

Minnesota 3M PFC Settlement

Notes from the Citizen-Business Working Group Meeting

Tuesday, March 16, 2021

1:00 p.m. – 4:00 p.m.

Virtual WebEx Meeting

Group members in attendance

- Ann Pierce
- Barbara Ronningen
- Dave Schulenberg
- David Filipiak
- Jeff Holtz
- Jess Richards
- Kathryn Sather
- Kevin Chapdelaine
- Kirk Koudelka
- Mark Jenkins
- Michael Madigan
- Monica Stiglich
- Steven Johnson

Presenters

- Kirk Koudelka, Minnesota Pollution Control Agency (MPCA)
- Jess Richards, Minnesota Department of Natural Resources (DNR)
- Jason Moeckel, DNR
- Hannah Albertus-Benham, Wood
- Ryan Burfeind, City of Cottage Grove (Subgroup 1 member)
- Mark Lorie, Abt Associates

Welcome

Mark Lorie (Abt Associates) welcomed the work group to the meeting. Mark reviewed the agenda. The purpose of the meeting was to review the White Bear Lake situation and what it means for the Conceptual Plan and to discuss centralized water softening. Kirk Koudelka (MPCA) and Jess Richards (DNR) then welcomed the work group and explained the purpose of today's meeting was to gain additional clarity for some key issues. Kirk announced that Jeanne Giernet had retired from MPCA and Brian Hamrick was no longer with Wood. With Jeanne's retirement, communications to the work group would be coming from staff from Abt Associates and Hannah and Erin will continue to be the contacts for Wood. Jess explained that a key theme of today's meeting would be flexibility and how the Co-Trustees can design a plan that still allows for adjustments in the future.

The Citizen-Business group liaisons provided a recap of February's Government-3M work group meeting. Key topics discussed last month include:

- A summary of feedback on the Conceptual Plan which included results from the large public survey that was conducted September – December of 2020.
- A presentation on the updated costs based on feedback from local government units. There was still a lot of concern about the \$130M set aside for other items listed under the Settlement given that the capital costs increased.
- A discussion on city fees associated with new water connections (e.g., connection fees, water access charges). There are a lot of differences in how communities use these fees. There was concern that

some communities would have redundancies covered by the Settlement and would ultimately get more funds than other communities.

- There was discussion about doing design work for stormwater compliance and then reimbursing design aspects that are directly related to the Settlement.

The liaisons felt last month's meeting highlighted the need for various entities (e.g., DNR, MPCA, community staff, watershed districts) to meet to discuss stormwater issues or aspects of proposed projects.

One work group member suggested it would be helpful to have a joint meeting with the Government-3M group. The purpose would be to bring both parties to the table with an equal voice instead of having the groups simply listen in on other work group meetings. This will ensure that the people in both groups are accurately representing the citizens.

White Bear Lake and the Conceptual Plan

Jess Richards and Jason Moeckel (DNR) presented on the White Bear Lake Court Order and its implications for the Conceptual Plan. DNR was sued in 2012 by the White Bear Lake Restoration Association and White Bear Lake Homeowners' Association who alleged that DNR permitted too much groundwater use near White Bear Lake, causing the lake levels to drop. The District Court ruled in favor of the plaintiffs. The case has been reviewed by the Court of Appeals and the Minnesota Supreme Court. The DNR is not pursuing any further legal challenges and will continue working to implement the Court Order. Key elements of the Court Order include:

- DNR may not issue new permits or increases in allocations to existing permits within five miles of White Bear Lake unless certain conditions are met
- In addition, before DNR can authorize a permit to use groundwater, DNR must have sufficient hydrologic data to understand the impact on White Bear Lake and the Prairie du Chien-Jordan aquifer. DNR is required to evaluate the impact any groundwater use permit would have on White Bear Lake, even if it is outside the five-mile radius.
- DNR has to require public water suppliers, that have permits within 5-miles of White Bear Lake to implement a residential irrigation ban triggered when the lake reaches 923.5 feet in elevation; and the ban is to remain in place until the lake reaches 924.
- The court order requires that cities with permits within the five-mile radius have enforceable plans to reach a 75 gallon per capita per day residential use and 90 gallons per capita per day total use.
- Public water suppliers must also develop a contingency plan to shift from groundwater to surface water.
- The DNR must set a collective annual withdrawal limit for White Bear Lake.

Jess explained that implementation of the Court Order requirements does not line up with the timing of developing the Conceptual Plan for the east metro, which is why flexibility in the Conceptual Plan is so important. Jason then reviewed some of the historical water levels that were part of the DNR's hydrologic analysis, and the court's determination of a 5-mile radius of the lake. Some key technical elements of the situation include:

- White Bear Lake reached its all-time low elevation in January 2013 at about 919 feet. Last week the elevation was just under 925 feet. The ordinary high-water elevation, a regulatory value, is set just under 925 feet.

- The Court Order said DNR must address any use of water within five miles of White Bear Lake. However, some communities (e.g., Oakdale and Lake Elmo) have some wells inside and some wells outside the five-mile boundary. Most of the high volume, permitted wells within the boundary are public supply water wells.
- Jason also discussed important trends that have occurred related to White Bear Lake, including:
- Average groundwater use within the five-mile radius has generally decreased since 1988. One of the major causes for a recent decrease is that St. Paul Regional Water Services is no longer relying on groundwater, except in emergencies. They had been using a mix of groundwater and surface water to meet their needs up until a few years ago. They are now relying on surface water from the Mississippi River. However, they are maintaining their groundwater wells in case of emergency. Use has also decreased because the communities around White Bear Lake are now more established and not growing as quickly and household appliances have become more efficient.
- The long-term record for the lake (since 1920) shows cyclical periods of high and low water levels due to drought followed by heavy rainfall. There was a significant drought in the late 1980s followed by a very wet period in the early 1990s to early 2000s. Another dip began around 2005/2006, which also coincides with a period of below-average rainfall.
- The outlet level of White Bear Lake has changed over time. After flooding in the early 1940's, area residents asked to lower the outlet to protect homes in lower-lying areas. It was lowered again in the 1980s as part of construction project at Ramsey County Park along with other facility improvements.
- In 2016, the DNR set a protective elevation at 922 feet. The protective elevation is based on the characteristics of White Bear Lakes' long term history, lake ecology, and recreational use.

Jason also explained how DNR created a sophisticated groundwater model to evaluate how groundwater pumping, rainfall and other factors affect the aquifers and White Bear Lake. The model has been extensively peer-reviewed. DNR used the groundwater model to simulate several scenarios using hydrologic conditions from 1998 through 2018, and evaluated water level dynamics from 2002 to 2018 and found that:

- Water levels in White Bear Lake would have been higher and would have remained above the protective elevation if there was no groundwater pumping among all permitted wells within five miles of White Bear Lake.
- Compared to existing use of water, a temporary residential irrigation ban would increase White Bear Lake levels only slightly (roughly a few inches) after several years, and lake levels would still drop below the protective elevation. For the communities closest to the lake, residential irrigation accounts for a relatively small percentage of total water use, therefore eliminating it on a short term basis doesn't change lake levels very much. In other words, a temporary residential irrigation ban is not the same as a 30% reduction in water use, year after year. In addition, mature landscaping in established communities tends to need less irrigation compared to newly established areas.
- If the lake outlet was raised while keeping existing permitted use the same, water levels would have been slightly higher for a longer period of time, but would still drop below the protective elevation.
- If a 25 percent reduction in pumping was implemented across all permittees, lake levels would have been about one foot higher, but would still drop below the protective elevation. A 40 percent reduction

would get closer to the protective elevation. A 40 percent reduction in existing use, is a dramatic change and would likely be unacceptable to communities and residents.

Jason showed a chart with existing and projected water use in 2040. Jason explained how DNR included these growth projections in their analysis for White Bear Lake. They used the same projections that Wood used in their modeling for the Conceptual Plan. Groundwater modeling showed that projected water use for 2040 would essentially use the water that was saved by recent conservation efforts and St. Paul Regional Water Service shift to rely solely on surface water. DNR examined a scenario where Oakdale and Lake Elmo connect to St. Paul Regional Water Services (Option 3 in the Conceptual Plan). In this scenario, there would be approximately one foot of lake elevation gain when considering 2040 demands. The DNR will work with communities to consider a variety of options that meet the requirements of the court order and provide safe drinking water under the 3M Settlement. The hypothetical scenarios DNR examined really underscore that distance from the lake and volume of water pumped are both factors in discerning relative impact of any communities effect on water levels in White Bear Lake. Jason also highlighted the North and East Groundwater Management Area, which was designated in 2012 by the DNR, was due largely to concerns about water levels in White Bear Lake and aquifer levels in parts of the area that were declining, and the expected growth for some communities. The area boundary was selected because these communities are hydrogeologically related, which means that water use and aquifer recharge are not contained solely within a communities legal boundary.

Lastly, Jason reiterated that the Conceptual Plan needs to have flexibility while DNR works with communities and legislators to identify long-term solutions. DNR is scheduling meetings with all communities affected by the court order for White Bear Lake to ensure communities understand this challenge and to discuss solutions.

Feedback

Work group members asked that the slides be re-sent or posted with additional information and context added to the graphs. Members asked questions about the court order and the conceptual plan. Jess reiterated the need for flexibility in the plan while the lake level issues get addressed. It would be irresponsible at this point to develop a plan that only had one option that may not be legally feasible.

One work group members asked questions about other lakes in the area and whether they are similarly affected. Jason explained that other lakes also experienced similar lows and highs, but White Bear Lake is very unique because of its depth and stronger connection to deeper aquifers.

Other work group members asked about the 2040 projections for water use and how future conservation was considered in DNR's groundwater modeling. Jason said that DNR used the same volume estimates as Wood used in their analysis for the Conceptual Plan, which is based on comprehensive plans and each communities projected water use. DNR did not speculate about other changes in water use for communities or other water uses that might change, for example irrigation permits that may no longer be needed as areas develop.

Another work group member asked if there were watershed projects that could be impacting White Bear Lake levels. Jason explained that while there are certainly stormwater management projects in place, the DNR is not aware of any projects that would have significant and large impacts. Another important factor to remember is that White Bear Lake has a very small watershed. There is no natural inlet to the lake. Lake levels are more closely connected to groundwater levels and the flow of groundwater from the water table and the deeper aquifer.

One work group member asked if Lake Elmo and Oakdale would be forced to hook up to St. Paul Regional Water Supply. Jason explained that we need the Conceptual Plan to maintain some flexibility while the White Bear Lake issues get resolved.

One work group member felt strongly that Settlement funds should not go toward solving the issue of White Bear Lake. The focus of the Settlement is to provide safe drinking water, not increase recreation and ecology in White Bear Lake. Work group members also asked about the protective elevation of 922 feet and climate change. Jason explained that when a surface water is impacted by water use, the DNR is charged with setting a protective level on lakes and streams in the State to protect both ecology and recreation. He also explained that DNR's groundwater model did take climate change into consideration, since we are already experiencing climate change, with the last 30 years being the wettest on record across the State.

Public Comments and Questions

There were some questions and comments from the public. One member of the public asked why a municipal system was still being considered for West Lakeland Township when it could create significant cost overruns. They explained that while no official survey has been released, they predicted that 75-80 percent of residents would oppose connecting to city water. If a municipal system were implemented, he estimated that 20-30 percent of people would opt out of the program. Kirk explained that no decision had been made yet. The State is currently analyzing various cost estimates and the Township's own rate study. The member of the public also expressed the view that West Lakeland Township leadership has not sufficiently informed residents of Settlement actions. They asked for another West Lakeland survey to be done, even though they felt it would show many people oppose the municipal system. They said that many people would not be able to afford water bills because of large lots and irrigation. Kirk explained that the State has estimates for increased costs to homeowners, which was adjusted based on community feedback. The Co-Trustees are talking to West Lakeland Township leadership to discuss more specific cost estimates. Lastly, the member of the public asked for clarification that a municipal system for West Lakeland Township would increase costs by approximately \$180M. Kirk said he would have to go back and check the numbers to be specific. The capital costs are much higher for a municipal system but O&M over time could make a municipal system more cost-effective. This member of the public requested the opportunity to have a more detailed conversation with the Co-Trustees.

Central Water Softening

Hannah Albertus-Benham (Wood) presented on centralized water softening. Kirk explained that the Co-Trustees wanted to bring up centralized water softening because it touches on a few elements of the Settlement. They feel that this is an important conversation to have since Priority 1 addresses both safe and sustainable drinking water. Even if the communities decide not to implement centralized water softening, the design could have the ability to incorporate centralized water softening in the future.

Hannah then explained some of the technical elements of central water softening, including:

- Groundwater throughout the East Metro is generally very hard. Many residents have in-home water softeners to address this issue. Cottage Grove and St. Paul Park have especially hard water. Some communities said that approximately 90 percent of their residents have in-home softeners. Others have less.

- Two environmental impacts associated with residential water softeners include wasted water due to the regeneration cycle the in-home softeners use and high concentrations of chloride in discharge downstream. One of the primary benefits of central water softening would be to save the water that is wasted from in-home softeners. Another is reducing the chloride in discharged wastewater which could improve downstream water quality.
- A paper released by MPCA estimated some costs for lime softening. However, the Settlement would have synergies between central softening and pre-treatment that would be needed to treat water for PFAS, so capital costs would not be quite as high. In addition, the Settlement would have to consider operation and maintenance costs and the costs to remove in-home softeners from peoples' homes.

Hannah explained that central water softening would eliminate the need for in-home softeners, saving money for residents who spend money on salt, energy, and to rent equipment. It would also reduce the money spent by communities on treatment by reducing the amount of water. Lastly, it would meet Priority 1 conservation goals by using less water from communities and pumping less water from the aquifer.

Ryan Burfeind from Cottage Grove shared information on central water softening from their community's perspective. In Cottage Grove, approximately 75 percent of residential properties have in-home water softeners. They use approximately three million pounds of salt annually and waste approximately 42 million gallons of water through recharging (4.18 percent of Cottage Grove's annual water use). There is the opportunity to reduce this waste significantly through central water softening.

Feedback

Some work group members were confused why the Settlement would cover centralized water softening since it is not directly related to PFAS. They felt communities were using Settlement funds to expand their own infrastructure. Kirk explained that while central water softening does not treat PFAS, it does address the Priority 1 goal of sustainable drinking water and drinking water quantity.

Other work group members asked to see more specific cost estimates that include operation and maintenance considerations like removing sludge associated with lime softening. Hannah explained that, from engineering and design perspective, the costs were in a very early stage. She said that some of the decisions to be made with respect to infrastructure and planned changes could influence whether to address central water softening now or in the future.

Other work group members were concerned that private well owners would not have any benefit from centralized softening, making it inequitable. Another work group member suggested that the design incorporate central softening, but suggested that the Settlement not pay for these design costs.

Next Steps

Mark reviewed the next steps in the process for finalizing the Plan. Over the next couple months, the Co-Trustees will continue to gather feedback and update the Plan based on that feedback. The Co-Trustees expect to release the Plan in June.

The next work group meeting will occur on Tuesday, April 20. The agenda is not yet set.

Public Comments and Questions

One member of the public asked if there were legal parameters on how the Co-Trustees spend Settlement money. Kirk explained that the priorities are legally written into the Settlement Agreement. Priority 1 of the agreement focuses on safe and sustainable drinking water. Everything under Priority 1 must be addressed first. The member of the public also expressed concern that as a taxpayer they would have to pay for any overruns in the Plan. They asked where the money would come from if there are shortfalls in funding. Kirk explained that these are currently Class 4 cost estimates that will get refined in the design stage. He emphasized that no final plans had been made yet.

Another member of the public asked if West Lakeland Township residents would be able to keep their wells for irrigation. Kirk explained that if a municipal system were put into West Lakeland Township, residents would not be allowed to keep their wells for irrigation. However, this decision about whether to implement a municipal system for West Lakeland has not been made yet.