

Manitowoc County Lakes Association [MCLA] Final Grant Report 2013

The Wisconsin DNR issued a 2013 grant to MCLA to test water chemistry in specified Manitowoc lakes. Water test results have been completed and are located on the state website. The following is a summary of the testing activities, protocol, and results. Graphs showing actual results are attached.

The intent of the grant was to measure the health of lakes in Manitowoc, compare lake chemistry and use the information to target watersheds of concern.

Lakes

Ten lakes were identified under the grant. They are: Spring, Horseshoe, Shoe, Gass, Hartlaub, English, Weyer, Wilke, Tuma, and Harpt.

Manitowoc also has six lakes that fall under the CLMN program. The results of those lakes are also included in the following graphs and results.

Protocol

The testing process used the CLMN protocol. Total Phosphorus and Chlorophyll a were sampled. Samples were collected using the six [6] foot integrated method with a minimum of three [3] washes to insure lake water integrity. Distilled water, plastic gloves, and great care was exercised to insure sample integrity. Phosphorus samples were stabilized prior to shipment using state provided acid. Chlorophyll samples were filtered at the lake site and included with the phosphorus samples. Forms and documentation supplied by the DNR were sent with the samples to the State Lab in Madison. Samples traveled in State approved coolers with appropriate ice.

Sample collection was done within time periods to coincide with CLMN guidelines.

Sample results are loaded to the DNR website.

In addition to CLMN protocol, MCLA sampled water at “Ice Out.” The intent of “Ice Out” testing was to get the truest phosphorus reading. Temperature probes were used to ensure water turn-over and blend. Water temperatures did not deviate more than 4 degrees from top to lake bottom. Results of the “Ice Out” testing were inconclusive – more about this later.

Volunteers

Four volunteers did the sampling: Tom Payne, Austin Leach, Marlene Rezek, and Gene Weyer. All volunteers were trained by the DNR in May 2012. All volunteers were monitored in 2012 to ensure compliance.

Volunteers shared four sets of equipment between the lakes. To prevent cross-contamination, distilled water and a minimum of 3 “pre-samples” ensured correct evaluation.

Wilke Lake was sampled only at Ice Out and September. The volunteer did not have adequate time and failed to mention the issue until it was too late.

Results

Individual lake results were somewhat similar to 2012. There was a general slight reduction of TP 2013 vs. 2012 in most county lakes. The Manitowoc County Soil and Water Conservation Department says a significant rain event in May of 2012 caused substantial rill and gully erosion. This may have contributed to higher than normal TP levels in 2012.

A notable exception to the general decline is the Harpt Lake result. Harpt showed a substantial Total Phosphorus increase and at times an alarming Chlorophyll a level. Continued intensive farming in the watershed is the potential source.

There is also concern about Silver Lake. The dike over-tops and stream water enters the lake whenever large debris becomes wedged in the culvert / launch bridge during the spring melt and heavy rains. Water quality is degrading.

Abnormalities

Some of the “Ice Out” test results did not appear to be correct. MCLA performed the sampling as required [water turn-over verified with temperature readings] and sent the acid stabilized water to the State Lab. Abnormalities included:

- ❑ Receiving test results for water bodies located in other counties of the state
- ❑ Receiving multiple results for a specific lake but only one sample was submitted
- ❑ Receiving results showing the wrong tester name
- ❑ Receiving results showing the correct water body name but a storet number for a different lake.
- ❑ Receiving results showing “Ice Out” TP levels that were significantly lower than levels commonly found during the summer.
- ❑ After some discussion with the State Lab, some results were just changed...some weeks later...without an explanation.
- ❑ After several phone calls and e-mails to the State Lab indicated they had incorporated “a new system and some errors were found.”

Although the results are listed on the state website, MCLA continues to doubt the veracity of 25% of the Ice Out test results.

Graphing

Results are graphed in the attachments. The average TP for the year does not include Ice Out test results due to the perceived issues.

However, all results, including Ice Out testing, are graphed for the individual lakes. Please be sure to scroll the spreadsheet to see all of the data. Note the individual lake graphs show the comparison between 2012 and 2013.

Ramifications

MCLA is using the data to drive action by the NRCS and Soil and Water Conservation Departments. The precise data gives watershed specific focus to conservation efforts.

The data is used to show Ag Producers the differences between the lakes relate practices that contribute to clean water.

MCLA is using the data to drive a new program through the NRCS. The “Tile Blow-out Remediation Program” will be the first in the U.S. Agencies working together include: NRCS, County Soil and Water, Discovery Farms, and the DNR. This program would not have traction without the test data.

MCLA, County Soil and Water, and NRCS are promoting a “watershed demonstration site” in the Carstens Lake watershed. We are using the test data and lake comparisons to “sell” the concept to the landowners.

Publication + Communication

Final high-level results will be publicized in 4 local newspapers in the Manitowoc area. Final results will be shared with all county lake associations, elected town, county, and state officials that serve Manitowoc.

Thank-you

Manitowoc County Lakes Association thanks the DNR and especially Mary Gansberg for their help with the grant.