Crockery Lake Association Board Minutes
September 21, 2022
Chester Township Hall

1. Call meeting to order 7 pm

2. Roll Call

Present: Betsy Ludwick, President; Pat Wolters, Vice President; Susan McClure, Secretary; Greg Slater, Treasurer; Bob Blaukamp, Past President; Director Carl Elliott.

Absent: John DeGeneres, Mollie Gaggin, Paula Humphrey.

3. Approval of Agenda

Greg Slater moved to approve the Agenda, Bob Blauwkamp seconded. Passed.

4. Call to Audience

Betsy Ludwick explained that for this meeting audience members could write down questions rather than ask them orally. Comments not pertaining to lake quality should be made now.

Chuck Lane, a member of the Lake Cleanup Committee, praised Betsy Ludwick, committee chair, for her persistent efforts. He presented a handout explaining why he opposed using EnBiorganics Technology's system for algae control as a free trial on Crockery Lake. He stressed that EnBiorganics (EBT) has not been permitted in Michigan, that inorganic material like phosphorous once ingested by algae does not die but becomes a nutrient for the next generation, and that EBT said a Michigan company would maintain the equipment and test for results but the company said it only maintains equipment. Chuck's point is that the free test EBT is offering is not free. The estimates are $600 for electric power and $5500 for testing.

Betsy said Chuck's report was inappropriate at a Board Meeting and should be presented to the committee.

5. Secretary's Report

Betsy Ludwick corrected the answer to Rick Glass's question "What is the cost [of Phoslock]?" Corrected answer: Respondent unknown--"It could be between $25,000 and $35,000 per season." Carl Elliott moved to accept the minutes as corrected, Pat Wolters seconded. Passed.

Susan McClure said she had sent a sympathy card to the family of Russ Lowell. She will also send a sympathy card to the family of Ken Wyngard.

6. Treasurer's Report

Greg Slater paid a $3500 down payment (50%) for the July 3, 2023, fireworks display. He noted the State of Michigan Annual Corporate Fee for non-profits will be paid in September. Carl Elliott moved to accept the Treasurer's Report, seconded by Susan McClure.

Bob Blauwkamp noted the liability insurance premium may be less because there was no firework display this year. Greg will check to see if there is a refund.

7. Zoom meeting with Dr. Jennifer Jones of Restorative Lake Sciences, Spring Lake, Michigan. 7:17 pm.

Betsy Ludwick introduced Dr. Jones, a limnolgist and owner of Restorative Lake Sciences. Dr. Jones gave an overview of Crockery Lake based upon available data. She described Crockery Lake as a sponge. Crockery Lake collects sediment from external sources like runoff as well as from bore water. Oxygen levels decrease over the summer. She mentioned four kinds of algae, filamentous, planktonic in the water column, floating, and nitella which clings to hard surfaces. The dead algae becomes a

nutrient along with the incoming nutrients. To care for both is costly. It is the nitrogen (nitrates and nitrites) and ammonia that spur the blue-green algae growth. The inlets must be measured for flow rates (cubic foot /second). Then the loading rate can be calculated. An inventory would be created. Then identify the critical source site. Fall and Spring are good times to test because of the heavy rains and the shift in stratification. In June look for phosphorous on the bottom of the lake. This data creates a profile.

Testing inlets during low to no flow means the water being tested could be back-wash from the lake. The water would not be a sample of what is coming into the lake. If the water coming into the lake is a problem, there are multiple solutions like rerouting, lining with rocks, catch basins, and filters. Sediment in the lake's bottom can be measured with four foot core samples. Inorganic sediments can be bound, i.e. phosphorous. Crockery Lake needs a baseline of flow rate and concentrations in incoming water.

Betsy asked what was the best way to determine success. Dr. Jones said we need a baseline pretest followed by a five to six month post-test. We need goals and we need to know what is coming into the lake. However, it is difficult to reestablish a lake to what it was. Betsy said more people are pumping septic tanks. Dr. Jones said that is good but we need to know what is coming into the lake.

Betsy asked if the wells are affected. Dr. Jones said to look at the hydrologic flow. People can have wells tested regularly for nitrates and chlorophyll.

Dr. Jones said there are three basic options. Crockery Lake may need to use more than one to restore the lake. One option is PhosLock, which binds phosphorous to it. It is temporary and will need to be applied more than once. It is harmless to the lake. The second is Alum. It also binds with phosphorous, but can be toxic to the lake and can affect plant life. The third is bioaugmentation. It can reduce muck, but its effectiveness is "hit or miss." There are many unknown factors.

Dr. Jones said phosphorous will bind with other minerals, but alum which will bind with phosphorous is toxic to organisms in the food chain. Data gathered in August is hit or miss. Water will clarify as algae dies off. There are so many sources of loading and of loading rates. We need to know what the loading rates are, if there are "smoking guns" in the drains, and to bring the farmers to the table. If there is evidence that the land is contributing to loading. the state can mandate corrections. While there is data for Dissolved Oxygen and temperature, there is no information about the nutrients in the bottom of the lake.

Greg Slater asked about nitrates and nitrites in the lake. Dr. Jones said both septic systems and agriculture are sources. Bob Blauwkamp asked to see a plan designed for another lake. Dr. Jones said she would send one to Betsy. Susan McClure asked what the items listed on the proposal to gather samples to establish a baseline are. Dr. Jones explained what the items are. Carl Elliott reminded Betsy to ask Zoom listeners if they had questions. There were none.

Dr. Jones closed with emphasizing the need to educate ourselves. She referred us to Grand Valley State University, MSU Extension Service, and North American Lake Management as reliable sources.

Betsy Ludwick asked if the audience had questions.

Karen Elliott praised Dr. Jennifer Jones for her knowledge.

Susan McClure moved we accept the proposal from Restorative Lake Services to sample the two deepest basins (n=50 feet and n=40 feet) for temp, DO, pH, conductivity, TDS profile, Secchi, Chi-a and algal community population, TP (total phosphorous), Ortho (usable) P (phosphorous), TKN , TIN, TSS at top, middle, bottom depths. At the four inlets there would be tests for TP, Ortho-P, TKN, TIN, TS and flow rate in cfs. The proposal includes a written report on the results, meaning, and implications. The cost would be $6,500. The data is to be gathered in September 2022. Pat Wolters seconded.

Discussion: Susan said that we need to educate ourselves in order to improve the water quality. Pat Wolters asked if the current Special Assessment District money could pay for the analysis. Betsy said yes. Greg Slater noted that the Special Assessment District money spent in 2022 for weed and algae control is $6284 + 1% fuel charge. There is enough money to pay for the analysis. Pat said it would be best to do the analysis in the Spring. Cory Schullo who works with school district water supply said we should do the analysis now because the fall turnover in the lake is happening now. Linda Lane asked what the costs for the summer tests would be. Betsy said she would find out. Susan noted that Dr. Jennifer Jones' training and work focuses on Michigan lakes.
Betsy called for the vote: Six yes, 0 no. Motion passed.

8. Fireworks 2023 Update

Carl Elliott announced the CLA will sponsor a fireworks display on July 3, 2023, for $7000. Greg Slater said the down payment of 50% is in the mail. Carl approved the list of fireworks that will be used. The show will be as good as the shows in the past.

9. Lake Treatment Review and Treatment

a. Grant Options

Betsy Ludwick and Chuck Lane watched a webinar addressing grants for water problems in Michigan. Crockery Lake problems do not qualify for grants directly affecting lake quality. However, Betsy learned there are grants available for failing septic systems. Jody Hyde clarified that grants are available for watersheds, not lakes. Ben Jordan, Ottawa County Conservation District, has grant money for water front preservation like rocks.

Chuck Lane talked with Eric Elgin, CLMP, who said the phosphorous level of 220 Ug/l was the highest he had ever heard of. It is so high that the state might be interested. EGLE may have money to help us. Elgin will get back to us.

b. Review of Treatment Options

Betsy Ludwick said this was a bad summer for the lake with the algae. Chuck Lane's comments have skewed the data. Chuck said he could back up everything in his handout, stating some of information was taken directly from Betsy and one other member's notes. Betsy said that as a nurse she understands microbiology, that microbes do not hurt anything. She said she is done fighting. Greg Slater said it depends on the goals, that we have to be open-minded, reminding us that the sewer was turned down five times. The Board needs to educate people.

Carl Elliott said he has presented various treatment ideas to the Board and been "shot down." Susan McClure reminded people that when the Board learned about PLM's use and success with PhosLock at Morrison Lake in Clarksvile, the Board dismissed PhosLock because of the cost. PLM has put PhosLock in seven lakes and has had success in all of them. During three years of application Morrison Lake saw an 80% improvement in the first year, 50% in the second. Chuck has read a number of case studies with similar results. Cory Schullo described his septic system which is a pretreated, enclosed, bioaugmentation system monitored once a month (Sludgehammer).

Betsy said information needs to be looked at in a committee meeting.

10. Water Quality Testing

a. Proposals from PLM and Restorative Lake Sciences

No proposal from PLM was discussed. See CLA Minutes of August 17, 2022, for a presentation of PhosLock by Jaime Dejardens of PLM and Pamela Dugan of SePRO Corporation.

See Item 4 for Restorative Lake Sciences.

11. Nomination Committee for 2023

Susan McClure had asked the Nominations Committee be appointed at the September meeting, per Policies. Betsy Ludwick did not find that direction in the Policies. The appointments were postponed until October.

12. Crockerylakeassociation@gmail.com access

The last CLA Minutes to be posted to the website was in 2018. No one was clear why the Crockery Website is hard to use.

Susan McClure moved all correspondence that comes to the above address should go to all Board Members. The President will respond. Carl Elliott seconded. Passed.

13. Review & Update of Board Policies

Company names need to be removed from the Policies.

14. General Lake Cleanup

Betsy Ludwick reminded people to keep leaves, branches, and mown grass out of the lake, and to remove ashes from firepits. All docks have to be out of the water by December 1.

15. Round the Table

Bob Blauwkamp and Carl Elliott had nothing; Pat Wolters rescinded her vote to support EnBiorganics Technology two month free trial on Crockery Lake, was told she could not do that; Susan McClure said we need to educate ourselves about the lake; Greg Slater thanked Betsy Ludwick for having Dr. Jennifer Jones for a Zoom meeting; Betsy Ludwick appreciated Dr. Jennifer Jones' presentation.

16. Next Meeting

October 19, 2022
7 pm
Site: TBA

Greg Slater will inquire about the Chester Township Hall. It costs $30 per meeting. Donations are used to pay for the room.