

BEAR LAKE IMPROVEMENT BOARD NEWSLETTER



Spring, 2012

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2012 AGENDA FOR BEAR LAKE

The objective of these spring newsletters is to educate lakefront owners on how they can help protect and improve Bear Lake. This newsletter will be issued to riparians and those in the Special Assessment District around Bear Lake annually so stay tuned to learn what is happening on the lake!

The protocol this year will include rigorous surveys and spot-treatments of any new EWM with systemic herbicides such as Renovate Max G or Navigate 2,4-D.

*****Note: There will also be public hearings this year on July 19, 2012 at the Manistee County Road Commission building on US-31 at 7:00 p.m.**

Scientists from Lakeshore Environmental will be surveying the lake and collecting water samples soon and will issue another annual report on all of the lake data and activities during the Fall of 2012. They will assure that the lake is properly managed so you can enjoy it in 2012 and in years to come!

Note: The anticipated time of treatment is from mid to late June and after if needed. The applicator will send notices by mail and there will be postings at all launch and swimming sites and at the local gas stations for all to see.

Visit the Bear Lake Website!

www.bearlakemichigan.org

Even more information on this beautiful lake is available here!

Also, Bear Lake Improvement Board Meets the 3rd Thursday of each month from April-October in the Bear Lake Fire Hall at 7:00 p.m. Plan to attend and share your thoughts...

Bear Lake Improvement Board Members:

- Gerald Stick, Pleasanton Twp. Rep.
- Don Brisbin, Chair, Riparian Rep.
- Bob Yates, Secretary, Bear Lake Twp Rep.
- Carver Edwards, Treasurer, Bear Lake Village Rep.
- Ken Hilliard, Manistee County Board of Commissioners
- Mark DiBenedetto, Manistee County Drain Commissioner

IT IS NOW ILLEGAL TO FERTILIZE YOUR LAWN WITH PHOSPHORUS!

As of January 1, 2012, Public Act 299 of 2010 became an official law. Under this law, all fertilizers that contain phosphorus (P) cannot be used by either homeowners or commercial applicators on residential and commercial lawns, golf courses, and athletic fields, UNLESS the soil meets an exemption.

Here are the basic highlights of the new law as it applies to riparians:

- No fertilizer with available phosphate (P2O5) can be applied on lawns except for on soils that prove deficient, new turf, or compost at a rate of 0.25 lbs of P per 1,000 square feet.
- Fertilizer cannot be applied to frozen soil or soil saturated with water
- Any fertilizer released onto a hard surface MUST be cleaned up immediately.



Algal blooms such as this one are primarily caused by too much P in the water.

A TECHNICAL READ ON HYBRID MILFOIL...

Aquatic Herbicide Treatment Re-cap (with systemic herbicides 2,4-D and Triclopyr):

June, 2008- 223 acres of EWM is treated

June, 2009- 11 acres of EWM is treated

**June 2010- 3 acres of EWM is treated
September 2010- 5 acres of EWM is treated**

June 2011- 10 acres of EWM is treated

Hybrid milfoil is a serious problem in Michigan inland lakes. A similar milfoil species that is considered to be exotic by some scientists (*Myriophyllum heterophyllum*) in New Hampshire was found to have significant impacts on waterfront property values (Halstead et al., 2003). Moody and Les (2007) were among the first to determine a means of genotypic and phenotypic identification of the hybrid milfoil variant and further warned of the potential difficulties in the management of hybrids relative to the parental genotypes. It is commonly known that hybrid vigor is likely due to increased ecological tolerances relative to parental genotypes (Anderson 1948), which would give hybrid milfoil a distinct advantage to earlier growth, faster growth rates, and increased robustness in harsh environmental conditions.

Furthermore, the required dose of 2,4-D for successful control of the hybrid milfoil is likely to be higher since there is much more water volume at greater depths it can occupy and also due to the fact that hybrid milfoil has shown increased tolerance to traditionally used doses of systemic aquatic herbicides.

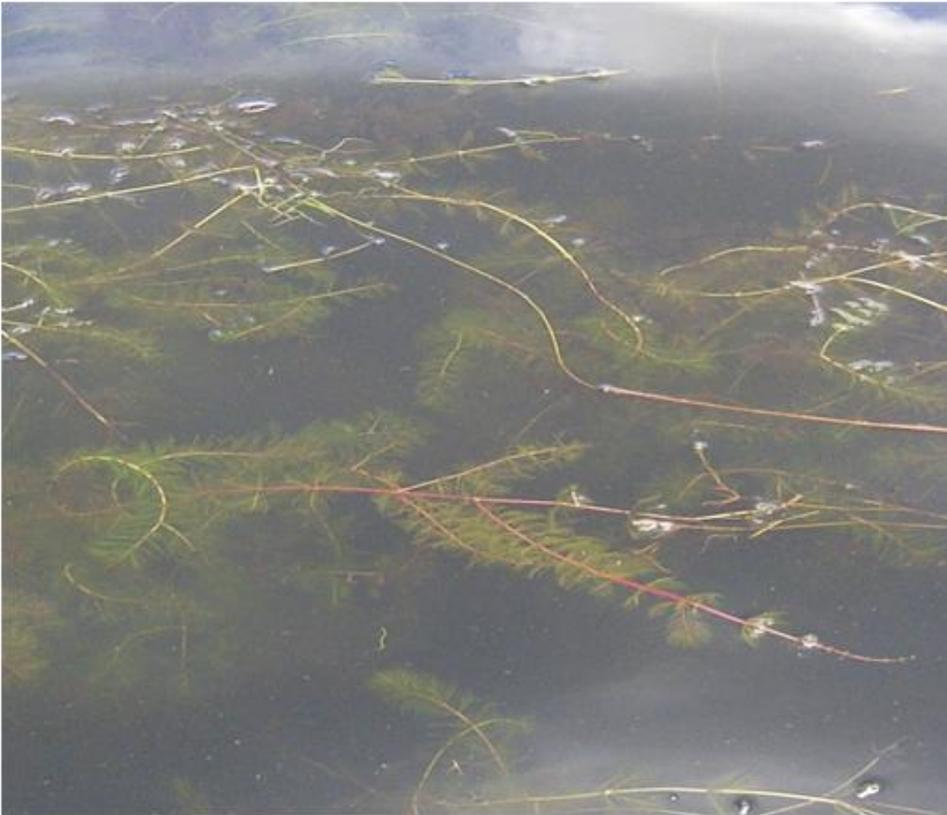
There has been significant debate in the aquatic plant management scientific community regarding the required doses for effective control of hybrid milfoil. Glomski and Netherland (2010) found that the greatest percentage of hybrid milfoil (93 - 100%) was successfully killed with 2,4-D concentrations greater than or equal to 70 $\mu\text{g L}^{-1}$. Their results may vary dramatically from open-water systems; however, as they were tested in laboratory aquaria and the results in field trials would be subjected to a multitude of external environmental factors.

However, the concentration of 70 $\mu\text{g L}^{-1}$ yielded a desired 2,4-D residue concentration to be maintained for up to 21 days as in the study by Glomski and Netherland (2010).

If this strain of milfoil is ever found in Bear Lake, it will be immediately treated with a strong dose of systemic herbicide as previously mentioned.

Hybrid species are generally bad because they acquire characteristics of two or more other species. This allows them to thrive in a larger variety of environmental conditions and therefore gain a competitive advantage compared to other natives. This is another reason why it is so critical to wash boats and trailers before launching into Bear Lake!!

WHAT DOES HYBRID MILFOIL LOOK LIKE?



Note: Red Stems with thick, dense green leaves. For more photos visit the Bear Lake website.

WANT TO BE MORE ACTIVE IN LAKE CARE? JOIN MICHIGAN LAKE AND STREAMS ASSOCIATIONS!

The Michigan Lake and Stream Associations (MLSA) is a non-profit organization dedicated to helping riparians on lakes all over the great state of Michigan. The overall goals of MLSA are to provide assistance with the formation of lake associations, provide educational tools and references for riparians, and facilitate an annual conference where hundreds of lake owners gather to share their lake stories, problems,

and successes. The MLSA Board of Directors meets several times a year to make sure that riparian needs are met. They are a group of dedicated individuals that are always seeking input from riparians like you!

Links to the membership for MLSA is available on their website. Be sure to subscribe to the Michigan Riparian magazine that is full of educational materials.

To learn more about this great non-profit organization, visit the MLSA website at:

www.mylsa.org

“To stay on the cutting edge, LEI scientists confirmed through genetic tests that Bear Lake milfoil was the Eurasian biotype and not hybrid – However, vigilance is still needed by all riparians to monitor for this highly invasive plant”



A sampler for lake sediment sampling



ABOUT ORGANIC MATTER “MUCK”

Organic Matter is basically decayed vegetation or other matter that is high in carbon and accumulates on the bottoms of lakes. It is usually referred to as “muck” and may be from a few inches to several meters thick in most inland lakes.

Lake sediments are usually comprised of organic matter, sands, silts, clays, or other minerals. Under warm water conditions with adequate oxygen, the organic matter is usually broken down by microbes and results in less “muck” accumulation. However, many lakes throughout Michigan have little oxygen at the bottom

and cooler temperatures there. As a result, the organic layer accumulates heavily and can impede swimming or boating activities.

The majority of the “muck” present in Bear Lake consists of some organic matter and sand and silt. Some of this originated from the external watershed (mainly wetlands) or was introduced into the lake years ago from storm events that carried sediments from the land into the lake.

The use of laminar flow technology that has proven quite successful in other Michigan

lakes, actually increases the ability of bacteria to thrive in the lake sediments and biodegrade the muck. Some lakes have seen more than a foot of reduction in muck during the first year of use. This would mean greater water depths and improved recreation for humans and wildlife. This technology will be given careful review this season.

**Lakeshore
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