

Lake Quality Advisory Committee Meeting Minutes

August 11, 2021

Home of Fred Hicks and also via Zoom

Janet called the meeting to order at 6:02PM.

A. Attendance

Committee Members – Kimberly Clow, Linda Flores, Rick Flores, Janet Fulks, Fred Hicks, Alisha Loken, and Scott Ostrem.

Staff - Debbie Papac, Recreation Manager and Butch Reyburn, BVSA Board Member
SOLitude Representatives – Ben Chen, Anthony and Steve

Guest – Chris Fleming

B. Approval of Agenda – The agenda had previously been approved via email.

C. Approval of Minutes – The minutes of the June meeting had previously been approved via email and sent to Anita (BVSA.)

D. New Items

1. Janet introduced our guest attendee (Chris Fleming) and the rest of us introduced ourselves, including how/why we got involved with the LQAC.

2. Debbie reported that she received a lot of compliments on the information provided at our 4th of July booth. Janet said that hundreds of people stopped by, over the two days. Several of them expressed interest in either joining LQAC or volunteering for special projects and provided their contact information.

Rick created a “Lessons Learned” summary of our booth, as well as a booth inventory; (Appendix A-1.) He also suggested having a sample of ‘good algae’ available, the next time that we have a booth, as a lot of people were questioning the difference between good and bad.

3. Rick gave a report on the plants in the 7th Hole Pond. Although the lilies are thriving, he feels that we pushed their limit on the depth of planting. Rick also feels that we used too fine of sand, as there were several tubers that floated out of the plant baskets (approximately 40) even using rocks as weights. These were replanted in baskets and placed in Cub Lake (near the pier.) Several others which came loose, ended up attaching themselves to dirt in the side of the pond walls, and are also blooming. We need to start planning now, how we want to divide up the current lilies, and transplant them; ideally, in October, or after the lilies go dormant.

The plants in the two floating islands appear to be flourishing. Occasionally, Rick will go clear out the algae which grows on the islands, but that’s it. Initially, they didn’t look too well, but that was probably due to the shock of their environment change. He also feels that, in the future, only bare root stock plants should be used. Janet added

that phosphate and nitrate measurements taken from underneath the islands are considerably lower; therefore, that is an indication that the plants are acting as a filter.

SOLitude agrees that the best weapon to reduce nitrates is filtering the water a considerable distance away from the lake, through natural barriers.

4. Since our last meeting in June, representatives of LQAC (Janet and Fred) have met with the State Water Board, and they have continued to test the water quality of the BVS lakes. Overall, the water quality is doing fairly well. However, it looks like there is a Cyanobacteria bloom, which is primarily coming in from the well heads, that will need to be sent in for testing.

Fred reported that phosphorous levels in 4-Island have risen slightly. Once the weather gets colder, it will settle to the sediment, and be absorbed by the Phoslock. Cub Lake phosphate levels have decreased by nearly half. The Phoslock treatment is doing what it was supposed to do, pulling out the nutrients. The water temperature is stable; beginning to cool down more in the evenings (topping out around 79 degrees.) The nitrates have been a little high; lab testing showed it to be just *under* the safe drinking levels. The CSD not only shifts the wells, preventing Fred from knowing which wells are on; but it appears they also mix water with the wells. Our test probe has been sent to Hawke for calibration issues and is currently being evaluated.

Janet reminded the committee that nitrification occurs when you have two different types of nutrients, that are higher than they should be (in our case, nitrate and phosphate.) In the midst of a potential cyanobacteria bloom, data shows that not only did the Phoslock do a great job, but that the stoppage of effluent irrigation has also helped tremendously.

Janet reported that the CSD provided water from a non-potable well they were rehabbing. to the BVSA to use in the lakes for Cub. Upon testing, it was determined that the nitrate levels were high (14 mg/liter) than the recognized safe levels (under 10 mg/liter.) Fred is following up with CSD and is awaiting *their* test results.

Fred presented the BVSA Board with several possible options for using the non-potable water. The two most viable options are: at Cub Lake - to move the supply feed 350' up the drainage ditch and allow water filtration to occur as it flows through the ditch into Cub Lake; SOLitude feels that this is the wisest move (rescoping the ditch.) The BVSA Board also agreed. Cooperation with CSD is important on this.

Another option is NOT TO take any non-potable water that's above the nitrate threshold limit, and just purchase potable water. If that was done, the additional irrigation costs would be approximately \$6K/month (for the irrigation months.) SOLitude also felt like this was a sound investment, as it would cost considerably more to 'fix' the problem (with the first option.) However, it would impact the CSD's revenue. The idea is to find a happy medium.

Fred needs to get data from testing on specific wellheads but does not have access to them. He's cooperating with the CSD, working on a plan to interface with them, as best as he can. Currently, he feels that the latter (switching to potable water) is the only real option that we have to reduce nitrates (other than shutting the water off completely.) Butch requested that when the test results become available, Fred report back to him, along with a synopsis of his interactions with the CSD. Butch will then discuss the issue with Wesley Shryock (BVSA GM.)

5. There were no additional comments on the Phoslock data from the committee. To date the treatment worked and has saved the lake water quality this summer.

6. An average of 230K gallons of water per night, is being used to water the golf course. The effluent watering has been shifted to holes 2, 3, and 4; areas where it won't runoff into 4-Island Lake. Possibilities are still being explored for running the effluent water over to the driving range. The granite layers will probably prevent it from being piped to the ballfields; however, there may be ways of using above ground piping.

Fred advised that six feet of surface water is lost each year (combined) from both Cub and 4-Island Lakes. Increasing depth and reducing the surface areas is the primary goal in keeping the lakes healthy. Fred asked Scott and Chris to review a complicated article on "evaporative loss" that he discovered, in an effort to help him understand it.

7. Steve (SOLitude) spoke about the beauty and uniqueness of BVS. He noted a few of the issues that they have observed:

Sediment – they will test samples to determine how much is organic vs. inorganic. If the latter, nothing can be done chemically; it would need to be removed. However, if there is a lot of organic material, there are things that can be done (chemically and with aeration) to help remove the sediment and improve the lake quality. There is some concern that the top mucky layer (4 – 5") of sediment could be releasing nutrients directly into the lake. Also, that some of the muck may have drifted above the Phoslock layer, as it wasn't as compact as initially thought.

SOLitude feels that we might only be getting about 50% lake coverage from the aerators; however, with the enormous amount of algae that we now have, they admitted that there was no way of telling for sure. They also feel the biggest problem is the enormous amount of water that's coming into the lakes *unchecked*, with no natural buffer. They strongly recommend that we start placing rocks around the edges, in areas where there's erosion, bare plants, and no habitat – for healthy bacteria to grow. We need to get some 'life' on the lake, which takes time.

SOLitude feels that Cub Lake definitely needs an aeration system, once it's been tested and mapped, and we know what the bottom of the lake is like. Ben also reminded us that any nice, clear lakes which are located in urban environments (where there is a lot of nutrient pollution,) also have plant life. Finding the balance between ecology and recreation is the challenge.

SOLitude feels that the possibility of deepening Jack's Hole is good, *by moving some dirt around*, without changing the footprint. They feel that BVS could do a good portion of the initial work themselves.

8. The 4-Island Lake quality 'Dashboard' is up on the BVSA.org website (Appendix E); however, it is somewhat cumbersome to locate. Jennifer has agreed to place it on the home page of the website, as long as we don't update it too often. Janet will also add a QR Code that can be used to access the information (Appendix D)

9. Planning for upcoming activities – Since the possibility exists that 4-Island may have to be closed for swimming, etc...before Labor Day (due to the presence of cyanobacteria.) Also, since future COVID restrictions are unknown - it was decided that we will forego planning any upcoming lake activities until we know the status, for sure. The exception is another *virtual* fishing derby - as fishing will still be allowable, at all of the Lakes. Fred will begin organizing it soon.

F. Follow-Up Items

1. Tailwaggers newsletter – Linda will prepare a draft article and submit it to Janet.
2. Rick will come up with a date for planning what to do as far as dividing up and replanting the lilies.
3. Fred will begin attending Cummings Valley Water Board meetings on behalf of the BVSA.
4. Scott and Chris will review Fred's article on "evaporative loss" and share their understanding of the article with him.
5. Janet will ask Anita/Jennifer to place the 'dashboard' on the homepage of the BVSA.org website; will be updated no more often than every two weeks.
6. The committee agreed to meet on the second Monday of the month, at 6:00PM in the Green Room at the Whiting Center, from September through December.

Adjournment

The meeting was adjourned at 7:40 PM.

Our next meeting will be held on Monday, September 13th at 6:00PM, at the Whiting Center Green Room.

Minutes submitted by: Linda Flores

Minutes approved by: Janet Fulks