

Tug Lake District Newsletter
Water Research Team Update
March 29, 2023

Dear Tug Lake Residents:

Upon the recommendation of the Wisconsin Department of Natural Resources, the Tug Lake Water Research Team has been expanded to 22 members representing the DNR, the UW-Milwaukee Department, the Lincoln County Land Services Department, the UW-Stout Limnology Department, the UW-Stevens Point Biology Department and 12 Tug Lake residents. The reason is that these entities are providing crucial information about the ecology of Tug Lake which will ultimately help us understand what intervention would be best to mitigate the harmful effects of blue-green algae within our precious lake.

The Water Research Team is consolidating the water research data collected in 2022-23 into a comprehensive water quality report that will determine if there are mitigation actions that will significantly enhance the ecological health of the lake. If this is the case, the next step will be to create a Lake Management Plan, get the management recommendations approved by the DNR, and determine the timeline for implementation. The Plan would provide recommendations to significantly enhance Tug Lake in a variety of ways, for example, nutrient reduction, blue-green algae control, fish habitat improvements, prevention of invasive species, and a discussion of potential grant funding sources.

A Water Research Team Comprehensive Water Quality Report will document the degree of internal nutrient loading (for example, how much Phosphorus is coming from the bottom of the lake), and external nutrient loading (for example, how many nutrients are coming in from the upstream watershed through the creek inlet and going out through the creek outlet). This data will help us understand if and how we have the ability to mitigate the amount of blue green algae in the lake and any associated toxicity. Ultimately, we want to answer such questions as:

- Do we understand our upstream watershed external loading enough?
- Where should we be managing the nutrient load?
- Do we have partial lake turnovers from weather events during the summer months and how might they contribute to BGA blooms?
- Do we have the ability to mitigate the problem at all and how much?
- If yes, what mitigation strategies should we consider, e.g., aeration, alum.
- How much alum would be needed to cap the release of Phosphorus from the lake bottom?
- What would be the water quality goal and vision for the lake
- Do we have the resources to put our plan in place?
- Are we in a position to develop and implement a long-term water quality management strategy?

To address these issues, the Water Research Team will compile all current data, add new data collected in April and May of 2023, and include new data submitted by Dr. Todd Miller. A Water Research Team meeting will be held in June of 2023 to determine if more research is needed, or if we can move ahead with the development of a Tug Lake Management Plan and submit it to the DNR for approval.

If you have any questions, concerns, and/or comments about this process, please contact John Greenwood at 715-218-0284 or at jgreenwood@uwsa.edu. Thank you for your interest in the water quality process and your patience as we move forward.