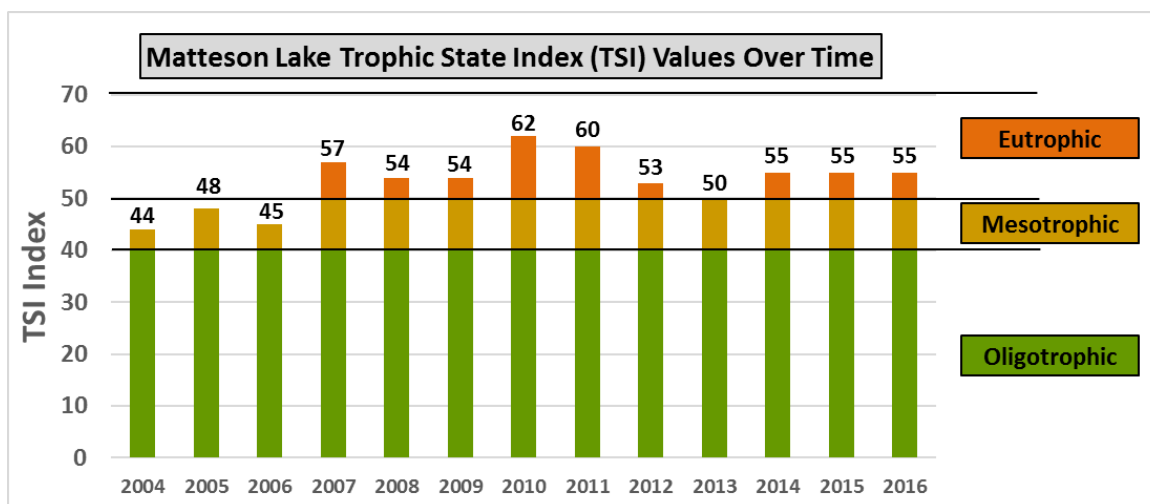


2016 Matteson Lake Water Quality Summary

The Water Quality Committee has been monitoring Matteson Lake for more than a decade to understand changes in its characteristics and to help inform the Lake Association and the surrounding community about the best ways to protect the lake and all of its aquatic ecosystems. In 2016, we sampled the inlet (M-86 Bridge) and outlet (Butz Rd Dam) nine times under dry (5) and wet (4) conditions. Similar to past years, nutrient concentrations (nitrogen and phosphorous) were higher flowing into the lake than out of the lake on most (but not all) occasions.

During our survey of the Matteson Lake watershed on July 20, 2016, we observed nutrient and suspended solid levels that were similar to those found in prior years. On the same day, sampling within the lake found that it was stratified with 12-15 feet of warmer, well-oxygenated water floating on top of a colder, oxygen-depleted water layer below. This condition is very similar to prior years. In addition, *E. coli* sampling at the inlet, outlet, and five locations within the lake also found bacteria values that were at or below those seen in prior years (all were safe for swimming).

Of highest concern is the trophic state of our lake. The Trophic State Index (TSI) combines three separate water quality measures: phosphorous concentration, green algae abundance, and water clarity. The TSI score calculated on July 20, 2016 was 55, which is *eutrophic*, indicating that the lake has excess nutrients that can lead to algae blooms and excess aquatic plant life. When plants and algae die, their decomposition robs the water of oxygen that fish need to live. In the last 5 years, conditions appear to be somewhat stable (the TSI score has been 55 for three years in a row). Our overall goal of returning Matteson Lake to *mesotrophic* conditions remains, however.



In 2017, we are planning a reduced monitoring program (one dry and one wet sampling event). This will give us enough information to continue our trend analysis, but preserve water quality funds for more comprehensive sampling in 2018. Thank you to the Water Quality Committee members who do the hard work of sample collection and thank you to all Matteson Lake Association members whose dues and contributions make our work possible!