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## Outcomes from the Ann Lake Treatment Public Forum #2 - 9/26/20

### In attendance:

Jon Sanford, Jeff & Sarah Johnson, Paul Weingart, Arnold Barabash, Roberta Haight, Jamie Stevens, Sharon Smith, Jeff Hamme, SWCD Supervisor: Paul Hoppe, SWCD staff: Deanna Pomije, Josh Votruba

**Online via WebEx:** Rich Anderson, Jim Kutil

Deanna Pomije presented information on the water quality of Ann Lake, such as the trophic state, nutrient quantities from the watershed vs. the internal load and how the phosphorus is released from the bottom lake sediment. She cited the Ann River Total Maximum Load (2013) and the Ann Lake Internal Load Feasibility Study (2018). In reviewing the Feasibility Study, she reviewed in detail three treatment options; Aluminum Sulfate (Alum), Polyaluminum Chloride and Phoslock. A handout was provided detailing the costs and the pros and cons for 6 options to address the high internal load. The three options previously mentioned, plus hypolimnetic aeration, dredging and a drawdown. Pomije also reviewed some of the latest water quality testing of Ann Lake. She announced that recently the MN Pollution Control Agency has changed the phosphorus standard for Ann Lake, shifting it into the Northern Lakes and Forests area. This shifts the phosphorus standard from 60 to 30 micrograms/liter. This is a harder standard to meet, requiring yet cleaner water.

### Questions Posed & Answers Presented:

1. How long will it take to get to 2-meter secchi depth with application of Alum?

We expect to see improvement right away. After first application we should see significant improvement in water clarity.

2. What are the chances of getting grants? Part of SWCD plan within next two years? What is the plan?

We've taken public comments on these options; this being the 2<sup>nd</sup> public forum. Public comments continue to be encouraged. We plan to look to all the Ann Lake representatives, such as the Townships, County Commissioners with the SWCD board to make the final decision, as they will be the organization applying for grants. The likelihood of getting grants are unknown; however, having the feasibility study completed does help, as this is a prerequisite for some of the grants. Besides grants there is an option to wait for possible 'One Watershed One Plan' (1W1P) funds, due in the watershed in 2023. The planning group as part of the 1W1P would have to deem this issue high enough priority for funding. The 1W1P funds do have a lower match requirement of 10% over other grants. If other grants were sought, we may look to 2021-22 to apply for funds. Any treatment would typically follow the year after the grant application, if awarded the funds.

3. Are we going to see wild rice reduction with Alum treatment? Any study to see reduction?

The main concern with an alum treatment is the spike in sulfate lasting a couple weeks upon initial application. Wild rice is sensitive to high levels of sulfate, in excess of 10 mg/L. If this treatment is used, we would try to avoid any impact to the lakes' wild rice population. There are adjustments that can be made to the treatment doses and multiple treatment over a number

of years to lessen the impact. Monitoring would also be planned (with any of the treatment options) with adaptive management planned between treatments. Adaptive management would allow for treatment adjustments based on monitoring results. Most treatment options (Alum, Phoslock, Polyaluminum Chloride) call for multiple treatments over 5-14 years. We haven't seen any studies done on the impact of Alum on wild rice populations. We don't know of a lake with wild rice that has had an Alum treatment.

4. Have you looked at other lakes that have had these treatments?

We have researched a few lakes (Bald Eagle and Moody Lakes) around the twin cities that have had Alum treatments. This is the one treatment option most common in the US. The Phoslock treatment is a more common treatment option over in Europe. Most have had only one Alum treatment with good results. A concern with Alum is the longevity, anywhere from an estimated 10-30 years.

5. With alum treating the deepest part of the lake, is it going to be effective? Will it, after 2 years it begins letting phosphorus out.

Wenck's research on Alum show a 90% effective rate, the same as Polyaluminum Chloride. Concerns have been brought up about the affect of boat motor disturbance impacting the longevity of Alum holding the phosphorus locked to the bottom sediment of the lake. Wenck staff have stated that boat traffic would not have an impact on an Alum's treatment, as it is an application in the deepest (~15' plus deep) parts of the lake. More research may be needed to confirm this statement.

6. Could Ann Lake be healing itself due to the steady decline in Phosphorus levels?

It is certainly possible, but more research is needed to show a trend toward an improvement in water quality.

7. Could we use aeration system used just in the summer; work to address the high phosphorus, without using the system through the winter? Aeration in the winter has concerns over safe ice.

Summer aeration alone would need to be looked into to see if it would be effective on the high nutrient internal load.

**Comments:**

Jeff Hamme mentioned that the new ecoregion classification for Ann Lake changes everything. Previously Ann Lake was in the Central Hardwood Forest Ecoregion and had a phosphorus standard of 60 micrograms per liter. However recently the Minnesota Pollution Control Agency reclassified the lake to be in the Northern Lakes and Forest ecoregion. As a result, the new phosphorus standard is 30 micrograms per liter. With this change, the amount of phosphorus reduction needed to reach the standard is much higher. Jeff mentioned he will ask for clarification into why MPCA changed the goal from 60 to 30.

**Preferences:**

A few opinions were expressed on which treatment was preferred. Some liked and asked about the non-chemical treatment options. Alum may be preferred by some as it's the cheapest and most commonly used in the U.S. Others expressed preference for the Phoslock option as it's a more permanent option. Another option is to wait and see based on continued lake water quality testing.