



Bassett Creek Watershed Management Commission

Sweeney Lake Aeration Study Informational Meeting

Wednesday, August 1, 2018

6:30 – 8:30 p.m.

Council Chambers, Golden Valley City Hall
7800 Golden Valley Rd., Golden Valley MN

The informational meeting was hosted by the BCWMC and facilitated by staff with Hennepin County. City staff with Golden Valley including Jeff Oliver, Eric Eckman, and Drew Chirpich were in attendance along with BCWMC staff including Administrator Jester and Engineers Karen Chandler and Greg Wilson. Twenty-three residents from around Sweeney Lake attended.

After introductions around the room, Ms. Jester and Mr. Wilson gave a [presentation](#) with general information on how deep lakes stratify and mix during the year, and results of the study.

Study conclusions:

- Internal phosphorus load is the most important source of phosphorus during summer
- Aeration exacerbates summer water quality problems (10-30% increase in total phosphorus in upper layer of lake)
- In-lake alum treatment greatly improves water quality—meets goals
- Aeration after an alum treatment may not provide significant benefits and recommendations
 - Depends on total phosphorus entering from the watershed and mixing within the lake

BCWMC Engineer Recommendations:

- Suspend aeration and plan for first phase of alum application
- Monitor lake water quality and biota for two-year period
- Report results and reconsider aeration and/or other management actions

Participants then broke into smaller groups to discuss a series of facilitated questions. At the end, they came back together to discuss a final question as a large group. Comments from each discussion were recorded on flipchart paper and are transcribed on the following pages.

The Sweeney Lake Association will use this information to make decisions on if and when to operate the aerators. They may also seek ways to advocate for and fund an alum treatment to control internal phosphorus in the lake.

Notes from Two Small Group Discussions:

What from the study stands out to you?

- Temperature acts to hold down phosphorus
- Aeration kicks up pollutants
- Aeration creates year-round “spring turn over conditions”
- Unclear whether aeration is long term solution for lake
- Is there something other than alum that offers a long term solution?
- Is there a reason to care about phosphorus level at the bottom of the lake? What is the ideal phosphorus level?
- Are there other reasons aeration might be helpful to the lake? Perhaps it’s helping to keep Eurasian watermilfoil away.

What did you hear in the study that you have also seen or experienced?

- Story about phosphorus reflects experience with algae
- 2017 had great water quality on the south end of the lake
- Why was there an alum treatment in Twin Lake?
- Rain events contribute to phosphorus
- How does the Schaper Pond Diversion Project affect phosphorus?
- There was less noise with the aerators off.
- With no aeration in 2017, there was more curlyleaf pondweed and coontail and more algae in northwest corner.
- 2018 = less weeds but more algae at the beginning of the summer
- South end of lake = better conditions
- Clearer water in 2017 and 2018
- There are many variable driving water quality

What felt like new information?

- Temperature stratification
- Stirring up phosphorus
- Efficacy of alum and that it is possible
- How to maximize the value of alum treatment
- Swimming is the target activity that drives water quality standards
- Statistics about aeration effectiveness
- 2017 results
- Reasonably priced solutions
- Why was alum presented as an option if we can’t pay for it?
- Is anybody besides Sweeney Lake Association prepared to take remediation action?

What bored you or made you skeptical?

- No recommendation from expert
- Skeptical of alum treatment effectiveness in spring fed lake
- Why isn't aeration working in Sweeney?
- New dam and its effect on water level

Notes from Whole Group Discussion:

What do the results mean to you and the lake and what questions do you still have?

- Maybe discussion on aeration is moot because no one has volunteered to take over coordination/operation of the system.
- The alum treatment could be incredible
- There was a physician who lived on the lake that warned about the health effects of alum, particularly on Alzheimer's disease. Science does not indicate a connection between the two and deems alum safe.
- How does alum interact with new phosphorus loads coming into the lake?
- Why wouldn't we treat Schaper Pond with alum before it enters the lake?
- Do we need to control carp in Schaper Pond?
- If we had no inflow from the south end of the lake would there still be a phosphorus problem?
- Last year more weeds ended up on southwest end and a lot of algae in shallow areas. This spring, in 42 years was the ugliest with enormous fish kill and loads of algae you could pick up with a shovel. Now this year is the least amount of weeds. It's confusing why conditions change so drastically. (Discussion about how dynamic the lake system is and how multiple lakes had fish kills this spring, likely due to late spring.)
- Winter aeration is still a good option.
- Discussion about the reconstruction on highways 100 and 55 and possible implications to the lake. It was noted the amount of water coming into Schaper Pond will continue.
- It was noted lake residents are committed – they tried aeration and would love to try alum treatment but wondering about available funds. It was noted that since the lake has no public boat ramp it may be more difficult to get State grants for alum treatment.
- It was noted residents could advocate for funds at the legislature.
- Need to keep conversation going about best way to pursue implementing an alum treatment.