

Inland Lake Management in Michigan



September 2021

Mark Tonello, MDNR Fisheries Management Biologist



A little about me...

- Orig. from SE MI
- Have always loved to fish!
- BS from MSU
- MS from Ball State U
- Worked for DNR for 25 yrs.
- Worked in Cadillac for last 23+ yrs.
- Dream job, dream location!!!



Inland lake management in Michigan- a “privatized” system

- DNR manages fish, amphibians, reptiles, etc.
- DNR is not funded or mandated to manage aquatic plants
- EGLE only provides permit oversight and issuance
- Private “lake management” companies prescribe and conduct actual treatments



MDNR Fisheries Division's role in inland lake management

- Conduct fisheries surveys, often with netting and electrofishing
- Surveys may include some habitat evaluations
- Write reports with survey results and proposed fisheries management actions
- Recommendations regarding habitat often included in reports



- In this report, management recommendations included spot treatments for EWM only when **absolutely** necessary while not treating native plants.
- Another recommendation included protecting wetlands adjacent to the lake.
- Final recommendation was regarding shoreline mgt favoring natural shorelines instead of seawalls and artificial riprap.
- There were more habitat recommendations than there were fish recommendations!

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Status of the Fishery Resource Reports/Management Plans

Status of the Fishery Resource Reports contain the results of major fisheries surveys of Michigan lakes and rivers. Each report briefly describes the environment, the fishery resource and the management direction for the water body. Each report also contains a table that summarizes information on the fish species found.

This is a complete list of all published Fisheries Division Status of the Fisheries Resource Reports.

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Status of the Fishery Resource Report

2019-273

Page 1

Big Bass Lake

Lake County

Big Sable River Watershed; last surveyed in 2018

Mark A. Tonello, Fisheries Biologist

Environment

Big Bass Lake is a 290-acre natural lake in Elk and Sauble Townships in northwestern Lake County, approximately 5 miles southwest of Irons, Michigan. Big Bass Lake is irregularly shaped, with four distinct lobes. Most of the lake is less than 15 feet deep, although there are three different holes that are in excess of 30 feet. The deepest point is approximately 45 feet deep, in the northern basin of the lake. Big Bass Lake has approximately 7.1 miles of shoreline, including four islands. The substrate in the lake is mostly organic, with sand and a few patches of marl in the shoreline areas. The shoreline is highly developed with many homes surrounding the lake and only a few areas of undeveloped shoreline. The geography in the vicinity of Big Bass Lake is hilly and forested, with predominantly sandy soils. Big Bass Lake lies within the boundaries of the Manistee National Forest (administered by the US Forest Service or USFS), although no USFS land directly abuts Big Bass Lake.

Big Bass Lake is in the Muckwa Creek subwatershed of the Big Sable River watershed and has one stream flowing into it- the outflow from Little Bass Lake, which lies just to the northeast. The Little Bass Lake outlet flows directly into Big Bass Lake through a short ¼ mile stream channel. The outflow from Big Bass Lake is intermittent, but when it carries water it flows into a stream channel that eventually joins Muckwa Creek after flowing through a series of wetlands.

Public access to Big Bass Lake is gained at a Michigan Department of Natural Resources (MDNR) boat launch located on the southwestern lobe of the lake. The site has a hard surface boat launch with one skid pier, a pit toilet, and parking for 10 vehicles and trailers. Aside from the MDNR access site, riparian land ownership on Big Bass Lake, including the islands, is private.

Because it has extensive shallow areas, Big Bass Lake has an abundance of aquatic vegetation. In the past, there have been problems with Eurasian milfoil and other nuisance aquatic vegetation. The first permit for aquatic nuisance treatment on Big Bass Lake was issued by the Aquatic Nuisance Control Section (ANC) of the Michigan Department of Environmental Quality in 2009. The most recent permit from ANC for chemical treatment of aquatic nuisance macrophytes (issued in April 2019) allows the treatment of up to 95 acres of the lake but does not specify exactly which chemicals will be used or the species to be targeted.





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Aquatic Nuisance Control Unit

- Responsible for issuing, oversight, and enforcement of lake management issues, including chemical treatments.
- Vastly understaffed. Only 5 Biologists to cover the entire state of Michigan (more than 1000 Michigan lakes have been permitted in the past).
- This makes for difficult oversight and/or enforcement.
- Only able to conduct field investigations on a few lakes per year.
- Rarely deny permit applications, even when DNR Fisheries staff request denial.



Therefore, it falls primarily on lakefront landowners, lake associations, and lake improvement boards to hire private, for-profit “lake management” companies to manage aquatic plants (and other similar issues) in Michigan’s inland lakes.



Lake Management Companies:

- Often have degrees in aquatic sciences
- Certified Pesticide Applicators
- Conduct lake surveys, provide treatment prescriptions
- Usually handle permit application process
- Conduct treatments



So, who actually decides what gets done to Michigan lakes?

- It is the entity hiring the lake management company that ultimately has control.
- ***After all, they're the ones paying the bill, right?***
- It depends on the goals of the lake association.
- As you might imagine, this leads to a wide range in treatment strategies and outcomes.

Get those weeds gone
by the 4th of July so
they don't touch my
grandkids feet!

Wait, what about
the fish, reptiles,
amphibians, and
invertebrates?





Vs.



“Lake Management” companies are not all the same either

- Some are very conscientious, thorough, and consider the long-term health of a lake
- Some will consider all aspects of lake management
- Others will only examine nuisance plants and design treatment strategies to ensure that they need to come back year after year, for profit maximization.



“Grow weeds/kill weeds” strategy

- Relies heavily on chemical treatments to control nuisance aquatic plants.
- Annual treatments required.
- Doesn't examine root causes of excess plants.
- Can lead to muck build up on the bottom of the lake.
- “Lawncare” company strategy.



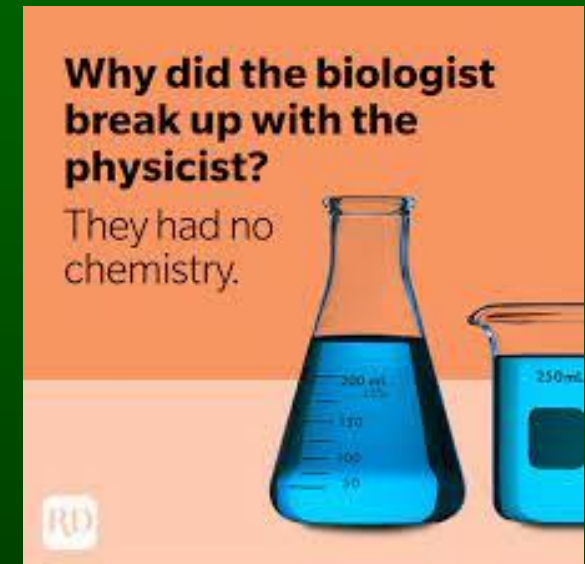
“Kill weeds/grow algae” scenario

- Aggressive chemical treatments kill many (or even all) of the aquatic plants in a lake.
- Without plants to sequester nutrients, algae runs rampant.
- Now even more chemicals are needed to treat algae blooms.
- Long term problems.



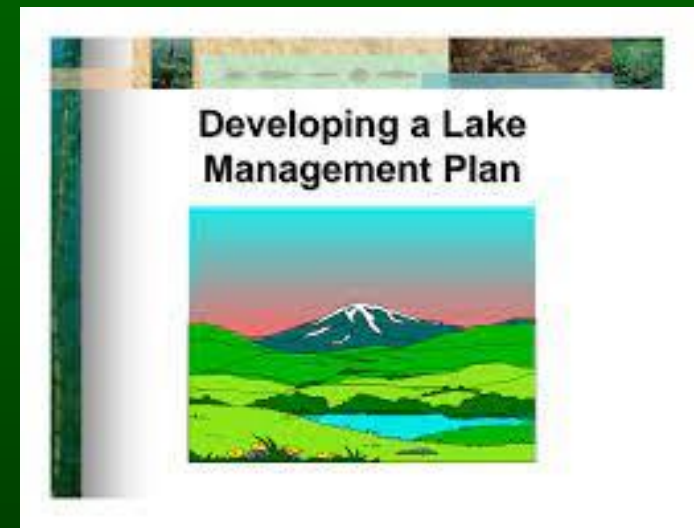
Ok smarty pants Fish Biologist, what do you recommend to lake associations?

- Take an active role in the management of your lake; you're paying the bills. Educate yourselves!
- Only let the company treat plants with chemicals if they are an actual nuisance inhibiting use of the lake (fishing, swimming, boating, tubing, etc.).
- Ask about alternative treatment methods other than chemicals.
- Ask them to look at all aspects of lake management: nutrient inputs, shoreline management, overall plant community composition, popular fish species present, historical review of issues on that lake, etc.



Ok smarty pants Fish Biologist, what do you recommend to lake associations?

- Go out on the lake with your company!
- Ask the company you hire to produce an actual management plan addressing all aspects of lake management, not just a list of chemicals to dump in the lake.
- Consult professionals- MDNR Fisheries, EGLE, etc.
- Don't be afraid to do some comparison shopping with different companies!



Lake Management companies are a **critical component** of lake management in Michigan

- They are very necessary under the existing “privatized” system in Michigan.
- Provide insight, expertise, and experience no one else has.
- Intensive field study of individual lakes that other entities (DNR, EGLE) often cannot do.
- But they are for-profit businesses, so economics and free market principles are in play.
- Consumers should set the tone of the market.



Inland lake management is not easy!

- Invasive species suck!
- Doing it right means private citizens (lake associations) are putting time, effort, and financial resources into it.
- Holistic approach is much better than just repeatedly dumping chemicals.
- It is a never-ending job that needs civic and environmentally minded folks to carry the torch!



Thank you!

