

Matteson Lake 2018 Water Quality Summary

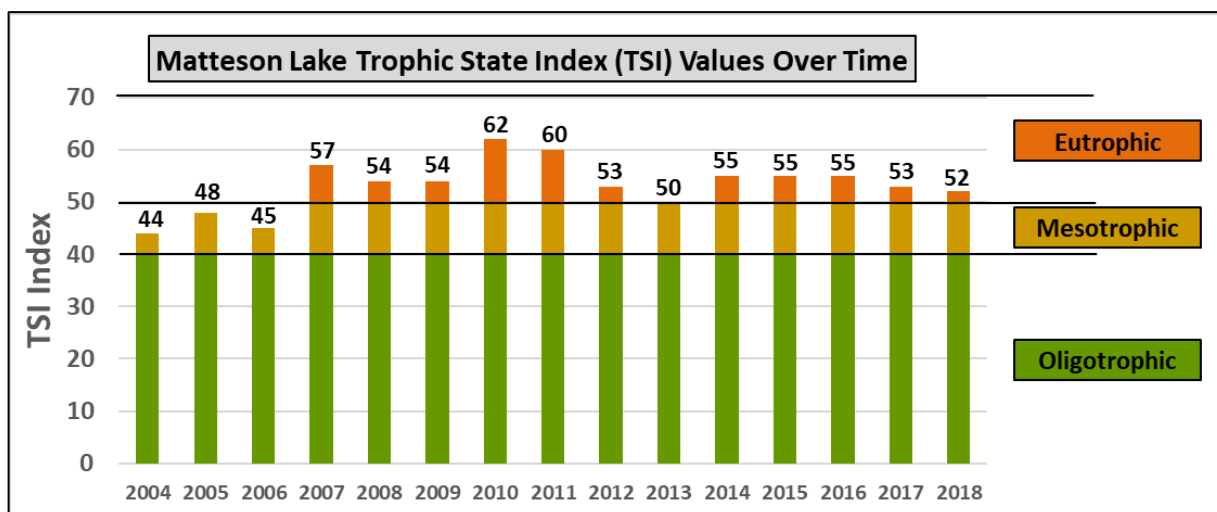
We collected water samples on three different occasions in 2018. Sampling showed that **phosphorus** concentrations coming into the lake were higher than concentrations exiting the lake at the dam. The opposite was true for **nitrogen**, which is different from years past.

During wet weather, when runoff makes the inlet stream muddy, **total suspended solids (TSS)** were high coming in and going out. During dry weather, we measured higher TSS exiting the lake than coming in. This is likely because boat and wave activity stirs the lake up and is consistent with conditions in past years.

Date	Nitrogen (mg/L)		Phosphorus (ug/L)		TSS (mg/L)	
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
5/14/2018*	0.78	1.2	55	27	35.8	23.5
07/16/18	0.51	0.93	50	22	5.1	11.7
09/16/18	0.76	0.97	67	16	5.2	6.7

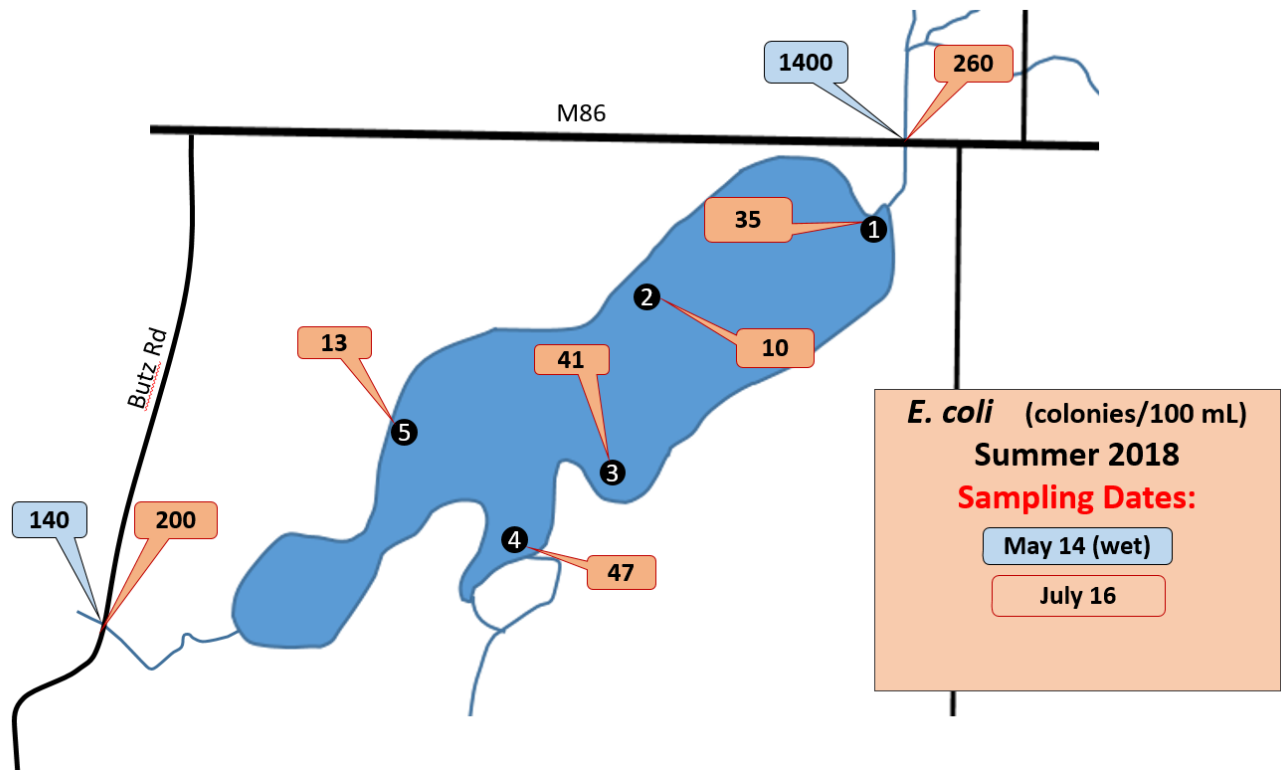
* wet weather

The **Trophic State Index (TSI)** combine three water quality variables (phosphorous concentration, green algae abundance, and water clarity) into a single score that we can track over time. The TSI score for 2018 was 52, down slightly from last year. Nevertheless, it indicates that Matteson Lake remains *eutrophic*, with excess nutrients that can lead to algae blooms and cloudy water. When plants and algae die, their decomposition robs the water of oxygen that fish need to live.



The long-term goal of the Water Quality Committee is to return Matteson Lake to mesotrophic conditions and to keep it there. We appear to making progress, but ever so s-l-o-w-ly!

E. coli sampling at the inlet, outlet, and five locations within the lake found bacteria values that were at or below those seen in prior years. With the exception of the 1400 colonies per 100 ml measured at the M-86 Bridge during wet weather, all were safe for swimming. As in past years, swimming in the river is not recommended at any time!



2019 Water Quality Sampling Plan

Sampling for 2019 will expand to include points in the watershed surrounding Matteson Lake. Measuring water quality at accessible places in the watershed gives us a fuller picture of nutrients and suspended solids that may eventually enter the lake and affect its water quality.

Within the Matteson Lake itself, we'll determine the TSI score and measure the usual water quality parameters (nutrients, TSS, and *E. coli*) at the lake inlet and outlet.