



Spring 2017

Lake Shore Breeze

Fremont Lake Association

MISSION STATEMENT

The purpose of the Fremont Lake Association will be to improve the water quality of Fremont Lake and its watershed through research, education and actions leading to lake maintenance and improvements; promote activities which enhance the social welfare of its members & provide pertinent information through its Website, Newsletter and meetings as appropriate. ▲

FREMONT LAKE AQUATIC PLANT MANAGEMENT UPDATE

By: BreAnne Grabill, Northern Regional Manager, PLM Lake & Land Management Corp.

Spring weather has been trying to make a comeback for a few months now and hopefully our official warm up is not too far off. We again have had an abnormal winter. The last two winters have been warmer than normal, with less snow and ice coverage on the off than normal lake and earlier ice. Changing weather patterns directly impact the plant growth in our lakes. Exotic species, especially Eurasian watermilfoil (EWM), can thrive off of changes in weather patterns and take full advantage of an early growing season. This could lead to more plant growth than normal.

In 2016, EWM plants were found growing throughout much of the lake and treatment was performed to selectively target that species while promoting native plants lake wide. The initial treatment was effective in controlling the plants throughout much of the season. However, fall surveys found new milfoil growth in the lake, in areas where the milfoil was not present in July and August. With the longer growing season and changing plant genetics, it's not unexpected to find plants during the fall survey and important to continually survey Fremont Lake to stay on top of changes in the plant community.

Based on the growth found in 2016, I have recommended to the lake committee that aggressive and thorough surveys and management take place for the control of any and all exotic plants in the lake in 2017. Thankfully, the program is in place to deal with exotic plants annually, in order to

protect the lake each and every year. It is important that other exotic plants are being watched for as well. One of the most detrimental exotic plants to infest our local lakes is Starry stonewort. It is vital that we all work together to promote healthy native plant communities while managing the exotic plants in the lake. Please be on the lookout for any changes in your lake!

Please watch your shoreline for posting signs with updated treatment information in your area of the lake. Please feel free to contact PLM @ 800-382-4434 ext. 2200

Please enjoy a safe summer on Fremont Lake. ▲

Best Regards,
Bre Grabill, Northern Regional Manager, PLM Lake & Land Management Corp



2017 ANNUAL MEETING

The 2017 Annual Meeting will be held on Saturday, May 9 at 9:00AM at the Sheridan Township Hall. The agenda includes; Presentations & discussions led by Erick Elgin – MSU & Bre Grabill – PLM, Treasurer’s Report, Report on the 2017 Weed Control Program, Fireworks / Boat Parade & discussion of 2016 & 2017 activities. Coffee & donuts will be provided.

Michigan State University Study of Water Quality & Aquatic Plant Assessment

MSU Researchers Report on Fremont Lake Water Quality and Aquatic Plant Assessment Survey by Erick Elgin, Lois Wolfson, Angela De-Palma Dow, and Elizabeth Throckmorton

Fremont Lake is a large and well-utilized inland lake that supports a variety of recreational activities, bringing ecological value and economic profit to the local community. Through the decades the Michigan Department of Natural Resources (DNR), local citizen scientists, and Grand Valley State University (GVSU) have collected water quality data that help reveal why Fremont Lake is the way it is today. Water quality is important to track through time because it tells a story about lake conditions, and when it is compromised, so too is the value of the services that the lake provides.

Continuing the rich history of data collection, the City of Fremont and Sheridan Township contracted MSU researchers to study Fremont Lake’s water quality, aquatic plants, and tributaries. The specific goal was to determine the progress of and to the lake based on recommendations provided by a 2010 GVSU report. Three streams (Daisy Creek, Brooks Creek, and Fremont Drain) that enter Fremont Lake were also studied to understand the nutrient pollution contributions of the streams to the lake’s overall water quality.

Fremont Lake has not changed substantially from the GVSU Baseline Report in 2010; however, the lake has changed considerably in the last several decades. Since the diversion of wastewater from the City of Fremont in 1972 and the removal of common carp in the 1980s, the water quality in Fremont Lake has greatly improved. Data available from the 2000s indicate that the lake is consistently in the moderately enriched (mesotrophic) and more enriched (lower eutrophic) spectrum – a positive divergence from when Fremont Lake was extremely enriched (hypereutrophic). Hypereutrophic lakes contain excessive nutrients such as phosphorus and nitrogen, which severely reduce water quality. As nutrients increase, the lake water can become very green, water clarity declines, and fish

kills can become common due to low oxygen

levels. Today, Fremont Lake continues to be mildly eutrophic, which is likely due to both relics of the past and present activities on the lake and surrounding watershed.

A current and historical concern for Fremont Lake is low oxygen levels, which begin in the bottom portion of the lake in early summer and eventually reach the middle portion of the lake later in summer. In late summer, the MSU team found little to practically no oxygen present at depths greater than 20 feet. Low oxygen in the bottom portion of the lake confines most organisms, including fish and their food sources, to the upper portions of the lake. A secondary consequence of oxygen depletion is the release of nutrients, including phosphorus, from the sediments, which may contribute to higher algae concentrations later in summer and fall. Unfortunately, there is no simple solution or tool that will quickly improve dissolved oxygen levels throughout Fremont Lake. Improving conditions will require a multi-year and multi-faceted approach that includes reducing nutrients from entering the lake and preventing nutrients from being re-suspended from the lake sediments. Decaying matter inputs from algae, grass clippings, etc. must also be reduced to improve oxygen conditions.

Fremont Lake has an abundance of beneficial aquatic native plant species, however, there are also several invasive aquatic plants of concern in Fremont Lake such as Eurasian watermilfoil (*Myriophyllum spicatum*) and curly-leaf pondweed (*Potamogeton crispus*). These troublesome species will need continuous monitoring and treatments. If left unchecked populations of these plants can drastically reduce the ecological and economical value of a lake. It is important to track the relative amounts of these species, in addition to preventing and monitoring the introduction or presence of new invaders, to identify if management strategies are being effective and where to prioritize future efforts.

MICHIGAN STATE
UNIVERSITY

Continued ...

Shoreline health in Fremont Lake is mostly stable due to the large wetland shoreline along the east and south sides of the lake; however, some heavier development and artificial shorelines along the north shore of the lake, in combination with heavy boat activity, are contributing to a degraded shoreline in those areas.

MSU sampled the three tributaries (Daisy Creek, Brooks Creek, and Fremont Drain) twice, once in May and once in August, upstream of the city of Fremont and downstream just before the streams entered the lake. Nitrogen concentrations from Brooks Creek were above EPA-suggested maximums in August for both the 2016 and 2009 studies. Only Fremont Drain exceeded EPA-suggested phosphorus maximums in the 2016 study. However, the suggested phosphorus maximum was exceeded in Brooks Creek for the 2009 study. The upstream and downstream data showed that the city of Fremont was not substantially contributing nutrients into the streams. Our study indicated that the contribution of nutrients through stream tributaries is just one factor in the contribution of non-point pollution sources entering Fremont Lake. Other factors may include excess stormwater runoff directly into the lake, leaking septic systems, and/or nutrient release from the lake sediments.

It is interesting to understand how changes in land use and human activities affect Fremont Lake and its tributaries. In

the late 1800's Fremont Lake was a relatively undisturbed system with good water quality. As the land in the watershed changed from forest to agriculture, and as the local human population and industry increased, the lake became degraded enough to be designated by the EPA as a "problem lake" in the 1970's. Since then successful efforts have been made to protect and enhance Fremont Lake's water quality. Going forward, continued monitoring and good management decisions on the part of lakeside residents, stakeholders, and community members will help the water quality of Fremont Lake continue to improve.

Do you want to be more involved in collecting needed water quality data on Fremont Lake? Fremont Lake is in need of volunteers willing to dedicate as little as an hour once or twice a month from ice off until August. No prior experience is needed, just a willingness to learn and participate. 🚣

To read the MSU report in its entirety, please contact Erick Elgin | MSU Extension | elgineri@msu.edu | 231-928-1053.

Funding for this project was provided by the City of Fremont and Sheridan Township.



INDEPENDENCE DAY CELEBRATION REDNECK YACHT CLUB MONDAY, JULY 3RD

(Please Note: Rain Date for Fireworks & Boat Parade is July 8th)

We continue to honor, celebrate & enjoy Independence Day with Spectacular Fireworks, Creative Boat Decorations with Enthusiastic Crews, & Patriotic Parties. The 1st order of business is to thank Eric Hanson & Scott Crandell for organizing the “Community Fireworks” these many years. This year they’re being joined by Tom Karnemaat. This collaboration should result in a significant improvement of the quality, quantity & visibility for the entire community to enjoy. Eric & Tom are planning to shoot this year’s program from the center of the lake. This “Lake Viewing” concept promises to be spectacular & this collaborative effort will be appreciated by the entire Community.

The 2nd order of business is thanking the “Community Fireworks” contributors. Past years Fireworks have been financed by anonymous donations from a few families & FLA Property Owners. Eric reported at our 2016 Annual Meeting that the cost of prior years Fireworks & insurance were about \$7,000 per year (Last year FLA Property Owners contributed \$1,665 plus \$500 from FLA funds) The reason for the Wednesday, July 5th Rain Date is that a licensed contractor is required. Eric Hanson volunteers to shoot the Fremont Lake Fireworks at no charge. However, he does have a contract on July 4th & needs the time to reset the Fireworks & equipment in the middle of the lake.

The 3rd thank you is to all of us who are participating in the Dues & Fireworks contributions. This voluntary effort results in Fremont Lake being a “Community Asset” for the entire area. Please send your donation to Fremont Fireworks Assoc. LLC, c/o Crandell Funeral Home, Box 148, Fremont or include your contribution with your Membership. In other words, Big Booms need Big Bucks!

At 7:30 the “Redneck Yacht Club” regatta will gather at the VanBoxel Point. This year’s theme was suggested at last year’s Boat Parade by the Crandell Family. To keep our competitive spirit flowing, our distinguished judges will award Prize Winner Ribbons. We continue to seek judges of integrity & high standards. Please let Norm Knorr know if you are qualified & will serve in this important function!! (924-4749). 



1st Place Boat Parade Winners

- 2007 4th of July Oosterhouse Family
- 2008 Olympics Cappel Family
- 2009 Honor the Flag Morehouse Family
- 2010 Pirates of the Caribbean Saii Family
- 2011 Anything Disney Saii Family
- 2012 Salute the Military Knorr Family
- 2013 Christmas in July Essebaggers Family
- 2014 No Boat Parade
- 2015 Anything 50's Vogel Family
- 2016 USA 240th Birthday Knorr Family
- 2017 Redneck Yacht Club Your Family

Financial Information for Aquatic Nuisance Control Assessment

The Special Assessment District (SAD) addresses our Mission Statement to manage the water quality more effectively was passed with a majority vote of Lake Property Owners. The provisions of the SAD are that the annual cost cannot exceed \$100,000 or \$300 per parcel. Parcels with lake access pay ½ & commercial property owners pay double. The City of Fremont & Sheridan Twp. subsidized the cost in 2013 & 2014. As expected, the 1st year addressed the many years of neglect & was the most

costly. The severe winters a few years ago reduced the cost the next 2 years. As explained in the PLM article, 2016 treatment was higher. Thanks are in order to the City of Fremont & Sheridan Twp. for their funding & involvement in managing the SAD. Their involvement this year is explained in the MSU Assessment of the Lake. It's important to note that the provisions of the SAD are that all funds from the Assessment are used exclusively for that purpose. ▲

	TOTAL COST	CITY OF FREMONT	SHERIDAN TWP	PROPERTY OWNERS TOTAL	PARCEL
2013	76,211	13,746	7,987	54,478	283
2014	47,300	9,459	5,675	32,166	156
2015	20,446		2,453	17,993	99
2016	47,153	260		46,893	241
MSU	25,878	12,939	12,939		
TOTAL	216,988	36,404	29,054	151,530	779

2013	100%	18%	12%	72%	
2014	100%	20%	12%	68%	
2015	100%		12%	88%	
2016	100%	1%		99%	
MSU	100%	50%	50%		
TOTAL	100%	17%	13%	70%	

2017 Membership Drive

The Fremont Lake Association reorganized in 2007 & adapted our Mission Statement that defines our purpose to enable FLA Members to more effectively manage a community asset that we currently share & enjoy for the common good as well as improve property & community values..

To this end, we've accomplished numerous projects & activities by using Association funds as direct payments, seed money & matching funds for the projects & grants we've been able to implement. In addition, our communication goal is to maintain a website & Newsletters to about 225 stakeholders in the Lake. As mentioned in the Fireworks article, thanks again for your voluntary participation in the FLA to make Fremont Lake a "Community Asset".

The "One-Stop" Membership Form includes your \$25 Annual Membership Dues & a Fireworks Donation for 2017. Your voluntary dues contribution enables us to fund improvement projects, communicate information & help support the Fireworks. Please return check to Fremont Lake Assoc., Sheridan Township, PO Box 53. ▲

2016 ANNUAL MEETING SUMMARY

The 2016 Annual Meeting was held on June 11 & attended by 30 people. Bre Grabill from PLM discussed the 2014 & 2015 weed control program & explained why the 2015 cost was down by 60% compared to 2014. She indicated the algae increase was due to a decline in the Zebra Mussels (algae eaters) due the hard winter & a 7 year life cycle that reduces their population. This along with heavy nutrients entering the lake resulted in the algae concern. Bre indicated that 2016 costs will probably

be substantially higher. Several members spoke very positively of the improvement of the lake & encouraged the Lake Association & the Township to continue with the lake management program. It was reported that the DNR Walleye stocking is scheduled for 2016. Eric Hanson indicated the 2015 Fireworks cost about \$7,000 & was funded predominately by anonymous donations from a few families, \$900 from FLA Property Owners & \$500 from FLA funds. ▲


Fremont Lake Association
c/o Sheridan Charter Township Hall
PO Box 53
Fremont, MI 49412
www.FremontLake.net

Annual Meeting

Saturday, May 13, 9:00 AM
Sheridan TWP Hall

Boat Parade & Fireworks –

Monday, July 3, 7:30 PM
Rain Date – Saturday, July 8
Theme – Redneck Yacht Club

Board of Directors

Bruce Haveman – Chair
Nels Johnston – Vice-Chair
Norm Knorr – Secretary/Editor
John Sella - Treasurer
David Landheer
Doug Nieboer
Ken Wolffis



FREMONT LAKE ASSOCIATION ACCOMPLISHMENTS & ACTIVITIES

- 2007 FLA reestablished & By-Laws adapted 2007 - Present - Member conducted Water Sampling sent to DNR/DEQ
- 2008 - 2009 - Water Rescue & Safety Demonstrations Co- Sponsored with Gerber Memorial Hospital
- 2008 Chris Caris Memorial - Fishing for Kids Activity started with FLA member volunteers
- 2009 Purchase & Install Signage at City & Twp. Launch Sites
- 2009 GVSU/AWRI Survey of Water Quality & Lake Inlets Funded FAFCF Grant & Association Funds
- 2009 MSU / DEQ Survey of Deep Water Sediment Core Samples
- 2010 Website established * * * fremontlake.net * * * By-Laws amended
- 2010 DNR stocking of Walleyes restarted (Usually about 40,000 Walleyes in the even years)
- 2010 Property Owner Weed Control contracts began with Professional Lake Management (PLM)
- 2011 Shoreline Restoration Planting with Muskegon Watershed Assembly
Funded by FAFCF, Muskegon Watershed Assembly & FLA funds
- 2011 Swan Control Project implemented in cooperation with USDA
- 2011 Professional Lake Management evaluation of Weed Problems – No charge
- 2012 PLM contract to recommend actions needed for weed control- Funded by Twp, City & FLA funds
- 2013 Reestablish a Special Assessment District (SAD) to control Aquatic Nuisances
Funded by City, Twp, Property Owner Assessment & FLA funds (Similar to SAD in 1980's)
- 2014 2nd year of SAD Funded by City, Twp, & Property Owner Assessment
- 2015 3rd year of SAD Funded by Twp & Property Owner Assessment
- 2016 4th year of SAD Funded by Property Owner Assessment
- 2016 MSU Survey of Water Quality & Aquatic Plant Evaluation Funded by City & TWP 

