,459.56
USFS Weevil Grant		10,000.00	10,000.00
Total	73,528.46	185,772.60	259,301.06

2008 Expenditures	
Roadside Weed Pickup	8,500.00
Progressive Engineering Administration	13,500.00
Chemical Treatment	129,525.00
Weed Harvesting	12,571.70
Milfoil Weevils	13,523.28
Bass Tournament Monitor and fish return	0.00
Insurance/Bond	645.00
Service (audit, assessment, permit fees)	2,480.00
Print (mailings, newsletter, website, supplies)	2,221.31
Misc. (1/2 conference fee)	30.00
Total	**182,996.29**

Fund Balance Jan.1, 2009	**69,179.75**
2009 Revenue	**259,301.06**
Total	**328,480.81**
2009 Expenditures	**182,996.29**
Fund Balance Dec.31, 2009	**145,484.52**

The $145,484.52 end-of-year balance will be used towards payment for chemical treatment, harvesting, and other expenses incurred from January 1st to July 1st, 2009.

The LMIB has approved a transition from a calendar year budget to a fiscal year budget from July 1, 2010 through June 30, 2011. This will make our budget and record keeping consistent with the Townships. A 6 month transition budget has been prepared for January, 2010 through June, 2010.

Fishing through the Seasons on Lake Mitchell – 2009

Spring (April and May): Typically the ice goes out around April 10. The first warm blast of spring air brings crappies into the shallow waters of the coves where they are catchable using plastic grubs and pin minnows under bobbers. Anglers also flock to the Causeway on Lake Cadillac. As the water warms the pike get active and are ready to inhale Mepps type spinners, crank baits, spinner baits, and big minnows swimming under bobbers. Look for northerns in the emerging weedbeds and in the coves. If the spring is warm, bluegills will become active in the shallows late in May. Sunfish are often more eager to bite than bluegills in the spring. The walleye fishery, though not what it was twenty years ago, is coming back. Dark days and nights are most productive, with most fish being taken along the south and east shores. Casted and trolled crankbaits as well as night crawler harnesses work best. .

Summer (June, July, and August): The bass typically finish spawning in early June, while the bluegills continue to bed throughout the month. With bass season opening Memorial Day weekend, the tournaments return and these anglers know where to find bass. Watching them may give you an idea where to fish and what to use. On warm summer nights, try fishing top water and large blade spinnerbaits for largemouth bass.
Pike continue to be active though most of the larger fish have moved into the main lake weed beds. After spawning, bluegills and crappies move to deeper water. Savvy fishermen keep trying different spots until schools of larger fish are found. Look for the edges of weed beds and pockets in the vegetation, especially milfoil, to find summer fish. Using artificial grubs, tubes with weed guards, and spinner baits allow anglers to fish in the weeds.

Fall (September, October, November): Fall is a feast or famine time for fishermen as changing weather and water temperatures affect the fishes' propensity to bite. The first cold snap after Labor Day often gets bass and pike biting. As weeds die and drop, crankbaits can be used again. Typically you catch fewer fish this time of year, but they are often bigger. Look for bass to be active on bright warm days. Smallmouth move to 4' to 6' feet flats over sandy bottom. After dark, walleyes are at their best and readily take crank baits retrieved slowly by fishermen wading out in front of the canal and shorelines near drop offs.

For up-to-date fishing information check with Steve Knaisel at PilgrimVillage on M115 or Jim Anderson at Schaefer's Bait on M55.

Winter (December, January, February): Winter is the best time of the year to catch pike over 30". To find pike, set up out from the mouths of Big, Little, and Franke coves or try the north end of the lake. Tipups and spear anglers do the best. Spear season now runs from December 1 through March 15. New regulations now permit anglers to use three lines (or tipups). The Big Cove area produces bluegills using wax worms, maggots, and grubs. Minnows are the bait of choice for crappies which can be found almost anywhere in the lake. Crappies often bite best and dusk and on into the night. Be sure to move bait to different depths since crappies suspend.

2010 Lake Management Plan for Lake Mitchell Summary

Written by Jennifer Jermalowicz-Jones, consultant for Lakeshore Environmental Inc.
Summarized by Dave Foley. Unabridged report will be at www.lakemitchell.org.

Lake Mitchell Report for 2009

Lake Mitchell has three major tributaries including Mitchell Creek, Brandy Creek, and Gyttja Creek. These were monitored in May 2009 for water quality parameters such as total phosphorus, pH, water temperature, conductivity, salinity, oxidative reduction potential, dissolved oxygen, and total dissolved solids. Recent surveys indicate that the lake is eutrophic, with low (5 feet from Secchi Disk reading) water clarity, elevated nutrients levels for phosphorus, and excessive aquatic plant (macrophyte) growth.

Brandy Brook in Little Cove contributed the highest total phosphorus concentration, followed by Gyttja Creek, and Mitchell Creek. The higher flow rate of Mitchell Creek allows that creek to contribute the highest phosphorus loads to the lake.

Eurasian Watermilfoil was introduced to the Untied States in the 1950s and currently exists in 33 states. Eurasian milfoil is among the first species to germinate in lakes after the ice melts and quickly forms a dense surface canopy that impedes the necessary light for more favorable aquatic plant species. Eurasian Watermilfoil reproduces by seed and fragmentation and may even hybridize with native milfoil species. At present, there appears to be hybrid milfoil in certain areas. The use of systemic herbicides such as 2-4-D and triclopyr (Renovate) in early June 2009 to control approximately 380 acres of the plant were successful. Systemic herbicides kill the entire plant including roots. The acreage was determined through a 990-point GPS aquatic plant survey during May 28-31. The survey detected 24 native aquatic plants, which consisted of 14 submerged, 4 floating-leaved, and 6 emergent (growing in wetlands) species. Four exotic species were found including Eurasian Watermilfoil found in 22% of grid points and Purple Loosestrife found around the shoreline of Big and Little Coves. The Giant Common Reed (Phragmites) and Yellow Iris were found during an August 12 post-treatment survey.

Mechanical harvesting allowed for the removal of nuisance native aquatic plants (approximately 49 acres of pondweeds and some lily pads) in all of the coves and along the northeast shore near Hiawatha Park. Harvesting began nearly four weeks after the Eurasian Watermilfoil was successfully treated and the dying milfoil was no longer a threat to spread by fragmentation.

Ten thousand milfoil-eating weevils were planted near the mouth of Mitchell Creek in early July. Samples of milfoil were taken in the fall to determine how effective the weevils have been. Preliminary results were encouraging and tests will continue in 2010.

The exotic Banded Mystery Snail experienced a large die-off in May 2009, which is a natural occurrence for snails when a rapid warming of the water occurs. Since the primary food source of snails is organic matter, it is not surprising that a large population exists in Lake Mitchell, which has high quantities of dissolved and particulate organic matter.

Management Objectives and Activities for 2010

1) Treatment of milfoil areas determined by 990-point GPS survey in late spring with systemic herbicides.
2) Mechanical harvesting of coves and specific areas of the main lake as determined by Harvesting Guidelines developed by a committee of Lake Association members and approved by the Improvement Board in November 2009.
3) Removal of nuisance Cladophora algae in the Camp Torenta Canal with either the use of algaecides and/or a mechanical harvester.
4) The application of the Galerucella beetle to areas infested with Purple Loosestrife in Big and Little Coves.
5) The application of systemic herbicides to the Phragmites located at the southern portion of the Camp Torenta Canal in the wetlands.
6) The continued monitoring of water quality.

7) Oversight of herbicides and harvesting treatments by the Consultant.
8) Continued distribution of newsletter, as well as maintaining the www.lakemitchell.org website and correspondence with the lake association members' email list.
9) Conduct Public Hearings in January of 2010 to determine the future of the Lake Mitchell Improvement Board.
10) Continuation of roadside pickup program from May 24 through September

Lake Mitchell Improvement Strategies

A. Mechanical Harvesting/Weed Cutting and Removal

Mechanical harvesting/cutting is generally preferred over herbicide use when submerged weeds cover large areas because vast quantities of decaying vegetation matter contribute significant organic matter to the lake bottom. Mechanical harvesting rarely removes the plants from the roots; however it does remove the majority of the plant biomass if conducted properly. Because Eurasian Watermilfoil spreads by fragmentation, harvesting is not recommended near this plant when it is living. Chemical treatments are applied to Eurasian Watermilfoil about two weeks before it is harvested. The majority of harvesting is conducted in water that is less than five feet deep. Approximately 49 acres of nuisance plants were harvested in 2009.

B. Aquatic Herbicides and Algaecides

The Natural Resources and Environmental Act of 1994 mandates that a permit be acquired from the MDEQ prior to all aquatic herbicide treatments. There are two category of herbicides; Contact and Systemic. Systemic herbicides kill the entire plant and Contact herbicides kill only the shoot portion of the plant. Algaecides kill algae. The use of systemic herbicides such 2-4-D and Triclopyr (Renovate) is recommended to maintain control of Eurasian Watermilfoil. Algal blooms were prominent in 2009 and BMP's to reduce nutrient loads to the lake will be investigated in 2010.

C. Biological Control

The introduction of 10,000 weevils into a 2½ acre area (marked with orange buoys) of Big Cove near Mitchell Creek in July was largely paid for by a $10,000 grant from the National Forest Service. The weevil lays its eggs in the stem portion of a milfoil plant then burrows into the stem and eats plant tissue. The milfoil stems lose their support and fall to the bottom of the lake. Future stockings in Lake Mitchell will depend on the success of the 2009 planting.

D. Aquatic Vegetation Surveys

The Lakeshore Environmental, Inc. staff will conduct spring and fall 990 point GPS point surveys in order to assure that Lake Mitchell retains a balance and diversity within its native aquatic plant system as well as controls exotic plants such as Eurasian Watermilfoil, Purple Loosestrife, Yellow Iris and phragmites.

E. Watershed Monitoring

The Lake Mitchell watershed is approximately 23,315 acres, which is nine times larger than the size of the lake (2,580 acres). Water entering from its three major tributaries contributes significant nutrient loads to the lake. These tributaries were monitored and will continue to be tested to note changes in nutrient loading.

F. Lake Mitchell Water Quality Monitoring

At several points in the lake water, quality tests were conducted and these will be continued in 2010. This will yield information that will allow trends in water quality to be noted and, if needed, aquatic management practices can be adjusted.

Lake Mitchell Weed Harvesting Guidelines

Developed by a committee chaired by Board member Alan Anderson, and composed of Association members with residences on cove and main lake shoreline in August of 2009.

The Lake Mitchell Improvement Board (LMIB) will harvest lake weeds, as appropriate and as resources permit, according to the following guidelines:

Areas requiring harvesting: In areas out from docks and boat lifts where a motorboat's ability to make progress is hindered, mechanical harvesting of weeds (other than Eurasian Milfoil) is the preferred method of removal. A Consultant/limnologist will identify these areas by using knowledge of harvesting history, weed conditions, and a pre-harvest survey. For weeds immediately between and around docks and/or boat lifts, removal and cleanup is considered the responsibility of the dock and/or boat lift owner.

Consultant Responsibilities: Based upon prior Lake Mitchell harvesting experience and current knowledge of weed conditions, the Consultant will determine the extent (in acres) of the weed harvesting required, and make a recommendation to the LMIB.

- With LMIB approval, the Consultant will distribute a harvesting bid specification document to potential harvesting contractors.
- Weed Harvesting Guidelines will be included in the document that is distributed.
- Once bids are received and one is accepted by the LMIB, the Consultant will conduct a pre-harvest survey and provide the Harvesting Contractor with clear maps and specific directions as to where harvesting is to be conducted.
- The Consultant will oversee harvesting, and conduct a post-harvest inspection to ensure satisfactory performance by the Harvesting Contractor.
- Once satisfactory performance is determined, the Consultant will request payment to the Harvesting Contractor.
- The Consultant will also determine the need for any additional follow-up after initial harvesting, identify the appropriate means of treatment (whether subsequent harvesting or chemical treatment), and provide these recommendations to the LMIB.

Note: Our current Consultant is willing to invite a lake lot representative to participate in the post-harvest inspection. A representative will be identified by the LMIB, and it will be incumbent upon the representative to meet the schedule of the Consultant.

Extent of harvesting: For larger coves, harvesting will extend 100 feet out from existing docks. The Consultant will determine the length or extent of this 100 ft wide harvest (a channel parallel with the shoreline) as part of the pre-harvest survey.

- The Consultant may identify other areas on the lake that require harvesting, and the same guidelines will apply.
- Initial harvesting may be followed by an appropriate chemical treatment and/or additional harvesting, as again determined by the Consultant, and as approved by the LMIB.
- The intent of harvesting a 100 ft wide segment that leads to open water is to preclude the need for the additional harvesting of navigation lanes.
- For smaller coves not exceeding 5 acres, harvesting needs will also be identified by a Consultant directed pre-harvest survey, and the same guidelines will apply***.***
- The need for any potential follow-up (re-harvesting or chemical treatment), will be determined by the Consultant, in conjunction with the LMIB.

Time and locations of harvesting: Every attempt will be made to have harvesting completed before the 4th of July holiday weekend. Specific areas identified for harvesting, and the harvesting schedule, will be posted on the LMIB web site and/or distributed via email to lake residents.

Control of lily pads: To minimize the expansion of lily pads, a cut along the outer edge will be made at a point determined by the Consultant.

Roadside Pickup

The Lake Mitchell Improvement Board will again provide roadside pickup of weeds. Weed hauling begins May 25 and continues through September 9. 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.

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.

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 mechanical weed harvest each year according to the harvesting guidelines developed by the LMIB weed harvesting committee to maintain navigational channels.
- Curbside weed pick-up from approximately Memorial Day to Labor Day.
- Chemically or biologically treat other areas as needed to maintain navigation, 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, 2012.
- Conduct additional mechanical weed harvest to maintain navigation if needed and approved by the LMIB.
- Improve fisheries by operation of a bass release boat, planting of fish, fish habitat restoration or improvement with concurrence of the MDNRE.
- 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.

Weed Control Starts at Home

The principal 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 of phosphorus, nitrogen, and sediments wreak havoc on the balance of life.

To increase weed growth in our lake use fertilizers containing phosphorus and nitrogen on your lawn. 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. If you take a soil sample to the Michigan State Extension Office 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 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.

A shoreline greenbelt removes nutrients before they reach the water. 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.

The problem with seawalls: Standing on a seawall and watching the waves rebounding off, you note that the turbulence stirs up the water and bottom sediment. The US Fish and Wildlife Service notes that "Shallow waters provide nursery habitat for fry and young-of-the-year fish and habitat for a greater variety of animal fauna than for all other aquatic zones." In other words, the shallows of inland lakes are the most biologically productive areas. Seawalls, especially those with little or no rock riprap, create virtual "biological deserts." Natural materials are preferred where actively eroding shoreline justifies protective measures. Construction should follow the natural shoreline contours and minimize the use of steel, wood, or vinyl. Flat or corrugated material reflects almost all of a boat wake's wave energy back into open water accentuating erosion. If a straight-sided seawall is in place, it should be faced with riprap. Rock riprap is generally more effective at dispersing wave energy and costs substantially less than wood or steel seawall. If rock riprap is used as a seawall, it should be placed over a geo textile material to keep soil from flowing through the seawall.

Phragmites found on Big Cove: A ¾ acre patch of Phragmites, an invasive plant, also known as the common reed is growing in Big Cove where the Camp Torenta Canal enters the lake. The Lake Mitchell Improvement Board has budgeted $1000 to chemically treat this patch. Sometimes sold as ornamentals, these plants often are found in gardens and yard vegetation. This wetland grass grows from six to fifteen feet tall and thrives in lowland areas, roadside ditches, and along shorelines. The plant grows in dense stands and crowds out other beneficial native wetland vegetation. If you think you have found phragmites, please contact the Lake Mitchell Improvement Board. If allowed to spread into a wetland, phragmites can become the dominant plant and prove harmful to animals, birds, fish and amphibians that reside in these lowland areas. The plant spreads by fragmentation and its extensive root system makes it difficult to control. Phragmites has flat green leaves that alternate along the stem and a distinctive purple-brown seed head with plumes that appears in late July. Phragmites can be controlled using herbicide treatments followed cutting or mowing. There is currently no biological control of phragmites.

Purple Loosestrife threatens wetlands: The Lake Mitchell Improvement Board has allocated $5000 from its 2010 budget to purchase *Galerucella* beetles which eat purple loosestrife. The beetles will be planted in Big Cover where purple loosestrife, whose beautiful, but unwanted magenta flowers create a real threat to the health and survival of that wetland shoreline. Wetlands are the most biologically diverse productive component of our ecosystem. Numerous species of plants, birds, mammals, reptiles, insects, fish, and amphibians rely on healthy wetlands for their survival. However when purple loosestrife gets a foothold, the habitat where fish and wildlife feed, seek shelter, reproduce and raise young, quickly become choked under a sea of purple flowers. Loosestrife plants are also found in other parts of the lake and occasionally in gardens. If you know of loosestrife plants, they should be destroyed. To remove plants, dig out the root system and then place the entire plant in a plastic bag so as to not spread the seeds which can be shaken off the flowers.

LAKE 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 Department of Environmental Quality (ISO) procedures. A permit for the treatment has either been secured or will be seared from the DEQ before the treatments are to begin. You are receiving this notice if you are within 100 ft of the treatment area.

-**Our company does two types of treatments: Algae control and Weed Control**.
If weare treating for weeds (including lake dye) then there are restrictions on the use of the water and we will post the shoreline with 14 x 11 inch yellow, signs before these chemicals are applied to the lake. In some cases we treat for both algae and weeds. In those cases we may be treating with the copper products while the signs are being posted. We do not treat with the weed chemicals without posting first.
-We treat each lake 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 14 x 11 Inch yellow signs, particularly in **April, to late August**. **YOUR LAKE MAY BE TREATED MORE THAN ONCE EACH SEASON. CHECK THIS VKITI YOUR ASSOCIATION**. 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 bean registered by the State of Michigan and the Federal Government, are to be used. These chemicals are applied in amounts approved by the DEQ.
Method of Application: **Chemicals are applied as either liquid or granular formulation, liquids we 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 OUR OFFICE.**
-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 DEQ charges 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): 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-detecable level. This can be done by laboratory analysis (immunoassay). **There are no restrictions on the use of water from the treatment 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.
SONAR/AVAST(Fluridone): Do not use the treated water for swimming for 1 day. And do not use water for irrigation (turf-non food crops for 30 days.Them Is no restriction on fish consumption. When using Fluldone there may be more than one treatrnent bumping the concentrations back up.
Rodeo,Eagre(Glyphosate): Rodeo is used primarily for lily and cattail control. There is a 1-day no swimming restriction. There is no restriction on watering or fishing.
Copper Sulphate(Pentahydrate), Cutrine-Plus(Cutrine Alkanolamine Complex). **NO RESTRICTIONS.**
Nautique(Copper Carbonate): 24 hours No swimming.

If you have any questions, please contact the homeowners association or Board who is in charge of the treatment. If they cannot answer your ouestions we can be reached at the number below.

A&T Service, LLC
P.O. Box 121
Spring Lake, MI 49456
Phone: 616-638-6794

Michigan DNR personal watercraft regulations (2010)

Who may operate a personal watercraft:

- No one under twelve years of age may operate a PWC.
- 12 and 13 year olds may operate a PWC only if they have obtained a boater's safety certificate prior to 1/1/1999 **or**
- Accompanied by a parent or guardian and both have a boater's safety certificate.
- PWC equipped with a lanyard-type ignition safety switch and the adult has the switch attached to them.
- The PWC is designed to carry two persons.
- 14 years and older must have a boater safety certificate unless they were born before 12/31/78. Those individuals need no certificate.

While most operate their Wave Runners responsibly, those who race close to shore, docks, and other boats frustrate and anger lake users.

PWCs must be operated at slow no-wake speeds under these conditions:

- Within 150 feet behind boats other the PWCs.
- In less than 2 feet of water.
- All watercraft must be operated at slow no-wake speed within 100 feet of docks or rafts, marked swimming areas, people in the water, moored or anchored vessels, and shorelines.

Michigan Law makes it illegal to run personal watercraft in the last hour after sunset or before 8 AM.

New state law makes it illegal to launch a boat with an aquatic plant attached.
A summary of the bill is as follows: *A person shall not place a boat, boating equipment, or boat trailer in Michigan waters with an aquatic plant attached. A law enforcement officer may order the owner or operator to remove aquatic plants from the boat, boat trailer, or equipment. The DNR shall prepare a notice that contains the summary of this law and make it available to owners of public boat access sites, who are required to post it and maintain it. A person who violates this law may be ordered to pay a civil fine of not more than $500.*

This bill helps stop the introduction of invasive plants into Michigan waters. **To report unsafe or illegal PWC or boating activities call Wexford County Sheriff at 779-9211or DNR at 1-800-292-7800.**

A complete listing of boating regulations is listed at www.boat-ed.com/mi/handbook as well as at the DNR and Sheriff offices.

What you can do to keep Invasive species out of Lake Mitchell

INSPECT your boat and your equipment and remove all weeds from your trailer propeller, anchor, and any other place found on your boat.

1) **DRAIN** all water from the boat motor, bilge, live well, and bait buckets on dry ground.
2) **DISPOSE** of leftover bait in a trash receptacle, not in the water.
3) **RINSE** your boat and all fishing equipment with hot tap water, OR thoroughly dry your boat outdoors for at least five days before traveling to a new lake or stream.
4) **TEACH** and help others to do the same.

Ten things you can do to protect Lake Mitchell

1. Wash, drain, and clean your boat to keep invasive species out of the lake. (See MDNR boating regulations.)
2. To guard against introducing VHS fish virus, only use minnows bought at authorized bait shops or ones caught in Lake Mitchell.
3. Check to make sure you aren't growing phragmites plants in your yard. This invasive plant will destroy our wetlands. (See "Weed control starts at home.")
4. Use phosphorus-free fertilizers. (See "Weed control starts at home" section.)
5. Practice catch-and-release with walleyes to help rehabilitate that fishery.
(See "Lake Mitchell 2009 Fishing Report")
6. Develop a greenbelt along your shoreline (See "Weed Control starts at home.")
7. If a seawall is needed, consider using only rock or seawall with rock rip rap to minimize wave action erosion. (See "Weed Control starts at home.")
8. Do not feed waterfowl to help prevent swimmer's itch. (See "Swimmer's itch" section on website.)
9. Remove purple loosestrife from your shoreline. (See "Weed control starts at home."
10. Do not rake leaves or deposit lawn clippings into the lake.

Lake Mitchell Improvement Board
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