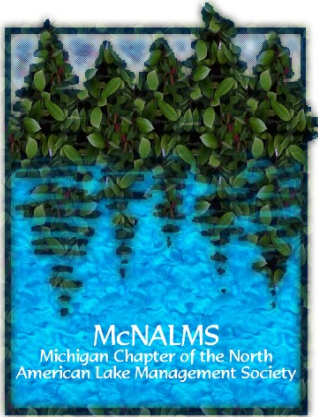


LAKE EFFECT

January 2012



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Presidential Tidbits by Jo Latimore, Ph. D.

Back in early December, my dog Hayley and I went for a hike at Sleepy Hollow State Park. We took a favorite trail, one that borders the shoreline of Lake Ovid, and which that day provided scenic views of the winter sun across the lake, low in the sky. That day, the ice, which had begun forming in the protected bays a week or two before, was threatening to take over the open water. It was a breezy evening, and as I neared the lakeshore, the breeze carried an unusual and haunting sound to my ears – a little musical, but not entirely. With the way sound carries across a lake, I couldn't be sure of the source... waterfowl? People at a nearby home or farm? A bit further down the trail, on a fishing pier that extends out

into the lake, the source of the sound was revealed: waves on the open water were clattering thousands of broken pieces of ice against the solidly frozen sheet that had formed all around the edges of the lake, producing a kind of music one only hears by chancing upon a lake at just the right time.

Today, Lake Ovid is frozen and silent – still beautiful, but different. This is one of the wonderful things about Michigan's lakes – their ever-changing nature. I hope you have a chance this season to enjoy everything that Michigan's lakes have to offer in the winter...whether you try your luck at ice fishing, break out a pair of snowshoes, cross-country skis, or trusty warm hiking boots, or simply

find a perch with a nice view of your favorite lake...and remember why each of us gives a little bit more, either as a professional or a volunteer, to protect and manage our lakes for today, and for future generations.



Photo Caption: Jo Latimore, our outgoing president, with a catch of trout and whitefish from Higgins Lake

Notes from the Executive Director

by Howard Wandell

One of the goals of the Michigan Chapter of the North American Lake Management Society is to encourage cooperation and interaction among lake and watershed managers to address problems impacting Michigan's lakes. Over the last two years the Society has been working with over 18 state, local governmental agencies, nonprofit organizations, and corporations on the Michigan Natural Shoreline Partnership.

The Partnership has been

very successful in promoting natural shorelines along Michigan inland lakes. Commercial contractors have been trained in the installation of natural shoreline technologies. Educators and volunteers have been trained in natural shoreline ecology and management strategies. These educators and volunteers are available to train local citizens about the value of natural shorelines. Training materials, workbooks, and brochures have been developed and produced. The Partnership is now working on

programs for local governmental agencies and a recognition program for communities that have implemented native shorelines.

The Partnership has been a real success and it is worth learning more about it. The Partnership's website is www.mishorelinepartnership.org. The website has the Partnership's new newsletter, which will give you a good background on the Partnership and its programs. Check it out.

Special Assessment District News and Views: Bidding Contracts

By Pam Tying, Progressive AE

Fall and early winter is the time of year when lake boards often bid out contracts for herbicide treatments so that herbicide applicators can submit permit applications to the Michigan Department of Environmental Quality (MDEQ) in a timely fashion. Harvesting contracts can be bid at this time too, but because no permits are required for harvesting, the timing is not quite as critical.

Section 30926 of the lake board statute (MCL 324.30901 et seq.) describes the lake board's obligations for bidding:

- (1) Except as provided in subsection (2), the chairperson of the lake board shall advertise for bids. A contract shall be let to the lowest bidder giving adequate security for the performance of the contract, but the lake board shall reserve the right to reject any and all bids.

The lake board statute intends that contract work be publicly bid so that lake residents can be assured they are receiving the best price for the work to be performed; and so lake residents and bidders can be assured that bids are evaluated and contracts are let in an unbiased manner. In order to accomplish this, the lake board needs to structure bidding documents properly. First, a note on terminology: Businesses or individuals who are paid to perform work for the lake board are contractors. For the purposes of bid documents, contractors are "bidders" until the contract is awarded to the successful bidder. The successful bidder becomes the "contractor."

Bidding documents include all the paperwork associated with bidding contract work, including the contract itself. Typically, bid documents will include the advertisement or the invitation to bid, instructions to bidders, information for bidders, specifications, bid form, contract or agreement, and any supplementary information requested of the bidder, such as a bidder questionnaire. The advertisement or invitation to bid is as the name implies: it is a short document published in the newspaper or sent directly to bidders to solicit a bid. The instructions to bidders inform bidders as to the manner that bids should be prepared and submitted. Information to bidders is background information that is helpful to bidders but does not specify work to be completed. Every section of a bid document is important, but the specifications and the bid form are the guts of the document. The specifications describe the work to be performed, and the bid form is the instrument used to evaluate the bid prices. The contract or agreement form bind all of the documents, and it compels the contractor to perform satisfactorily and the lake board to pay for that work.

There are basically two ways in which work can be specified in bid specifications: Performance-based specifications and prescriptive specifications. In the former approach, the lake board specifies the desired outcome of the work and the contractor decides the best manner to achieve that outcome. For example, a lake board may specify that the work to be performed is to control Eurasian milfoil with herbicides; the contractor has the discretion to choose the type and dose of herbicides, and method by which it is applied—within the limits of the MDEQ permit and the contracted budget. In that case, responsibility for success lies squarely with the contractor. Alternatively, the lake board can prescribe every detail of the treatment, and the contractor's responsibility is to apply herbicides precisely as specified. In the latter case, responsibility for success shifts toward the lake board. In either case, the specifications should clearly describe the work to be performed and the criteria for evaluating performance. For example, in a dredging project, the lake board may specify that the lake should be deepened by three feet from a given water elevation as measured from the water surface in a grid every 10 feet using a specified measuring device.

The bid form should list each item to be bid, and the quantity of work for each item in the list. For example, the bid form may include 25 acres of Eurasian milfoil control, 50 acres of starry stonewort control, and 10 acres of filamentous algae control. The lake board should provide the best estimate possible for the quantity of each bid item in order to receive the fairest prices and to be able to evaluate and compare the bids fairly. If quantities are high, then bidders will be able to reduce their prices in anticipation of a large quantity of work. If quantities are set higher than what could reasonably be anticipated, then the contractor could be paid unfairly low for the amount of work that they actually perform. If no quantities are assigned, then the lake board is faced with trying to assess prices of individual bid items separately, rather than the bid as a whole, which leaves the door open for awarding contract in a biased manner.

Finally, bids should be received in sealed envelopes and should not be opened until the date and time specified in the instructions to bidders. This assures the bidders and the public that the process has not been corrupted, and that no bidder unfairly received "insider" information such as a competitor's bid prices.

Developing a Geography of Freshwaters to Solve Problems

By Patricia A. Soranno and Kendra Spence Cheruvellil

Many problems facing freshwaters in the last 30 years, like pollutants, shoreline development and sewage, have been handled one waterbody at a time. But, many problems cannot be handled by looking at a single lake because of far-reaching and often cumulative impacts from stressors like acid rain and climate change. So, we need other strategies. One approach is to view and study the thousands of Michigan lakes, streams, and wetlands as being connected ecosystems within a matrix of both freshwater and landscape features. We call this approach **Landscape Limnology**, and we developed it to help address problems such as land use change, climate change, and the spread of exotic species across the freshwater landscape. Our approach is analogous to geography, which often has a land-based focus. Instead, we are developing a water-based geography. We have recently received a \$2.2 million grant from the National Science Foundation to further

our study of freshwaters in a landscape context by studying lakes that span from Minnesota to Maine and from Missouri to Pennsylvania.

This landscape limnology approach also has the benefit that it can help agencies better manage their lakes. For example, Michigan has more than 11,000 lakes, but state agencies can only monitor a tiny fraction of them due to budget constraints. Consequently, agencies must frequently make decisions and develop policies for lakes with little lake-specific information. Typically, single policies are developed that apply equally to all lakes, even though lakes across the state may respond very differently to the same stressors. We have designed our research program to address this important problem. For example, we have developed an approach for the state of Michigan to set lake-specific nutrient standards, and to determine what the 'natural' levels of nutrients should be in

individual lakes. We will continue to apply this perspective to more problems being faced by the freshwaters of Michigan by recognizing that much of the apparent uniqueness of individual lakes can be partially explained by complex interactions with other freshwater and land features.

For more information contact Patricia A. Soranno (soranno@msu.edu) or Kendra Spence Cheruvellil (ksc@msu.edu), or see our website: <http://www.fw.msu.edu/~llrg>.

Patricia A. Soranno is an Associate Professor at the Department of Fisheries and Wildlife at Michigan State University. **Kendra Spence Cheruvellil** is an Assistant Professor at Lyman Briggs College and the Department of Fisheries and Wildlife at Michigan State University.

Finding the Balance Again: From the Round Lake Improvement Board

By Jill Budzynski, Secretary

Round Lake in Mason County is a 550-acre, fairly shallow lake prized in the area for its suitability for swimming, boating and fishing. By 2007 the lake had succumbed to over 50% infestation by Eurasian Watermilfoil (EWM). The EWM had afflicted the lake in growing volumes for the past ten years, and by 2006, lake property owners approved the township board to appoint an improvement board to work on eradicating the invasive weed and restoring balance to the native vegetation in the lake.

Working with Lakeshore Environmental, Inc., the newly-constituted Round Lake Improvement Board (RLIB) first took action in 2007 to harvest weeds and trial the use of milfoil-feeding lake weevils, while it awaited regulatory approval of its request to apply herbicides as needed to the

weed mass. Regrettably, the 2007 harvesting and weevils were in no way sufficient to significantly knock back the EWM infestation, so in 2008 the RLIB proceeded with application of Fluridone to all affected acres of the EWM.

In the same month of 2008 as the herbicide was applied, Round Lake experienced a severe flood event following a record rainfall. Although careful measurement did not show any problematic herbicide dilution following the flood, later weed regrowth indicated that this systemic application was in fact less effective than anticipated, due to the heavy rainfall. The vegetation survey in the lake the following year (2009) showed 22% regrowth of EWM.

In 2009 the RLIB therefore had to apply more 2-4D spot treatment than anticipated (to 90 acres), and this action suc-

ceeded in substantially reducing the incidence of EWM throughout the lake, without negatively impacting the fish populations. In most years of the RLIB's operating period the lake has benefited from regular fish population surveys completed by the Little River Band of Ojibwa Indians and the State of Michigan Department of Natural Resources. It has thus been possible to closely monitor both vegetation and fish populations in the lake. It has been found that fish have been minimally affected by the application of chemical herbicides.

In 2010 the RLIB again found that the incidence of EWM regrowth in Round Lake was minimal, so authorized limited application of 2-4D to eradicate very small clusters of EWM.

Continued on Page 8

2007 National Lakes Assessment—Michigan Results

Reported by Ralph Bednarz, Limnologist, Michigan Department of Environmental Quality (Retired)

In the summer of 2007 the Michigan Department of Environmental Quality (MDEQ) participated in the first-ever baseline survey of the condition of the nation’s lakes. The U.S. Environmental Protection Agency (EPA)-sponsored National Lakes Assessment (NLA) Survey examined ecological, water quality and recreational indicators in lakes across the country. Using a statistical survey design, lakes were selected at random to represent the condition of the larger population of lakes across the lower 48 states. A total of 1,028 lakes were sampled for the NLA, representing about 50,000 lakes nationwide. In Michigan, 50 lakes were sampled; representing approximately 6,600 lakes 10 acres size statewide (Fig. 1).

Field crews collected samples using the same methods at all lakes to ensure that results can be compared across the country, as well as statewide. MDEQ staff and U.S. EPA researchers analyzed thousands of measurements on the Michigan lakes, including water quality indicators such as nutrients, dissolved oxygen and chlorophyll-*a*; biological indicators such as phytoplankton and zooplankton; recreational indicators such as algal toxins and pathogens; and physical habitat indicators such as lakeshore and shallow water habitat cover.

What are the Key Findings of the NLA-Michigan?

Biological Health

The NLA-Michigan finds that 86% of Michigan’s lakes support healthy communities when compared to least disturbed “reference” sites (Fig. 2). Another 10% of lakes are in fair condition, while only 3% are in poor biological condition. This rating is based on an index of phytoplankton and zooplankton taxa loss – the percentage of taxa observed (O) compared to those that are expected (E), based on conditions at least-disturbed “reference” lakes.

Lake Condition Stressors

The survey measured a set of key stressors to lake condition to determine their extent across the nation as well as statewide. Each lake stressor or indicator was classified as either “good”, “fair”, or “poor” relative to the conditions found in the set of “reference” sites established for the NLA survey.

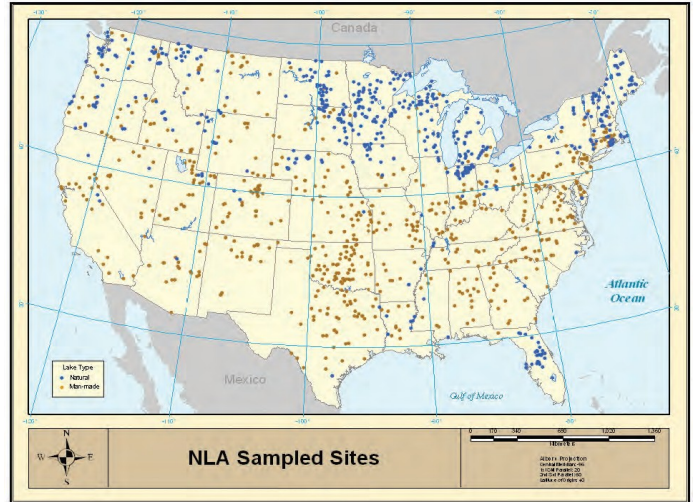


Figure 1. NLA Survey Lakes

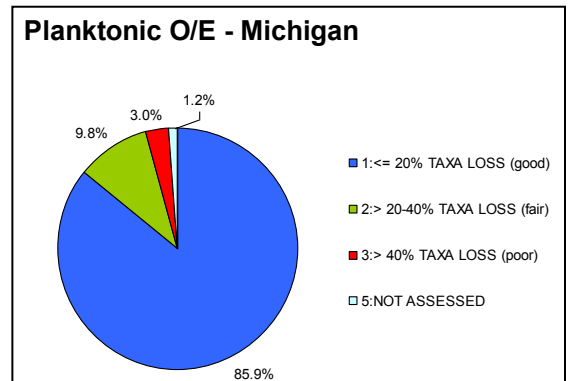
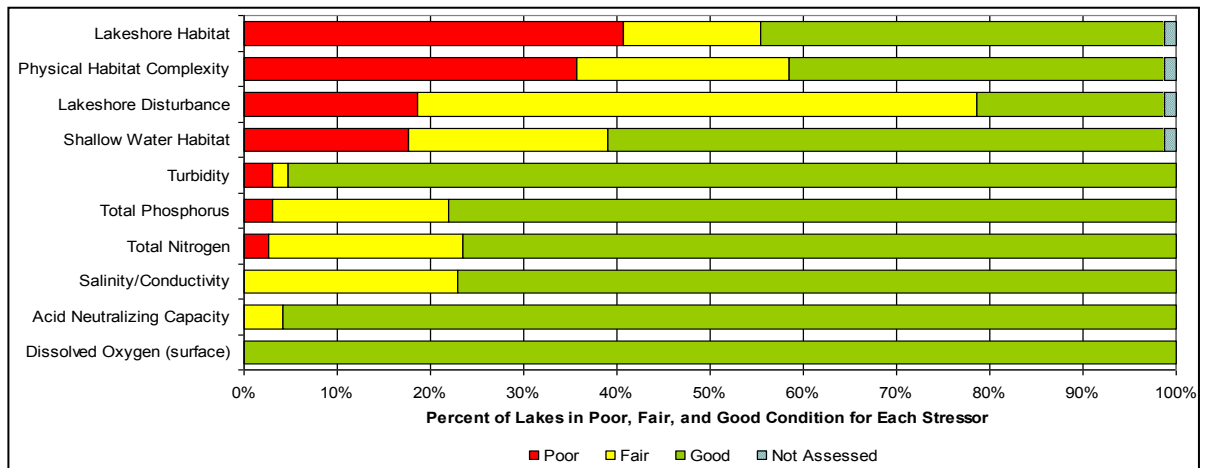


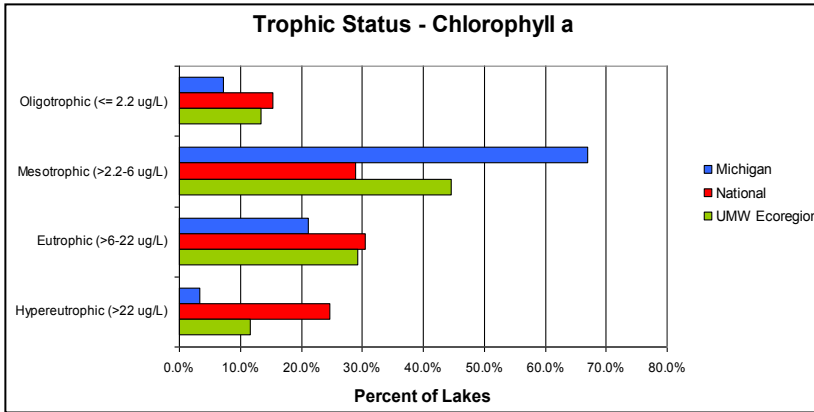
Figure 2. Biological Condition of Michigan Lakes

Similar to the national estimates, the most wide spread stressors measured in Michigan lakes are related to habitat. Figure 3 shows the percentage of lakes in Michigan that assessed as poor (i.e. less than 5% of the low end of the NLA “reference” lakes distribution) for each of the key stressors measured during the NLA survey.

Figure 3. Extent of Stressors in Michigan Lakes



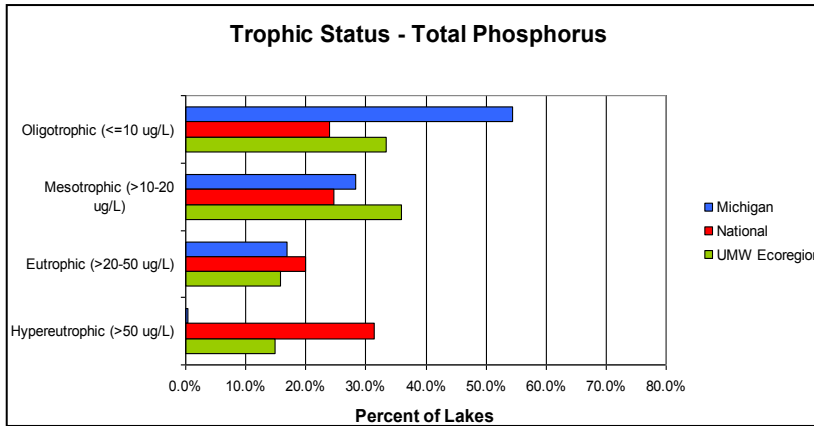
2007 National Lakes Assessment—Michigan Results By Ralph Bednarz



By far, lakeshore habitat and physical lakeshore complexity are major stressors for Michigan lakes. Nutrients and turbidity show lesser but significant impact, while salinity/conductivity, acid neutralizing capacity, and dissolved oxygen stressors as measured in the NLA are minor in Michigan lakes statewide.

Trophic Condition

Another approach the NLA used to assess the condition of lakes is in respect to their primary biological productivity, or trophic status. Figures 4 and 5 illustrate the trophic status distribution in Michigan lakes compared to lakes across the nation and lakes in the Upper Midwest (UMW) ecoregion based on chlorophyll-a and total phosphorus indicators. These results indicate that 83-84% of Michigan lakes are low (oligotrophic) to moderately (mesotrophic) productive and less than 4% exhibit excessive biological productivity (hypereutrophic).



Figures 4 and 5. Trophic Condition of Michigan Lakes (Chlorophyll-a and Total Phosphorus indicators)

Recreational Condition

An important aspect of lake health includes suitability for public use and recreation. As part of the NLA, three indicators of potential risk from harmful algae were evaluated, including microcystins, an algal toxin; cyanobacteria, a type of algae (bluegreen algae) that can produce algal toxins; and chlorophyll-a, a measure of all algae present.

Results for Michigan show that microcystins levels were present in about the same percent of lakes as they are nationally (approximately 30% for all lakes), But slightly greater than found in the UMW ecoregion lakes (Fig. 6). However, for each of the indicators of risk, Michigan lakes showed a lower percentage of lakes in the moderate risk category when compared to the nation and UMW ecoregion results and no lakes in the high risk category.

The thresholds (low, moderate, and high risk) associated with each indicator of potential risk are based on the World Health Organization criteria as indicated in Table I.

Continued on Page 6

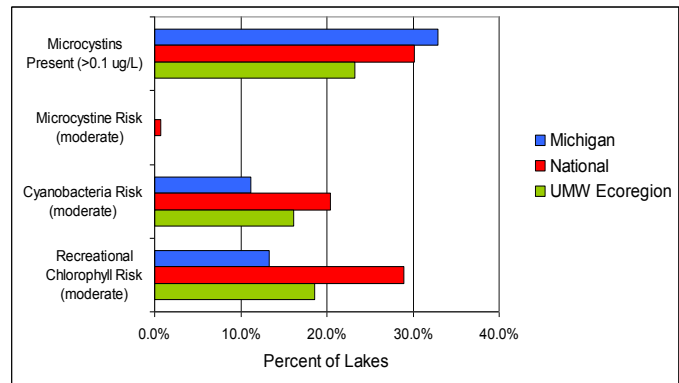


Figure 6. Recreational Condition (Harmful Algae Risk) of Michigan Lakes

Indicator (units)	Low Risk of Exposure	Moderate Risk of Exposure	High Risk of Exposure
Chlorophyll-a (ug/L)	< 10	10 - < 50	> 50
Cyanobacteria cell counts (#/L)	< 20,000	20,000 - < 100,000	≥ 100,000
Microcystin (ug/L)	< 10	10 - ≤ 20	> 20

Table I. World Health Organization Thresholds of Risk Associated with Potential Exposure to Cyanotoxins

Continued from Page 5 **2007 National Lakes Assessment—Michigan Results** By Ralph Bednarz

Chemical Condition

The chemical condition of Michigan and UMW ecoregion lakes is a consequence of their glacial origin and Great Lakes basin geology. The dominant limestone geology and thick glacial deposits in Michigan's Lower Peninsula and eastern Upper Peninsula establishes the base chemistry and buffering capacity for the mostly hard-water lakes in this region while the Canadian Shield igneous bedrock and sandstone geology of the western UP creates a much different water chemistry pattern with a greater percentage of soft-water lakes.

Water concentration of total phosphorus in Michigan lakes is low as compared to all UMW ecoregion lakes while total nitrogen concentration is similar. Chlorophyll-*a* levels are also lower for Michigan lakes as compared to all lakes in the UMW ecoregion. The relative phosphorus-rich to phosphorus-poor south to north lakes distribution pattern previously found for the Lower Peninsula is reinforced by the NLA results. Michigan's Upper Peninsula lakes show a more variable pattern for nutrients. These patterns are mirrored by the chlorophyll-*a* results.

Next Steps

The next round of the NLA Survey is scheduled for summer 2012. The MDEQ will again participate in the Survey and likely conduct a state-scale assessment to add to the 2007 NLA-Michigan findings.

For more information on the NLA Survey see: http://water.epa.gov/type/lakes/lakessurvey_index.cfm; and the **Michigan National Lakes Assessment Project: Summary of Results Project Report** (Bednarz 2011)

LEGISLATIVE ISSUES—Senate Bill 648 By Howard Wandell

It was just in the April 2011 newsletter that we wrote about the new law that limits the use of phosphorus fertilizers on lawns. Now a new Senate bill proposes to dilute this legislation. Senate Bill 648 was recently introduced into the Michigan legislature to amend the Natural Resources and Environmental Protection Act (Act 451 of 1994) Part 85 (Fertilizers).

In December 2010, statewide phosphorus application restrictions were added to Part 85. Public Act 299 of 2010 limited the use of phosphorus fertilizers on residential or commercial lawns, beginning January 1, 2012. Phosphorus applications for agriculture, for new turf establishment, mature lawns needing phosphorus based on soil test results and golf courses that complete an approved training course are not included in the limitation.

Senate Bill 648 will change Section 8512b(4) of the law by changing the word "phosphorus" to "available phosphate" for sewage sludge, organic manure and manipulated manure products. Supposedly this word change will clean up the language in

the law since fertilizer products are registered by the amount of available phosphate in the product. The middle number on the product bag refers to available phosphorus. Consequently, a fertilizer product that has zero phosphorus has zero available phosphorus, but could have an unknown amount of total or organic phosphorus.

The proposed wording change could be a significant issue. New "natural" fertilizer products are coming on the market, which are mostly manure based. These products may have minor amounts of available phosphate, but high amounts of organic phosphorus. The current language of the law limits organic and manure based fertilizers to minor amounts of any phosphorus type. The language change would limit these fertilizers to minor amounts of available phosphate, but to unlimited and unknown amounts of total and organic phosphorus.

Organic phosphorus is likely to remain on the turf longer and be more subject to movement with stormwater runoff than inorganic phosphorus. Additionally, organic phosphorus can and is usually converted to available phosphorus

by environmental processes in surface water. Consequently, organic phosphorus applied to the land will likely become available phosphorus in rivers and lakes to produce aquatic weeds and algae blooms.

The purpose of Act 299 of 2010 was to protect the recreational lakes and streams of Michigan from avoidable nutrient pollution. Just as with limiting phosphorus in detergents was accomplished with minimal impact upon consumers, limiting phosphorus in turf fertilizers will have a limited impact upon consumers. While the impact upon consumers is minimal the benefit to Michigan's high quality lakes and streams will be significant. Senate Bill 648 will not only undo the benefits of Act 299 of 2010, but could result in even greater amounts of phosphorus entering Michigan's recreational waters. As with the other lake rich states, Michigan should continue to protect its valuable water resources, especially where it can be done with minimal impact upon the citizens.

MICHIGAN INLAND LAKES PARTNERSHIP

Issue Statement

December 2011

Prepared by Michigan Chapter North American Lake Management Society

Type of Action: Approval of a Position Statement regarding Senate Bill 648 for submission to the State legislature.

Decision Style: Degrees of Agreement per Governance document.

Background:

Water quality sampling of Michigan's inland lakes has found that most of them are still of reasonably good quality. About 17 percent have low nutrient levels and are classified as oligotrophic or subjectively "high quality" trout lakes. Another 53 percent have moderate nutrient levels and are called mesotrophic or again subjectively "good quality" lakes. Lakes with high nutrient levels are classified as eutrophic (22 percent) and lakes with very high nutrient levels are hypertrophic (4 percent). This situation makes Michigan somewhat unique. Low productive (oligotrophic and mesotrophic) lakes are relatively rare, except in Canada.

Ecologically low nutrient lakes are much more sensitive to nutrient loading than eutrophic and hypertrophic lakes. If a community is fortunate to have an oligotrophic or mesotrophic lake and they want to maintain this unique resource, they should implement land management strategies which will reduce sediment and nutrient loading to the lake. Once degraded it will be difficult, if not impossible, to restore the lake to its original high quality condition.

At the federal level agencies such as the Natural Resources Conservation Service, Environment Protection Agency (EPA) and others have developed documents and tools such as EPA's Nitrogen and Phosphorus Pollution Data Access Tool to help states and other stakeholders develop effective nutrient reduction strategies. States have passed laws to reduce phosphorus in detergents and fertilizers.

States with laws to reduce phosphorus inputs from turf fertilizers include: Minnesota, Maine, Wisconsin, New York, Florida, Vermont, Michigan and others. An interesting point is that the seven states listed are the lake rich states of the United States. Maybe as much as 70 to 80 percent of the lakes in the country outside of Alaska are in these seven states. These states have recognized the need to reduce phosphorus input to their lakes from a significant source.

Issue:

Senate Bill 648 was recently introduced into the Michigan legislature. The Bill will amend the Natural Resources and Environmental Protection Act (Act 451 of 1994) Part 85 (Fertilizers). In particular it will amend recently enacted legislation.

In December 2010, statewide phosphorus application restrictions were added to Part 85. Public Act 299 of 2010 limited the use of phosphorus fertilizers on residential or commercial lawns, beginning January 1, 2012. Phosphorus applications for agriculture, for new turf establishment, mature lawns needing phosphorus based on soil test results and golf courses that complete an approved training course are not included in the limitation.

One change Senate Bill 648 will make is in Section 8512b(4) of the law. It proposes to change the word "phosphorus" to "available phosphate (P₂O₅)". Supposedly this word change will clean up the language in the law since fertilizer products are registered by the amount of available phosphate in the product. The middle number on the product bag refers to available phosphate. Consequently, a fertilizer product that has zero phosphorus has zero available phosphate, but could have an unknown amount of total or organic phosphorus, depending upon how the phosphorus is analyzed and measured.

The proposed wording change could be a significant issue. The current language of the law limits turf fertilizers to minor amounts of any phosphorus type. The language change would limit turf fertilizers to minor amounts of available phosphate, but to possibly unlimited and unknown amounts of total and organic phosphorus. New "natural" fertilizer products are coming on the market, which are mostly manure based. These products may have minor amounts of available phosphate, but high amounts of organic phosphorus.

Organic phosphorus is likely to remain on the turf longer and be more subject to movement with stormwater runoff than inorganic phosphorus. *Continued on Page 8*

Continued from page 7 **Position on Senate Bill 648**

Prepared by Michigan Chapter North American Lake Management Society

Additionally, organic phosphorus can and is usually converted to available phosphorus by environmental processes in surface water. Consequently, organic phosphorus applied to the land will likely become available phosphorus in rivers and lakes to produce aquatic weeds and algae blooms.

The purpose of Act 299 of 2010 was to protect the recreational lakes and streams of Michigan from avoidable nutrient pollution. Just as with limiting phosphorus in detergents was accomplished with minimal impact upon consumers, limiting phosphorus in turf fertilizers will have a limited impact upon consumers. While the impact upon consumers is minimal the benefit to Michigan's high quality lakes and streams will be significant. Senate Bill 648 will not only undo the benefits of Act 299 of 2010, but could result in even greater amounts of phosphorus entering Michigan's recreational waters. As with the other lake rich states, Michigan should continue to protect its valuable water resources, especially where it can be done with minimal impact upon the citizens.

The Michigan Inland Lakes Partnership has approved this Issue Statement and will be sending letters to the State Senators."

From the National NALMS Newsletter

Hydrilla in Upstate New York

By Holly Watefield (CLM), SUNY Oneonta Cooperstown Campus Biological Field Station Main Laboratory

The first documented population of *Hydrilla verticillata* in upstate New York was reported in August and occupies more than 95 acres within the Cayuga Lake Inlet in the City of Ithaca, New York. The infested area is slated for a rapid-response herbicide application in October to reduce the potential for spread throughout Cayuga Lake and other water bodies in the Finger Lakes Region. Many of the Finger Lakes are connected to the Erie Canal and Lake Ontario, facilitating the spread of aquatic invasive species in the region and highlighting the need for outreach and diligence in preventing further spread of exotic species.

Continued from page 3 **Finding the Balance Again: From the Round Lake Improvement Board**
By Jill Budzynski, Secretary

Very healthy populations of native weeds like Southern Naiad, Wild Celery and the non-native Curly-Leaf Pondweed were verified. This same course was taken for 2011, in addition to which the RLIB found that Curly-Leaf Pondweed was outcompeting other native lake weeds, and therefore needed to be cut back to be kept in balance. A total of 20 acres were treated in 2011.

In summary, the RLIB has been very pleased with its treatment program and the performance of Lakeshore Environmental, Inc. in managing down the EWM incidence in Round Lake. Inevitably, unforeseen challenges arise in trying to manage all aspects of a lake environment's native and invasive vegetation, especially a lake as heavily infested as Round Lake. But with careful planning and flexible, expert-guided responses to natural events, the Improvement Board has been able to accomplish its goals and stay within its budget. The lake is once again a wonderful source of boating, fishing, swimming and bird watching entertainment for residents and visitors. The RLIB knows that the next threat is always on the horizon, be it reappearance of EWM or a new species infestation (e.g., Hydrilla, Phragmites, etc.). The RLIB will seek approval of its next operating period in order to stay on top of lake management for the benefit of Round Lake and its residents and visitors.

NOTE—Summary of 2011 Fall Conference by Howard Wandell

The fall 2011 conference was well attended with about 70 individuals registered. The conference started Thursday with a training session for lake communities. Ten communities received instruction in developing and implementing a first order management plan for their lake. McNALMS will followup with these communities over the next year to track their lake management efforts.

On Friday the conference session began with a plenary at which Dr. Michael Nelson from Michigan State University discussed ethical values for environmental action. Dr. Nelson was followed by Mr. Peter Manning from the Michigan Department of Attorney General who addressed recent legislative and policy issues regarding lakes. In the afternoon two concurrent sessions were held. One was on new research efforts in lake ecology and management and a second session on new efforts in aquatic plant management. A closing presentation was made by Mr. Gary Crawford on the new invasive plant starry stonewort, which was very well received.

Evaluation forms for the conference were generally very positive. Participants liked the venue, the presentations and the conference format. For next year's fall conference McNALMS will return to the Kettunen Center on September 20th and 21st. The same format will be used but more time will be allotted between presentations to allow participants to interact and meet with the exhibitors. We hope you will be able to join us in September at the Kettunen Center.

Spotlight on Corporate Members

Depth, Diversity, and Experience of PLM Lake and Management Corp.

PLM Lake & Land Management Corp goals for over thirty years have been to protect the environment, improve aesthetics and reduce economic damage caused by invasive plant species. We provide a team of expert biologists, foresters, ecologists and managers to evaluate your environment, prioritize existing problems and develop plans to prevent new infestations.

PLM's 30 plus years of experience provide a unique understanding of aquatic and terrestrial vegetation control methods, which have been proven through the successful management of lakes, ponds, and watersheds throughout our service regions. Michigan has offices located SE of Grand Rapids, East of Lansing and plans for a northern office by spring of 2012. Other divisions of PLM are located in Minnesota, North Carolina and South Carolina.

PLM offers a variety of watershed management tools, products and services including lake and pond surveys, vegetation mapping (AVAS), invasive species management plans, herbicide and algicide applications for aquatic and terrestrial species, bathymetric mapping, water quality testing, aquatic harvesting, aeration and fountains, fish assessments, and right of way (ROW) management. Our company also caters to the invasive plant and algae control needs of power generation companies.

At PLM, our Plant Management Programs focus on preserving and protecting desirable plant life while controlling unwanted "weed" species through remediation services. In addition, these preventative programs strive to keep the site free of unwelcome plants that are known to be pests elsewhere in the region.

Under PLM's Plant Management Program, we first ASSESS and record the site goals. Next, we PRESCRIBE an individually developed management plan to control unwanted plant life. After consultation with our customer, we then IMPLEMENT the agreed upon plan. Later, we evaluate the results and use the information to modify and improve our priorities, processes and plans - starting the cycle again.

Our Plant Management Program minimizes the total long-term impact of noxious aquatic and terrestrial vegetation. Our priorities include prevention of new infestations and management of existing plant life, providing you the most value for the investment.

www.plmcorp.net

EPA Website Seems to Have it All

Have a question about what is happening with our environment? Need more information on a current issue? How about the details of laws and regulations? Job openings? EPA career opportunities? It is all there at www.epa.gov/. Issues like the current status of the Gulf of Mexico cleanup are explored in depth in a feature titled, "Final Strategy for Restoration of Gulf Coast released" which is written in a style that is readable for those without a science background. A calendar on the homepage shows upcoming activities along with dates of recent events pertaining to environmental issues. Current topics are highlighted for quick reference and a US map on the site allows one to learn about the topical issues in a state by dragging the cursor to that particular state. This website is a comprehensive source of environmental information.

Calendar of Events

Michigan's Cooperative Lakes Monitoring Program (CLMP) for 2012 is now open for registration.

The CLMP is the second oldest volunteer monitoring program in the country, producing high quality data at a low cost for lake communities. Online registration is available at the web site www.micorps.net.

March 6, 2012

The conference, The Dynamic Great Lakes: Anticipating and Adapting to Change will be held on Tuesday, March 6, 2012 in East Lansing. This conference will address and highlight some of the latest research and management efforts being developed to assess critical issues facing the Great Lakes. The conference is free and open to the public. For conference information, contact: Lois Wolfson (wolfsonl@msu.edu), Institute of Water Research and Fisheries and Wildlife, 101 Manly Miles Bldg., MSU, East Lansing, MI 48823 or Emily Finnelle, (finnelle@Michigan.gov), Office of the Great Lakes, Michigan DEQ, PO Box 30473, Lansing, MI 48909. To register by phone, call (517) 353-3742. To register on the web, download a brochure, or to find updates, visit: www.iwr.msu.edu/events/ANRWeek.

March 7, 2012

The Michigan Natural Shoreline Partnership (MNSP) and its partners will focus on lakeshore restoration and how climate change may affect plant selection and performance during its second annual conference, titled Shoreline and Shallows Conference: Climate Change and Lakeshore Landscaping. The conference will be held on Wednesday, March 7, 2012 in East Lansing. The cost to attend is \$35, which includes lunch. For more information, contact John Skubinna, Michigan Department of Environmental Quality at skubin-naj@michigan.gov, 517-241-8370, or Lois Wolfson, Institute of Water Research, Michigan State University at wolfsonl@msu.edu, 517-353-9222. To learn more about the conference or to register online, visit: www.mishorelinepartnership.org.

April 27-28, 2012

Michigan Lake and Stream Associations, Inc. will hold its 51st annual conference on Friday April 27th to Saturday April 28th, 2012. The conference will be held at Boyne Mountain Resort near Boyne Falls, Michigan.

September 20-21, 2012

Michigan Chapter North American Lake Management Society, has scheduled its fall conference for Thursday September 20th to Friday September 21st, 2012. The conference will be held at the Kettunen Center in Tustin, Michigan south of Cadillac.

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