Lake George Inlet Streams Water Quality Testing-2021 Results

Supported by LGC

The Steuben County Lakes Council (SCLC) has been conducting water testing of inlet streams for many of the recreational lakes in Steuben County including Lake George for many years. They conduct the water testing three times each year over the spring and summer timeframe (May, July, and August). The long-term testing site for Lake George is the inlet stream that passes through a pipe under Kope Kon Road (site #38). The Lake George Conservancy (LGC) has been donating $435 to cover the full cost of the water sampling at the Kope Kon Road site (3 samples @$145/sample). From 2017 through 2020 the LGC also funded the SCLC to take samples at the outlet stream from Silver Lake at Old Hwy 27. We dropped this site for 2021 because the results for the three consecutive years of testing showed no indicators of concern. We did, however, continue to pay the full cost of sampling at a pipe outlet under Flint Road near the boat ramp (site #72) for the 2021 sampling season. Water flow through this pipe is intermittent depending on the size of rainfall events. Therefore, this site can only be sampled when water is flowing through the pipe on the day of their scheduled sampling.

The table below shows the 2021 results for samples taken at the two Lake George tributary sites mentioned above (sites #38 & 72) as well as the results for sampling site #39 which is located on Crooked Creek below the Lake George Dam before the creek empties into Snow Lake. We included the results for site #39 to show how clean the stream water is when it leaves Lake George.

The table also lists the IDEM recommended maximum levels for head water streams for each of the parameters shown below.

	E. coli	Total Phosphorus	Suspended Sediments
Recommended Max Level	**235 (colonies/100ml**	**.076 mg/l =.076 PPM**	**30 mg/l =30 PPM**
Sample Site & Dates Sampled:			
#38	**(Kope Kon Road Site)**		
05/25/21	**488.4**	**0.019**	**1.0**
07/20/21	**920.8**	**non detected**	**1.7**
08/2/20	**207.3**	**0.011**	**1.2**
#72	**(Flint Road Site near the Boat Ramp)**		
05/25/21	**365.4**	**0.210**	**14.8**
07/20/21	**54.8**	**0.032**	**2.1**
08/24/21	**25.1**	**0.049**	**9.2**
#39	**(Crooked Creek Below Lake George Dam)**		
05/25/21	**12.1**	**0.010**	**1.3**
07/20/21	**6.3**	**non detected**	**1.5**
08/24/21	**2.0**	**0.017**	**1.9**

Notes on the Results:

The vast majority of the 2021 testing results for the three sampling locations reported numbers well below the recommended maximum levels. Only four testing parameters were above the IDEM recommended levels and of those four parameters only two were of significance. Three of the four results that were above recommended levels were for E. coli. Two of those three E. coli samples were at the same location, site #72 (Flint Rd), and the other one was at site #38 (Kope Kon Rd). E. coli readings for both of those locations were back below recommended maximum levels when tested in August. One total phosphorus reading was above recommended level and occurred in May at site #72 (Flint Rd) during the spring runoff period and was back to well below the recommended maximum level by the next sampling time in July.

To continue our effort to try to determine the main culprit causing the E. coli readings that were above recommended levels, we cooperated with the SCLC for the second year in a row on a new initiative experimenting with using DNA testing to identify the specific source(s) of E. coli found in water samples. In 2021 we contributed $300 (50% of the cost) to run DNA testing on water samples taken from Lake George sampling sites #38 and #72 on June 10, 2021. On that day, the E. coli reading was 82 colonies/100ml at site #38 (Kope Kon Rd) and 185 at site #72 (Flint Rd). Both readings were below the maximum recommended level of 235 colonies/100ml. The DNA test results for the sample taken at each of these sites on this day identified human waste as the primary source of the E, coli found in the respective samples. Last year the DNA test result at site #38 showed human waste and poultry as the primary E. coli sources and dogs and poultry as the primary sources at site #72. The poultry reading was most likely geese and other wildlife fowl. DNA testing to determine E. coli sources in water samples is obviously a work in progress. Professor Emeritus Pete Hippensteel who serves as the Water Quality Advisor for the SCLC, and Bill Schmidt, who chairs the SCLC's Water Quality Committee, are leading this initiative and are working with Biomonitor, Inc. out of Indianapolis. They will continue to work on improving both the understanding and accuracy of this technique for determining E. coli sources. Knowing the source(s) of E. coli is vitally important to determining if, and how it can be reduced.

To view the 2021 water testing results for all 76 county wide sites sampled by the Steuben County Lakes council go to their website at www.lakescouncil.org and click on 2021 Water Testing Results for May, July, and August.