

# ***The Lakesider.....Spring 2011***

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

### **Lake Mitchell Improvement Board**

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Terry Meech  
Secretary

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

### **Lake Mitchell Improvement Board tentative meeting dates for 2011:**

- Monday, April 25 @ 3:00 PM
- Saturday, June 11 @ 10:00 AM
- Saturday, July 23 @ 10:00 AM
- Saturday, August 13 @ 10:00 AM
- Monday, October 3 @ 3:00PM

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

### **Lake Mitchell Property Owners' Association Meetings:**

- Saturday, May 28 @ 10:00 AM
  - Saturday, September 3 @ 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](http://www.lakemitchell.org). (We would rather use our money to fight milfoil than print and mail newsletters). All the contents of the newsletter are available online plus photos, minutes of our meetings, and features about Lake Mitchell not found in our annual newsletter. Email us at [info@lakemitchell.org](mailto: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, and harvested, as well being alerted to upcoming meetings. If important news happens emails are sent. When high winds on October 26-27 toppled trees downing power lines, and on December 12 when 14 inches of snow fell, emails were sent and especially appreciated by Association members not living on the lake. 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](http://lakemitchell.org)

- Minutes of all LMIB meetings 2005-2011
- Lake Mitchell Shoreline Soils Map
- Lake Mitchell Annual Progress Report – Lakeshore Environmental, Inc.
- History and Facts about Lake Mitchell
- Lake Mitchell Weather Forecast

## **Lake Mitchell Annual Progress Report**

The Lake Mitchell Improvement Boards consultant, Jennifer Jones-Jermalowicz of Lakeshore Environmental Inc gave her annual Progress Report to the Board on February 22, 2011. The report in its entirety is found at [www.lakemitchell.org](http://www.lakemitchell.org). Information from that report has been used in several feature articles in this newsletter as well as in the following paragraphs.

Based on water samples collected from the deep basins on the lake on August 9, 2010, Lake Mitchell is eutrophic meaning that water clarity is low (about six feet as measured by Secchi disk), that there are elevated levels of nutrients such as phosphorus, and there is excessive aquatic plant growth.

Systemic herbicides such as 2-4-D and Triclopyr, were used in early June and mid-July to control approximately 357 acres of Eurasian Watermilfoil. The acreage was determined through a rigorous 1,686 point GPS aquatic vegetation survey during the week of June 8 and a post-treatment survey of the same points on September 12. The survey detected 27 native aquatic plant species, consisting of 18 submerged, 3 floating-leaved, and 6 emergent species. Eurasian Watermilfoil was present in 17% of the grid points.

Management objectives and activities for 2011 should include: 1.) Treatment with systemic herbicides of milfoil areas discovered in spring 2011 GPS survey. 2.) Mechanical harvesting of coves and main lake areas according to LMIB Harvesting Guidelines (projected to be about 24 acres) 3.) Removal of *Cladophora* in the canal (approximately 5 acres) with either use of algaecides or mechanical harvester. 4.) Application of *Galerucella* beetles to areas infested with purple loosestrife (approximately 5 acres) 5.) Application of systemic herbicide to *Phragmites* at south end of Torenta Canal if necessary. 6.) Continued monitoring of water quality in Lake Mitchell 7.) Oversight of all herbicide and harvesting treatments by the consultant.

During early July of 2009, approximately 10,000 weevil units were placed into 2.5 acres of milfoil located at the mouth of Mitchell Creek in Big Cove. No stocking was done in 2010. The program will be reevaluated in 2011.

### **Answers to commonly asked questions**

#### **How long should we wait before watering gardens and lawns after a chemical treatment?**

It should be safe to water in about a week. The restriction on the notice indicates about four months which is appropriate in a small body of water, but the water dispersal in a large lake like Mitchell is rapid.

**What can be done about ducks and geese defecating on our lawn?** Water fowl avoid shorelines with greenbelts of bushy foliage as the birds may fear predators hiding there and it is more difficult to walk through foliage than up onto a lawn or seawall directly from the water. You may also stretch a thin line about a foot off the ground along your shoreline.

#### **What are those green balls of algae that lie in the shallows and cover our beach?**

*Cladophora* is a green ball-like algae commonly found in nutrient rich waters. Research links these blooms to high levels of phosphorus in the water. Fertilizers with phosphorus contribute to the problem. Wind and wave action cause the algae to break free from the lake bottom and wash up on the shore. In Lake Mitchell the Improvement Board uses fine mesh harvesters to pick up *cladophora* and is investigating the use of algae killing chemicals and aeration systems to solve the problem.

**Are walleye scheduled to be planted in Lake Mitchell?** The possibility of the VHS virus in rearing ponds caused the DNR to suspend walleye planting Michigan lakes in 2007. In December the ban was lifted and the DNR has begun raising walleye fry again. Within two years the operation should be a full capacity and Lake Mitchell should receive a walleye planting.

**What are differences between a Lake Board and a Lake Association?** A Lake Improvement Board is established by a local unit of government to manage an inland lake and carry out desired improvements governed by Public 451 of 1994, Part 309 amended. The membership includes representatives from the County Commission, the City of Cadillac, Selma and Cherry Grove Townships, the Drain Commissioner, and one lakeshore property owner. The Lake Mitchell Association is composed of all property owners having lakefront or deeded access to the lake. The Improvement Board uses the assessment monies collected with the property tax on projects desired by the Association.

### **Invasive Species in Lake Mitchell**

Since the 1800s over 160 non-indigenous aquatic species have become established in the United States including 24 species of fish, 9 mollusks, and sixty-one plant species. The following are common in the Lake Mitchell area.

**Eurasian Water Milfoil** – This plant has feathery green leaves and grows in thick clumps. In Lake Mitchell it is widely found in depths up to ten feet. It has been identified in nearly 500 Michigan lakes and was first discovered in Lake Mitchell in the late 1980s. It thrives in nutrient rich lakes receiving nitrogen and phosphorus-laden runoff. Unlike many plants, Eurasian Water Milfoil does not rely on seed for reproduction. It reproduces by fragmentation which allows it to disperse over great distances. For this reason, harvesting living milfoil is counter productive. 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. Systemic herbicides, 2-4-D and Triclopyr (Renovate), are used in Lake Mitchell to control Eurasian water milfoil. Reward (Diquat Dibromide), a contact herbicide, is used in coves and near shore areas because 2-4-D can not be used within 250 feet of shallow wells.

**Purple Loosestrife** -Purple loosestrife is an erect perennial herb with a square, woody stem that grows from four to ten feet high, depending upon conditions, and produces a showy display of magenta-colored flower spikes throughout much of the summer. Mature plants can have from 30 to 50 stems arising from a single rootstock. Purple loosestrife is a dominant plant in North Franke and Big Coves. It outcompetes and replaces natives grasses such as cattails which provide a higher quality of nutrition for wildlife. Purple loosestrife occurs in every state but Florida. Purple loosestrife is an ornamental plant and may unknowingly be growing in gardens along the Lake Mitchell shoreline. It is illegal to sell or distribute this plant in Michigan. Small infestations of purple loosestrife plants may be pulled by hand, preferably before seed set. For older plants, spot treating with a glyphosate type herbicide (e.g., Rodeo® for wetlands, Roundup® for uplands) is recommended. These herbicides may be most effective when applied late in the season when plants are preparing for dormancy. However, it is best to do a mid-summer and a late season treatment, to reduce the amount of seed produced. While herbicides and hand removal may be useful for controlling individual plants or small populations, biological control is seen as the most likely candidate for effective long term control of large infestations of purple loosestrife. The Lake Mitchell Improvement Board hopes to introduce galerucella plant-eating beetles into Big Cove this summer.

**Phragmites** – Phragmites, also known as the common reed, is a perennial wetland grass that can grow to 15 feet in height. Found in every state in the United States, this plant threatens the ecological health of wetlands by crowding out native plants and animals. A small patch of phragmites was found in Big Cove near the Camp Torenta Canal and chemically destroyed last summer. This plant has been seen as part residential landscape projects on Lake Mitchell. Although there are native forms which pose no threat, the invasive phragmites plant should be removed before it can spread to our wetlands.

**Zebra Mussels** – In September a colony of zebra mussels was found on the bottom of a boat in Lake Cadillac. With their zebra-like striped shell and triangular shape, zebra mussels are easy to identify. Most are smaller than a pistachio nut and will be found attached to hard surfaces like boat bottoms, dock posts, rocks, and woody debris. If stepped on they can cut one's foot. In lakes heavily infested with these mussels, water clarity may improve dramatically. With deeper light penetration, plants may sprout in greater depths. Zebra mussels feed by filtering from the water tiny algae which is a vital part of the lake's food chain. This can effect the amount of food for larval fish. There is no known method for controlling zebra mussels. Zebra mussels are found in many of Michigan's lakes.

Photos of all these invasive species are available on our website. [www.lakemitchell.org](http://www.lakemitchell.org)

## **Water Levels and Quality 2010 by Mike Solomon, Wexford County Drain Commissioner**

### **Water Levels**

We received 30.40 inches of precipitation for the year compared to a long term average of about 31 inches. We were below normal monthly precipitation in Jan, Feb, Mar, Aug, Sep, Oct, Nov and December and above the remaining months. So basically, we were dry in the winter and fall and fortunately wet in the spring and summer. Overall, I believe we had a very successful year for water levels for boating with the exception of Sep and Oct when we were lower than most recreationists would like but the dam was closed from August on until the end of Dec so nothing else on a management basis could be done.

### **Water Quality**

**Temperature and Dissolved Oxygen**--As usual, Lake Mitchell did not stratify during summer of 2010. This means our lake is well mixed and temperatures and dissolved oxygen are about the same throughout the water column. Because of the high air temperatures this summer we had many days with water temperatures above 80 degrees but dissolved oxygen was always adequate to support fish life.

**Chlorophyll a**—is a measure of the biological productivity of the water. In 2010 the spring and summer levels were the lowest that were measured in the 9 years that water quality has been measured on the lake. This is a good sign though we still had some algal blooms.

**Secchi disk**—is a measure of the transparency of the water and is measured using an 8 inch disk that has black and white quadrants. A reading is recorded where the Secchi disk disappears from sight. Two times the Secchi disk reading is generally considered to be the distance that light penetrates and usually the limiting depth for rooted aquatic plants. Secchi disk readings varied from 7 to 9 feet and were deeper than most preceding years. Both lower chlorophyll a and deeper transparency measurements may be related to the finding of Zebra mussels in the lake and increased clarity do the filtering that they do. Future years sampling will help us establish this relationship if it exists.

**Total phosphorus**—is a measure of the nutrient that most lake scientists (limnologists) consider to be the limiting factor in aquatic plant growth in most water systems in Michigan. Spring 2010 phosphorus concentrations ranged from 15 to 20 ppb (parts per billion) while summer 2010 values ranged from 19 to 23 ppb. Both sets of values were an improvement on 2010 values. 10 ppb is considered a low concentration of phosphorus in a lake and 50 ppb is considered high by most limnologists. Inputs of phosphorus from tributaries are 30 ppb for Brandybrook Creek, 25 ppb for Gytja Creek and 25 ppb for Mitchell Creek. All three are higher than lake values and therefore contribute to enrichment of the lake. However, since the flows from the three creeks are low compared to the total water in the lake, the amount of phosphorus added to the lake is probably relatively small. Lawn fertilizer is most likely a significantly larger source.

**Nitrate nitrogen**—is also measured in ppb and has been considered to be a limiting nutrient. Most limnologists feel any concentration below 200 ppb is excellent for lake water quality. In 2010 spring nitrate values were low, 45 to 60 ppb, and summer values were among the lowest so far, 7 to 9 ppb. This data show denitrification (nitrates being converted to nitrogen gas) is occurring in the lake in late summer.

**Total alkalinity**—is a measure of the water to absorb acids or bases without changing the pH of the lake. It is essentially the buffering capacity of the lake. Total alkalinity over the years and again in 2010 have consistently been in the 40 to 56 range indicating a soft-water system. Soft water lakes are more subject to change than hard water systems and inputs of phosphorus and other nutrients may have a much larger impact to the lake. **pH**—is the measure of hydrogen ion concentration and has been a traditional measure of water quality. It is on a log scale so a change of pH from 6 to 5 means it is 10 times more acidic than before.

**Specific conductance**—is measured with a meter and is a measure of the ability of the water to conduct an electric current. It is highly correlated to the amount of dissolved materials in the water. Lake Mitchell conductivity measurements have fallen within the range of 110 to 140 micromhos per centimeter and are normal for a soft water lake.

(Continued on page next page.)

The **Lake Water Quality Index (LWQI)**—was developed by Dr. Wallace Fusilier to integrate the previously mentioned water quality parameters into a numeric index that could easily be understood by lay people. The index ranges from 1 to 100, with 100 indicating excellent lake water quality. The index rates lakes the way teachers rate students: 90 – 100 = A, 80 – 90 = B, 70 – 80 = C, 60 – 70 = D and below 60 = E. Lake water quality index for Lake Mitchell has ranged from 78 to 91 for individual measurements. The measurements for 2010 are: Spring - 87, 91, 90. Summer - 89, 90, 88. These measurements taken at three locations in the lake indicate the lake to be in the “Good” or “B” range. These are among the highest LWQIs since the lake studies were begun in 2002. Overall, the water quality of Lake Mitchell continues to be good but with substantial room for improvement. Being a soft water lake leaves it more subject to impacts from man than hard water lakes. We should continue to be vigilant concerning protection of our lake. Use non phosphorus fertilizers, don’t burn leaves by the lake, don’t rake or blow leaves into the lake, maintain or start a buffer strip along the lake edge (landscaping for water quality) are some of the protective measures you may want to consider.

### **Weed Control Starts at Home**

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 deter spread of weeds in 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. 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 Michigan legislature has passed a law banning the use of phosphorus fertilizers** that will go 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.

**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.**

**5. Keep Invasive species out of Lake Mitchell by cleaning your boat**

**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.

## 2010 Financial Report

### 2010 Calendar Year Financial Record

<b>2010 Calendar Year Financial Record</b>	<b>Jan.1-June 30</b>	<b>July 1-Dec. 31</b>	<b>Total</b>
<b>2010 Income</b>			
Interest	372.61	173.14	545.75
2010 Collections from 2009	16,075.13		16,075.13
Summer Assessment		180,285.86	180,285.86
<b>Total</b>	<b>16,447.74</b>	<b>180,459.00</b>	<b>196,906.74</b>

<b>2010 Expenditures</b>	
Roadside Weed Pickup	7,500.00
Lakeshore Environmental Administration	17,000.00
Chemical Treatment	138,870.00
Weed Harvesting	5,400.00
Cladophora Harvesting	2,900.00
Bass Tournament Monitor and fish return	0.00
Insurance/Bond	645.00
Service (audit, assessment, permit fees)	2,523.65
Print (mailings, newsletter, website, supplies)	2,599.46
Misc. (Conference registration fee)	50.00
<b>Total</b>	<b>177,488.11</b>

<b>Fund Balance Jan.1, 2010</b>	<b>145,484.52</b>
<b>2010 Revenue</b>	<b>196,906.74</b>
<b>Total</b>	<b>342,391.26</b>
<b>2010 Expenditures</b>	<b>177,488.11</b>
<b>Fund Balance Dec.31, 2010</b>	<b>164,903.15</b>

The \$164,903.15 end-of-year balance will be used towards payment for chemical treatment, harvesting, and other expenses incurred from January 1st to July 1st, 2011.

### 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 4<sup>th</sup> 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.

### 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.

### Roadside Pickup

The Lake Mitchell Improvement Board will again provide roadside pickup of weeds. Weed hauling begins May 23 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.



## **Lake Mitchell Fishing Report 2010**

Fishermen, including myself, get into ruts. We tend to fish the same spots, use the same techniques, and tie on the same baits. That may fill your stringer with fish. Or it may not. I've learned that when the fishing gets tough, I talk with other fishermen. Locally I often end up checking out the scene with the folks selling bait on Shaffer's Bait and Pilgrim Village. This year's "Fishing Report" is based on stuff I learned from others and a good dose of fishing wisdom passed on to me by Steve Knaisel, the owner of Pilgrim Village.

### **Early Spring**

Just after the ice goes out, the crappie head for the shallows in the back of the coves and the Causeway on Lake Cadillac. Swimming among the emerging weeds these black and gold panfish will hit small bait-like pinhead minnows, as well as maggots and waxworms impaled on teardrop hooks. Use light line and tiny bobbers. Some do well with miniature plastic grubs.

### **After the April 30 Pike and Walleye Opener**

The gamefish are hungry. Narrow minnow *Rapala type* lures and spinnerbaits cast over and through emerging weeds will bring savage strikes from northerns. At dusk or on dark days, walleyes bite. During the first half of May, fans of live bait will do best with big shiners suspended under bobbers. Later in the month nightcrawlers and leeches may be the right choices for walleye.

The actual spawning of bluegills and sunfish may not begin until late in May, but nevertheless the fish are cruising the shallows. Using a small black spider garnished with a waxworm under a bobber can be effective. Bass fishermen find success casting fat crank baits with a bluegill pattern in areas where bass are bedding. Keep moving until you find a concentration of fish.

### **Early Summer: June to the 4<sup>th</sup> of July**

The bigger hand-sized bluegills are late spawners and typically bed in deeper water. After spawning these fish head to 10-15 feet of water. Anglers find success fishing bait under bobbers in openings in the weeds.

Pike and walleye fishermen break out the weedless lures, typically spinner baits, and rip them through weeds. Not all weeds are equally productive so perseverance pays off for those who keep exploring.

### **Mid-Summer**

The larger fish move deeper and relate to weed edges. With electronics anglers search for isolated weed beds in deeper water. Deep running crankbaits and weighted spinner baits are productive. Bass anglers use a variety of plastic grubs and worms.

On hot nights anglers cast *Jitterbugs* and buzzbaits listening for the sound of a big largemouth smacking their lure.

### **Fall**

The first cold spell, occurring around Labor Day, seems to snap the fish out of their summer lethargy. Big fish become catchable again. It is feast or famine fishing. Some days the catching is good while on others you can't buy a bite. As the water gets colder, fish crankbaits and spinner baits more slowly. Look for green vegetation. Avoid weed beds of dying plants.

Walleyes begin to feed at night along drop-offs and near the canal. The blue and gold *Rapala Husky Jerk* is productive. Peak fishing may occur around Halloween or during deer season.

### **Ice fishing**

First ice finds all fish ready to take on whatever food offerings are available. Crappie anglers search for schools of fish, which may be anywhere from hovering just below the ice surface to hugging the bottom. Minnows work well. Bluegill anglers favor tiny grubs on teardrops as they search among the weedbeds for eating size fish. Often gills school by size so if you catch little ones, assume the adults are elsewhere. Though great catches of jumbo perch are uncommon. Those fishing 10 to 15 feet with minnows or grubs occasionally are rewarded.

The tipup still seems to be the weapon of choice for pike and walleye. Keep moving until you find the fish. More 30-inch plus size northerns come through the ice than at any other time of the year. Those who would rather not depend on a pike's need to feed on hooked minnows, sit in shanties with spears poised. Spear anglers probably land the majority of big pike.

### **Michigan DNR personal watercraft regulations (2011)**

#### **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 779-9211 or DNR at 1-800-292-7800.**

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

### **Ten things you can do to protect Lake Mitchell**

1. Wash, drain, and clean your boat to keep invasive species out of the lake.
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.
4. Use phosphorus-free fertilizers.
5. Practice catch-and-release with walleyes to help rehabilitate that fishery.
6. Develop a greenbelt along your shoreline.
7. If a seawall is needed, consider using only rock or seawall with rock rip rap to minimize wave action erosion.
8. Do not feed waterfowl to help prevent swimmer's itch.
9. Remove purple loosestrife from your shoreline.
10. Do not rake leaves or deposit lawn clippings into the lake.

## 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 (DEQ) procedures. A permit for the treatment has either been secured or will be secured 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 we are 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 WITH 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 been 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 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 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 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,Butoxyethyl 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 treated 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).There is no restriction on fish consumption. When using Fluridone there may be more than one treatment 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 Sulfate(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 questions we can be reached at the number below.

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

### **A Year on Lake Mitchell - 2010**

**March 25** -After a relatively mild winter, the ice goes out about two weeks earlier than normal.

**April 29** – DNR conducts walleye shocking. Finds good crop of young walleye.

**May 24-29** – Temperature hits 90 degrees and stays in 80s for a week capping a warm spring.

**May 28-29 and 31** – Survey team marks 1686 GPS points to pinpoint location of Eurasian Water Milfoil.

**June 8 & 9** – Lake receives chemical application.

**June 10** – Chladophora is harvested in Camp Torenta Canal.

**June 14 & 15** – initial treatment is completed.

**June 23** – Harvesting begins in cove areas.

**July 6-11** – Daytime highs range 85-91 degrees, This summer will be remembered as hot.

**July 13** – 3.5 inches of rain.

**July 24** – Report at Improvement Board meeting shows 357 acres of milfoil treated and 27 acres harvested.

**August 18** - Survey shows 35 lakefront properties with "For Sale" signs. Surveys in previous years show 30-33 "For Sale" properties.

**October 10** – Fall colors peak.

**October 26-27** – 30 mph winds down power lines. West Lake Mitchell loses power for 50 hours.

**December 3** – Lake Mitchell freezes.

**December 11-12** – Near blizzard dumps 14 inches of snow.

**Photos of many of these events are on our website. [www.lakemitchell.org](http://www.lakemitchell.org)**

**Lake Mitchell Improvement Board  
203 Peninsula Drive  
Cadillac, MI 49601**