

Lake Quality Advisory Committee Meeting Minutes

September 13, 2021

Green Room, Whiting Center and also via Zoom

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

A. Attendance

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

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

Naturalake Biosciences – Landon Wiet and Deborah Lee

B. Approval of Agenda – Alisha made a motion to approve the agenda; it was seconded by Kimberly and approved by the committee.

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

D. New Items

1. Introductions - Landon Wiet, a natural lake biologist who works for Naturalake Biosciences. The company makes biological products (bacteria and enzymes) for waste and surface water management industries, and they work with SOLitude. He is attending the meeting to provide enzyme recommendations for 4-Island Lake.

2. Current water quality and water supply – Fred reported that the dissolved oxygen levels in 4-Island Lake are down (12.) The latest E. coli test was also good, only showing one colony in the entire lake. The lake depth is down to approximately 4.6 feet. Within the next two weeks, decisions will need to be made regarding overall water usage, i.e. - golf course irrigation and possible options. He asked for potable water to be turned on, but the CSD didn't feel that would be safe due to the chlorine. There are currently three wells feeding 4-Island, *some* of it being non-potable water. One, containing approximately 8.9 mg/L of nitrate as N, is still being used – as it's our only available source. Fred is unable to get data on the other two wells, as data has not been provided. The well feeding Cub Lake is measuring approximately 3.9 mg/L of nitrate as N. There are five wells that can (potentially) feed 4-Island, but Fred only has data on three of them. The CSD turns all five on and off as needed, but they don't share the specifics.

3. Fishing Derby – was very successful, with a lot of positive feedback. A total of 28 children, plus one adult group, caught approximately 350 pounds of fish. Guest participants were not charged to fish. A nice photo and article appeared in the Tehachapi News (via BVS resident, Nick Smirnoff) which was good, unexpected publicity of the event. Media permission forms will be sent out tomorrow.

4. SOLitude Report – Ben visited BVS on August 11th and 12th. An aquatic assessment was done, and he briefed the committee on their major findings. See attachments on agenda for a more detailed report, evaluation, and suggestions.

Fred asked about more specific details regarding the use of algaecides, such as the type, treatment, and quantities – based on the current lake conditions at the time of SOLitude’s visit. Ben advised that he would provide that information at our next meeting.

Butch questioned the discrepancy in the WHO’s drinking water recommendations of 50 mg/L nitrate vs. the SOLitude recommendations of <10 mg/L nitrate as N. Ben and Fred explained that one measurement is referring to **nitrates**, while the other is referring to the *element* **nitrogen which is reported as nitrate as N**.

Landon introduced one of the many products that Naturalake Biosciences handles (which Ben has also suggested) called *Muck Biotics*. It is a probiotic tablet, made of different types of bacteria and stimulants, designed to speed the digestion of organic material. The big benefit comes in reducing the amount of nutrients that are released back into the water column. Landon responded that tablets/pellets are always preferable (vs. a powder) if the goal is for the product to reach the sediment layer. In addition, each is designed to target specific bacteria; and in our case – he would recommend Muck Biotics.

Landon’s recommendation for dosing was 20-40 lbs/surface acre/month; he also stated that the volume of water being treated was insignificant. Ben said that we should order it by the pallet, and have it shipped to BVS, for the best pricing option. Landon advised that the water temperature needs to be above 50°, for the application. He also advised that the product **can** be applied in an anoxic environment, but that you will get better results in an aerobic environment.

There was some discussion about the anoxic vs. aerobic sediment layers, and whether or not the sediment layer should be a problem for the product. Janet asked about possible interactions between the Muck Biotics bacterial components and the existing Phoslock layer that is part of the muck in the lake. Deborah responded that she has not heard any reports of Phoslock negatively interfering with the bacterial growth. Fred asked about the cost per pound of the Muck Biotics product. Ben responded that he would follow up with an answer sometime soon.

Alisha also asked if the Muck Biotics would dissolve enough sediment to actually gain lake depth (i.e., 6’?) Landon said that 6” of depth gain is very common.

5. Report on Liaison Committee Mtg. with CSD – According to Butch, the CSD is reluctant to provide Fred with individual well information, as well as potable water. There was a discrepancy as to whether or not water with chlorine was safe to add to the lakes. The matter is currently at a standstill. If we want water, for now it will have to be non-potable. The permit (pertaining to effluent water) was discussed, but nothing

was settled, because the state board has neither denied nor approved the CSD's request for a license change. Butch commended Fred on his presentation, and felt that the CSD members who were present understood, but are still hesitant to cooperate with us.

6. Status of Cub Lake and Jack's Hole – On September 6th, Fred removed approximately 1300 pounds of fish from Jack's Hole (over a period of about four hours BVSA maintenance dug six to eight holes, and hit water three to four feet down, which is not an aquifer – but water that is trapped between the surface and a clay layer. It's possible to perhaps capture that water if Jack's Hole is dug deep enough.

Cub Lake is approximately three and a half feet deep, and Fred feels that it can be taken a little deeper than Jack's Hole. There is a proposal to increase aeration (within Cub Lake) using existing reserve funds. There is still a question of what to do with the dirt that is removed (from dredging.) Only 50 cubic yards are allowed to be moved (per project) without a permit; however, there is some question as to the timeframe required between permits, etc.

Debbie or Kimberly asked about putting in a bentonite layer at Cub or Jacks? Butch advised that Jack's Hole was the priority, and that Cub Lake would be put on the back burner.

7. Rick reported that he and Fred built an additional two floating islands (only larger,) for a total of five in the 7th Hole Pond. The plan is to eventually move three of the islands to the protected area in 4-Island Lake, and to construct two additional lily islands with the remaining funds left in the budget.

Kimberly asked about the possibility of just throwing the lilies in the water (sans baskets) since the ones thrown in Cub Lake are doing fine. The problem is the receding water line, but it is worth considering for the future.

Rick is adamant that a decision needs to be made about the growth and increasing maintenance of the lilies, and whether or not it is something that the committee wants to take on each year. For now, he is proposing that we build two additional floating islands, and move all five lily islands into the protected area of 4-Island Lake. Then, during the second week in October, remove the remaining lily trays from the 7th hold pond, divide the lilies and replant in trays, and move them into the water bodies where needed.

Overall Nitrate levels are as follows: Cub Lake (1.03) and 4-Island Lake (.66.) Cub Lake is higher due to the smaller volume of water = higher concentration.

A work party will be needed in early October, to help with the lily project. Fred suggested that we create a list of specific tasks that people want to participate in, to use as a resource when volunteers are needed.

8. Report on Surveying Lake Shore – Fred worked with Bob Hogue to survey the lakeshore common area (Attachments on agenda.) Fred explained the various maps, including the reference points, and how to read them. Encroachment issues were not addressed.

F. Follow-Up Items

1. Article on the Safety of 4-Island Lake was just published in the Tailwaggers' Newsletter. An article on the AFI's (Artificial Floating Islands) was submitted for the October Bear Tracks.
2. Upcoming meeting dates: October 11th, November 8th, and December 13th; in the Green Room at the Whiting Center, as well as on Zoom.

Adjournment

The meeting was adjourned at 7:28 PM.

Our next meeting will be held on Monday, October 11th at 6:00PM, in the Whiting Center Green Room and also via Zoom.

Minutes submitted by: Linda Flores

Minutes approved by: Janet Fulks