

Half Moon Lake Nine-Element Plan Meeting Notes—September 12, 2016

Attendees: Phil Fieber and Todd Chwala, Eau Claire; Buzz Sorge, WDNR; Greg Wilson, Barr Engineering

Recap of previous meeting and summary of current/planned watershed activities

- 2015 Interim Report indicated the following:
 - Alum treatment done in 2011 is losing effectiveness with more noticeable deterioration in west arm sediments, compared to east arm observations
 - Increases in lake phosphorus and chlorophyll concentrations were more noticeable in 2014 and 2015, compared to results from 2012 and 2013
 - Net phosphorus mass accumulation in 2015 was not fully explained by monitored inflows and estimated sediment phosphorus release—as much as 27 kg and 11 kg of phosphorus inputs were not accounted for in the west and east arms of the lake, respectively
 - Net phosphorus mass accumulation in 2015 for the south arm of the lake was 5 kg despite the fact that 23 kg of phosphorus entered from the Owen Park pumps—it assumed that much of the phosphorus input is short-circuiting into the Becca Brook outlet and lateral transport from the south to the east arm of the lake could not be estimated
- Another alum application may be warranted in 2017
 - It may also be warranted to consider that smaller alum treatments are needed every 5 years or so, depending on exceedances of a threshold sediment phosphorus release rate
- Curlyleaf pondweed control is still warranted as it returned in 2014 when no chemical treatment was done. Past herbicide treatments eliminated Eurasian watermilfoil, which has enabled the re-emergence of coontail. Harvesting may also be considered, in addition to herbicide treatments.
- There have been efforts to control geese in the beach and adjacent shoreline areas of the lake in the recent past. There may have been as many as 30 adult geese present this year. Goose eggs were oiled in 2016 and one goose roundup was completed in 2013. Future plans call for annual egg oiling by Parks staff and roundups approximately every three years, depending on the goose population at the lake.
- Three winter aerators have been run since 1991 and it is not believed that rough fish are present in the lake at levels that would cause water quality problems
- Dredging was not identified as a priority item, from a water quality perspective

Priority Issues for Nine Element Plan

- Address internal phosphorus load
- Treat Owen Park makeup water
- Stormwater runoff
 - Develop better unit-area phosphorus loading estimates of all watershed outfalls
 - Identify Best Management Practices (BMPs) for future implementation
 - Quantify benefits of street sweeping
- Address the effect of geese on bacteria and phosphorus loads to the lake
- Address the loss of water from the south arm of the lake—better ensure that Owen Park makeup water is meeting its intended use
- Improving/maintaining recreational access and use of the lake

- Design elements of causeway expansion
- Support for dragon boat races, triathlons, etc.
- Handicap-accessible fishing pier
- Identify responsible parties and funding for implementation of future projects

Follow-up questions and/or suggestions for additional data collection

- Can we expect that the 2016 monitoring program is the same as 2015? Have the sampler intake disruptions been addressed for storm sewer #1?
- To-date, Barr has secured lake water quality, rainfall and storm sewer monitoring data from Bill, but would like to obtain/review the following information to further evaluate and suggest management actions
 - Electronic files used to develop the phosphorus fluxes (i.e., the data used to develop Table 8 and Figures 33 and 34) shown in the 2015 Interim Report
 - 2015 lake level data (the sheet was blank in the spreadsheet) and an outlet rating curve, as well as any flow measurements or estimates of flow leaving lake via Becca Brook
 - Historical organic sediment phosphorus data
 - What was assumed about lateral transport of phosphorus from the south to the east arm of the lake in 2015?
- It is recommended that additional field data collection should be pursued to address any of the gaps in the existing data (described above)
- There was a mention of watershed BMPs in the vicinity of the hospital/clinic, but we don't have any information about these are and what they are treating. For some existing watershed BMPs (Lakeshore School & Tenth Ave), we know where/what they are but we don't know how much area they are treating and how well they may work for stormwater treatment (with the exception of Carson Park, which had WinSLAMM modeling), so we would like more information to map these out and develop recommendations for additional stormwater treatment.

It is intended that we organize a Half Moon Lake summit for mid-October and send out a draft plan 5-7 days beforehand.