

BEAR LAKE LAKE BOARD
REGULAR MEETING
Thursday December 13, 2018
6:00 p.m.
Laketon Township Hall
MINUTES

CALL TO ORDER: The meeting was called to order by Kim Arter at 6:02 pm.

PLEDGE OF ALLEGIANCE TO THE FLAG:

ROLL CALL:

- **Present:** Kim Arter, Darrell VanFossan, John Snider, Brenda Moore and Steve Johnson
- **Absent:** None
- **Also:** Representative of RLS Dr, Jennifer Jermalowitz-Jones, Certified Petroleum Geologist Linda Hensel, Recording Secretary Veronica West and approximately a dozen area citizens.

MINUTES: John Snider moved to approve the minutes of October 11, 2018 as presented. Darrell VanFossan supported the motion. The motion carried by voice vote. The minutes will be placed on file.

REPORTS:

- **Restorative Lake Sciences Annual Update/Report:** Dr. Jones gave to the Board the annual report that includes treatment data, water quality data and recommendations for 2019. She discussed the fact that the lake is still very low in oxygen throughout the season which may be contributing to several issues; a “dead zone” in the bottom that is devoid of oxygen, very low plant and animal diversity, and the blue-green algae (a toxic species of algae) blooms. She expressed that something radical needs to be done to get oxygen levels increased throughout the water column. She added that the petroleum found in the sediment cores could be contributing to the low oxygen levels. She went on to talk about the need and benefits of laminar flow aeration as well as using petroleum digesting microbes in combination to address both the petroleum in the sediment and increase the oxygen in the water at the same time. She takes about getting quotes for these treatments and taking more cores in 2019 in the areas where the highest concentration of petroleum was found in the 2018 cores in an effort to define where the petroleum is coming from. Brenda Moore asked about the petroleum with regard to how new or old it is. Linda Hensel talked about how petroleum degrades over time and the speed of that degradation depends on environmental conditions and it is slower in anaerobic environments. She added that raw crude oil is less damaging than refined petroleum products. Steve Johnson and Darrell VanFossan asked about 2019 activities, timelines, algae concerns and core samples. Dr. Jones explained her plans, as outlined in the feasibility study adopted by this board, by noting the following:
 - algae blooms can be chemically treated as they occur but she noted this is a band aid and must be used cautiously, she also noted increasing native aquatic plants and reducing invasive aquatic plants is also beneficial with regard to reducing the blooms of toxic types of algae
 - She discussed the need to manage and heal this lake from the bottom up is very important as many of the plants currently in the lake are not rooted in the bottom due to the petroleum.
 - She discussed taking 30 more cores in 2019 in the 8 areas where the petroleum concentrations were the highest and this activity was planned and budgeted for in the plan
 - She talked about getting bids for the whole lake laminar flow aeration system in midsummer - cost is unknown at this time due to the many variables concerned. She also added that a vendor will need to be selected by fall in order to get it

installed before the end of the 2019 season and the annual date set by the MDEQ for these types of systems to be shut down for winter.

Darrell VanFossan also asked her about MDEQ and/or EPA input and any other funding sources such as grants as addressing the petroleum issues sounds expensive. John Snider asked if this situation can be added to the AOC (Area of Concern) and funds be leverage that way. Kim Arter noted that the MDEQ has been contacted but there was little response from the MDEQ, she also noted the EPA was contacted and they did not see this as a huge problem. Dr. Jones talked about researching & looking for other core studies from other lakes for reference material, and added that they will definitely look for any other source of funding, including grants. It was also noted that the AOC is set to expire in 2020.

Darrell VanFossan talked about finding information regarding aeration “do’s and don’ts” on the EPA website and asked Dr. Jones to elaborate on negatives of aeration. Dr. Jones stated she does not recommend aeration on lakes where it is not needed, she talked about MDEQ requirements for zooplankton analysis during years of aeration use. She also commented on the strict data sets required by the State and noted if the State feels there is anything negative taking place they can require the system to be shut down and for this reason, the vendors are required to have a “opt out” clause if the data shows the system is not performing to standards. She also talked about being able to smell the petroleum in many of the water samples taken from the lake and she can get a quantitative test to determine the levels. She also talked about the possibility of anerobic options if aeration is rejected by the MDEQ

There was additional discussion regarding algae and the large blooms that occurred this summer with Darrell VanFossan commenting on an MDEQ program that tests algae levels and wondered how to get in on that program and also stated he wants to “keep the store open” and treat the algae with chemicals while waiting for the aeration and other treatments to take affect. Brenda Moore noted that Mona Lake was involved in some MDEQ testing and it was less sophisticated that what this Lake Board and RLS are doing here. Brenda Moore did ask Dr. Jones about small area aeration vs whole lake aeration. Dr. Jones noted that Bear Lake has lots of fetch as it is a long lake and it is necessary for diffusers to overlap to mix the water properly so a whole lake system is necessary in this situation. Linda Hensel explained the need for overlapping aeration to get the required movement of the water to distribute the oxygen. Darrell VanFossan noted that in prior years phosphorus levels were the biggest concern and that concern is shifting. Dr. Jones noted the highest level noted this year was 40. Brenda Moore expressed curiosity about the system, vendors, engineers and divers. Dr. Jones noted Bear Lake is relatively shallow and there is a need to not disrupt the sediment. She explained various types of systems, noting ceramic diffusers are the best long term in her opinion and they will put design specs into the bid for the specific lake and the vendors typically have engineers on staff. Darrell VanFossan expressed the desire to go see a system in operation. Dr. Jones stated she suggested Indian Lake in Dowagiac and Kim Arter noted that would set up a time to go in the spring to see it in operation.

The Board opened the floor to public comment on the annual report.

- Kris Prentice of 1621 Mulder asked Dr. Jones to explain “fetch”. Dr. Jones explained that fetch is the longest unbroken stretch of open water on a lake.
- Doug Wagner of 1310 Moulton asked what laminar aeration is and the negatives and if it could unleash oil and contaminants into the water. Dr. Jones explained the aerating and noted that by definition, laminar aeration is not allowed to do so or the DEQ would shut it down. Mr. Wagner also asked if there was any EPA money left from the Fenner’s Ditch project to apply to the oil cleanup in the rest of the lake. Kim Arter explained that the money from the EPA/Fenner’s Ditch was project specific and that project is now complete. She stated there may be the possibility of money from the AOC. Mr. Wagner also asked about the compressors for an aeration system, where they would be located, how loud they would be etc. Dr. Jones talked about the locations being determined by the design of the system and the where electricity is available like parks and public property, but sometimes on private property with some lake boards asking for volunteers and sometimes with those volunteering their property getting break on their assessment. She also talked about the noise noting that compressors are now quieter than home air conditioning units and some boards have required housings or landscaping around them.

- Sue VanFossan of 138 N Bear Lake Rd expressed concerns about the toxic algae with regard to pets drinking out of the lake and possibly having swimmers itch as well next year. Dr. Jones noted it can be treated before a scum forms but noted caution needs to be used with these treatments as they can cause a fish kill and then the MDEQ would stop the treatment. Dr. Jones went on to explain the algae blooms are due to the lake being so sick and needed to get the lake “breathing” again. Mrs. VanFossan asked how long they need to wait before treatment starts and if the board has to approve algae treatment before it starts. Dr. Jones stated she would need to see what the MDEQ would allow and noted that she likes to use chemical with biological treatments and can schedule PLM to do this every 3 weeks and it is more of a budget issue than a board approval issue with regard to treatment.
- Cling Babcock of 648 Lake Street asked about the schedule for aeration. Dr. Jones explained the MDEQ data requirements over the season, selecting a vendor and depending on cost could be installed before 2019 winter/ice if permitted by the MDEQ. Kim Arter talked about the budget and aeration being budgeted to start in year three, she reminded everyone the full budget of this 5 year project is on the website. Mr. Babcock asked if there would be any additional assessments. Kim Arter replied that this is a 5 year plan/project and nothing further is planned at this time. Mr. Babcock also commented on the possibility of jumping to conclusions with aeration before the more cores are taken and analyzed from the 8 problem areas. He also asked if the public gets to review the work plans first. Kim Arter explained that meeting minutes and decisions are posted online after they are approved and it is important to come to meetings.
- Bernie Berntson of 12 S. Bear Lake Rd thanked Dr. Jones and the board for the work so far and continued testing, but commented that the residents need to see results and asked if money is available to do both sample/study and treat as he is very concerned about algae. Dr. Jones talked about the first year being the feasibility study and this year (2018) being the first year of work/treatment and yes there is money budgeted for treatment but caution must be used with algae treatment because too much treatment can cause a fish kill. Mr. Berntson also asked how exactly aeration works. Dr. Jones explained the use of on shore air compressors with air pumped through sinking hoses to ceramic diffusers that move through the water column.
- A resident that did not state their name or address asked why no docks or work had started at the park yet. Kim Arter explained there were delays due to MDEQ permitting as well as the fact that the EPA/Fenner’s Ditch project used Horton Park as a staging area for their equipment. She added that she anticipates the work to start on Horton Park in spring 2019 and noted the project is due to a \$300,000 DNR grant.
- Paul Prentice of 1621 Mulder asked about the hazards of blue-green algae. Dr. Jones noted there should be no skin contact with algae mats and pets should not drink the water during a bloom. Mr. Prentice asked if there is a concern with kayaking when blue-green algae is present. Dr. Jones said there is some risk, but the greatest risk comes from swimming or other body contact and pets drinking it. Mr. Prentice asked about the source of the petroleum and where the 8 area are within the lake. Dr. Jones noted they are spread around the lake and talked about how many years ago there were lots of oil wells improperly capped. She added that if the petroleum is old and there isn’t continued seeping the oil digesting microbes will get rid of it and if there is continued seeping there could be a need for annual bioaugmentation but it is too early to tell and that is why more data is needed from the additional cores to be taken in 2019.

COMMUNICATION:

- **MDEQ Press Release - RE: Fenner’s Ditch Project:** Kim Arter noted the press release is available on the MDEQ website, the Laketon Township website’s BLLB page and handouts are available in the back of the room with details on the project.
- **Bear Creek/Bear Lake Watershed Wetland Project:** Kim Arter discussed this project as it is upstream of Bear Lake located in Dalton Twp, Twin Lake area and is a flow through marsh to reduce sediment & nutrients that flow downstream in eventually end up in Bear Lake. It was a \$286,000 project. Brenda Moore also discussed the Ribe Drain (the marsh being connected to the drain) and the work being done on the drain is a \$2,000,000 project. Kim Arter noted she felt it important that the public be aware of these projects and funds that are being spent upstream that will also benefit Bear Lake.

OLD BUSINESS: NONE

NEW BUSINESS:

- **RLS Operating Agreement/Contract for 2019:** Brenda Moore asked Dr. Jones to highlight any changes as she sees the same fees, the scope of work is the same etc. Brenda Moore did ask for a signature on the document. Darrell VanFossan stated it seems to be a carbon copy of last years contract but noted the educational workshops and newsletters did not happen and he stated he wants to see invoices itemized over the quarterly billing periods rather than flat rate quarterly bills. Dr. Jones stated she did not want to duplicate things the Bear Lake Preservation Association (BLPA) planned to do and noted she has provided educational information for BLPA emails and newsletters. She added that the sampling activities are all the same. She also added that her past experience has led her to equal quarterly billing statements as the lake boards she has dealt with did not want variable bills, but the annual amount evenly spread throughout the year. Darrell VanFossan also expressed budget concerns with regard to the treatment of invasive and algae, noting he feels Dr. Jones and PLM should be treating the algae before residents notice it and that PLM under RLS direction should have the latitude to treat as long as they stay within budget. Dr. Jones stated she feels there will be less money spent on treating the invasive plants like milfoil and phragmites leaving room in the budget for algal treatment.

Darrell VanFossan moved to postpone a vote on the 2019 RLS Operating Agreement/Contract until January so he can have time to read it in full as he feels there are some minor changes needed. Dr. Jones stated she feels the scope of work needs to remain the same and they are doing extra work and research due to the core samples showing petroleum contamination. Brenda Moore stated she feels RLS has provided amazing shrive and would be concerned if there were changes to the contract and as it is the same as last year she has not issue with it. There was not support for the motion - motion dies.

Brenda Moore moved to approve the 2019 contract with RLS as presented. John Snider supported the motion. Steve Johnson asked if the scope of work is the same as last year, with Dr. Jones stating that it is. Darrell VanFossan pointed to specific language regarding the number of visits to the lake for water quality sampling, core sampling etc and noted he feels some of the fees are too high. He stated the reason for choosing RLS over other consultants was because of her plan and price but he feels that not everything happened that was supposed to happen. Dr. Jones emphatically stated that everything happened and is contained in the annual report as wells as some meetings lasting 3 & 4 hours.

Roll Call Vote:

Yes: John Snider, Steve Johnson, Brenda Moore and Kim Arter

No: Darrell VanFossan

Motion Carried.

- **Permission to use BLLB/RLS Information:** Darrell VanFossan requested that the Bear Lake Preservation Association (BLPA), which is a 501c3 non profit organization created to compliment the BLLB and seek donations to fund projects & education to improve water quality in Bear Lake, be permitted to use data and information gathered/created by RLS for the BLLB to create an educational pamphlet for residents. Brenda Moore asked if he is asking to use information from the feasibility study to create a pamphlet -and he responded yes. Kim Arter noted the information belongs to the BLLB as the residents paid for it. Dr. Jones noted that RLS and PLM can do informational workshops where they each have a booth and the MDEQ is invited to have a booth and the pamphlet can be a handout provided to residents. Brenda Moore moved that the Bear Lake Lake Board (BLLB) allow the Bear Lake Preservation Association of Muskegon County (BLPA) to use information from the Bear Lake Feasibility Study in the creation of an educational pamphlet for residents. John Snider supported the motion. The motion carried by voice vote.

PUBLIC COMMENT:

There was no further public comment.

ADJOURN: Brenda Moore moved to adjourn the meeting. John Snider supported the motion. The motion carried by voice vote and the meeting adjourned at 7:38 pm

Respectfully Submitted:
Veronica West
Recording Secretary

Approved by the Bear Lake Lake Board on _____.

Signed: _____.