

July 17, 2009

Jim Courneya, Northwest Regional Section
Minnesota Pollution Control Agency
714 Lake Avenue, Suite 220
Detroit Lakes, MN 56501

BY U.S. MAIL

Re: Lake Winona Site Specific Water Quality Standard

Dear Mr. Courneya:

Thank you for taking input from the Alexandria Lake Area Sanitary District (ALASD) and other stakeholders regarding the proper approach for restoring water quality in Lake Winona. As promised, attached is an analysis prepared for the ALASD by Wenck Associates, that recommends evaluation of a site-specific water quality standard for the lake.

The ALASD had intended to refrain from sending this information until the District had reviewed the final paleo report and modeling results; however, given these items have not yet been completed the District thought it would benefit the MPCA to have this information now. This is being provided for the MPCA's information only and does not constitute a request for a site-specific nutrient standard for Lake Winona; however, the District retains the right to request such a standard in the future if conditions so warrant.

One of the most difficult – not to mention controversial – aspects of this project is trying to harmonize the goal of a cleaner Lake Winona with the complex dynamics of shallow lake ecology. As the attached analysis demonstrates, shallow lakes tend to exist in either a clear-water state or an algae-dominated state, and the transition between these states can be drastic and abrupt. The analysis also demonstrates that several factors, in addition to nutrient loading, will control the type of conditions exhibited by the water body.

It is evident from our previous discussions that the MPCA desires to achieve a clear-water state in Lake Winona. Based on the attached analysis, the ALASD first submits that **unless certain specific changes are made in the management of Lake Winona, there is no reasonable expectation that nutrient reductions alone will achieve the desired ecological condition for the lake. Data from similar lakes show that several factors unrelated to external nutrient loads govern whether a clear lake state can be achieved. Failure to address such factors is anticipated to preclude attainment of a clear lake state.**

Thus, for Lake Winona a clear-water, plant-dominated state *may* be possible through a combination of aggressive management measures, for example altering lake hydrology to re-establish submergent vegetation in the sediments, and/or the purgation of rough fish such as carp and bullhead that stir up phosphorus-containing sediments.

Second, the ALASD submits that more aggressive lake management measures, *if* they are successful in bringing other factors under control, may allow Lake Winona to achieve a clear-lake (i.e., not algae-dominated) state with in-lake phosphorus levels above 60 ug/L and with Secchi disk readings of less than one meter. Information needed to identify the protective phosphorus level would be available once submerged vegetation is reestablished in the lake and the system response to this condition is documented. Without these measures, the ALASD is faced with the prospect of substantially increased additional treatment costs, on top of costs the ALASD has already incurred, with no prospect of meaningful ecological change in Lake Winona.

Finally, the ALASD recognizes that it will take time to implement a more aggressive lake management strategy to see if it will work and, if it does, what adjustments may be necessary to the appropriate in-lake nutrient targets.

In summary, the ALASD states the following:

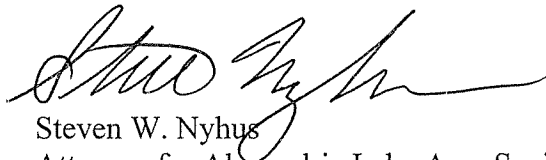
1. Once the modeling report for Lake Winona has been completed, the ALASD will review the modeling and, if so warranted by the data, recommend what it believes to be the appropriate in-lake phosphorus, chlorophyll-a and Secchi depth targets, for the MPCA's and public consideration.
2. The MPCA and other stakeholders must recognize that additional nutrient reductions alone will not achieve a clear-water, plant-dominated state in Lake Winona. To achieve this state, a more aggressive program of lake management techniques is necessary, and until they are tried there is no guarantee of their effectiveness. The ALASD, meanwhile, will commit to use its best efforts to not only meet, but do better than the limits in its NPDES permit.
3. It will take time to determine whether lake management techniques will be effective.

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The ALASD welcomes the MPCA's feedback on this information and requests a meeting with the appropriate MPCA staff to discuss the feasibility of this approach.

Yours truly,

FLAHERTY & HOOD, P.A.

A handwritten signature in black ink, appearing to read "Steven W. Nyhus". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Steven W. Nyhus
Attorney for Alexandria Lake Area Sanitary District

Enclosure: Technical Memorandum, Wenck & Associates, July 2, 2009

cc: Rebecca Flood, Assistant Commissioner for Water Policy, MPCA
Paul Nelson, Chairman, ALASD
Bruce Nelson, Executive Director, ALASD
Morris Grover, Attorney for ALASD