

# 2019 SUMMARY FOR CHISAGO LAKES LAKE LEVEL MONITORING ACTIVITIES

The goals for the Chisago Lakes Lake Improvement District lake level monitoring program for the 2019 monitoring season included:

- Monitor lake levels weekly during the open water season,
- Improve the safety and efficiency of the monitoring process whenever possible,
- Evaluate and upgrade worn out gauges and equipment, and
- Evaluate monitoring site locations and revise where appropriate.

The 2019 monitoring season began on April 19, 2019, as ice-out had occurred on area lakes.

1. **Little Lake:** The gauge is located at the Little Lake public water access. On July 22, 2019, the Chisago County Surveyor set a new gauge, as the existing gauge was leaning significantly and staff could not take a reading.
2. **Pioneer Lake:** The gauge is located in the southwest corner of the lake. The gauge is in a good location, although it can be difficult to see when tree vegetation is thick.
3. **North and South Center Lakes:** The gauge is located at the South Center Lake public water access where it can easily be viewed from the docks.
4. **North Lindstrom, South Lindstrom and Chisago Lakes:** In previous years, the Minnesota Department of Natural Resources (DNR) set a gauge at North Lindstrom and another gauge at South Lindstrom and Chisago Lakes. However, this year the DNR set only one gauge located in North Lindstrom Lake near the Lakeview Motel along Highway 8, as the lake level elevations for North and South Lindstrom Lakes were considered equalized due to high water levels.

Water levels at this gauge were used as the basis for opening or closing the Lofton Avenue Weir due to high water levels in 2019.

5. **Wallmark Lake:** The gauge is located on private property and is read from the back yard. Readings were taken consistently without major issues. On October 17, 2019, staff removed a second gauge that was located on private property that was not used for lake level monitoring.
6. **School Lake:** The gauge is located on private property and is read from the back yard. Readings were taken consistently without major issues.

7. **Swamp Lake:** There are 7 culverts located at Swamp Lake; the 2<sup>nd</sup> culvert from the east is used for lake level measurements. Water flowed through the culverts all season and was close to flowing over the culverts.
8. **Weir at Ivywood Trail:** The weir is used for measurements.
9. **Lofton Avenue Weir:** Located between Chisago and Green Lakes; the permanent gauge is attached to the side of the weir. The gauge can be difficult to read when algae from receding water levels sticks to the gauge.

In early summer 2019, the Lofton Avenue Weir was opened due to high water on Chisago, and North & South Lindstrom Lakes. This resulted in a significant drawdown at the gauge at the Lofton Avenue Weir.

10. **Little Green, Green, and Ellen Lakes:** The gauge is located on Little Green Lake near a private residence on West Street.
11. **Kroon Lake:** The gauge is located at the Kroon Lake public water access. At times the gauge had been difficult to read due to excessive vegetation growth.
12. **Spider Lake:** The gauge is located at the Spider Lake public water access. The gauge was underwater during most of the month of May due to high water levels.
13. **Linn Lake:** The gauge is accessed by a dock on private property on Newberry Trail. Staff wore rubber boots or waders to access this gauge most of the season due to high water levels.
14. **County Road 19:** The gauge is located in the wetland complex near County Road 19. The gauge was underwater during most of the months of May and June due to high water levels. The Chisago County Surveyor provided a zero elevation at an electrical box located near the gauge in order to provide staff with water level elevations until the water receded and staff could read the gauge.

The 2019 monitoring season concluded on November 15, 2019, as cold temperatures had arrived and the lakes began to freeze.