

2015 WATER QUALITY ANALYSIS: LAKES

ANNUAL WATER QUALITY MONITORING REPORT

Since 2004, the MFCRWD has monitored lakes and streams in the 271 square-mile watershed located in Kandiyohi, Meeker, Pope, and Stearns County. District volunteers and staff collected nearly 200 water samples in 2015. Each sample was packed with ice and sent to a Minnesota Pollution Control Agency certified lab for analysis.

In addition to chemical analysis, volunteers measured water clarity with a Secchi disk or tube, and determined physical appearance and recreational suitability of the water. Monitoring water quality within the District is essential for assessing trends over time and for targeting lake and watershed management decisions.

Five stream sites and twelve lake sites were regularly monitored in 2015. Lab analyses were performed

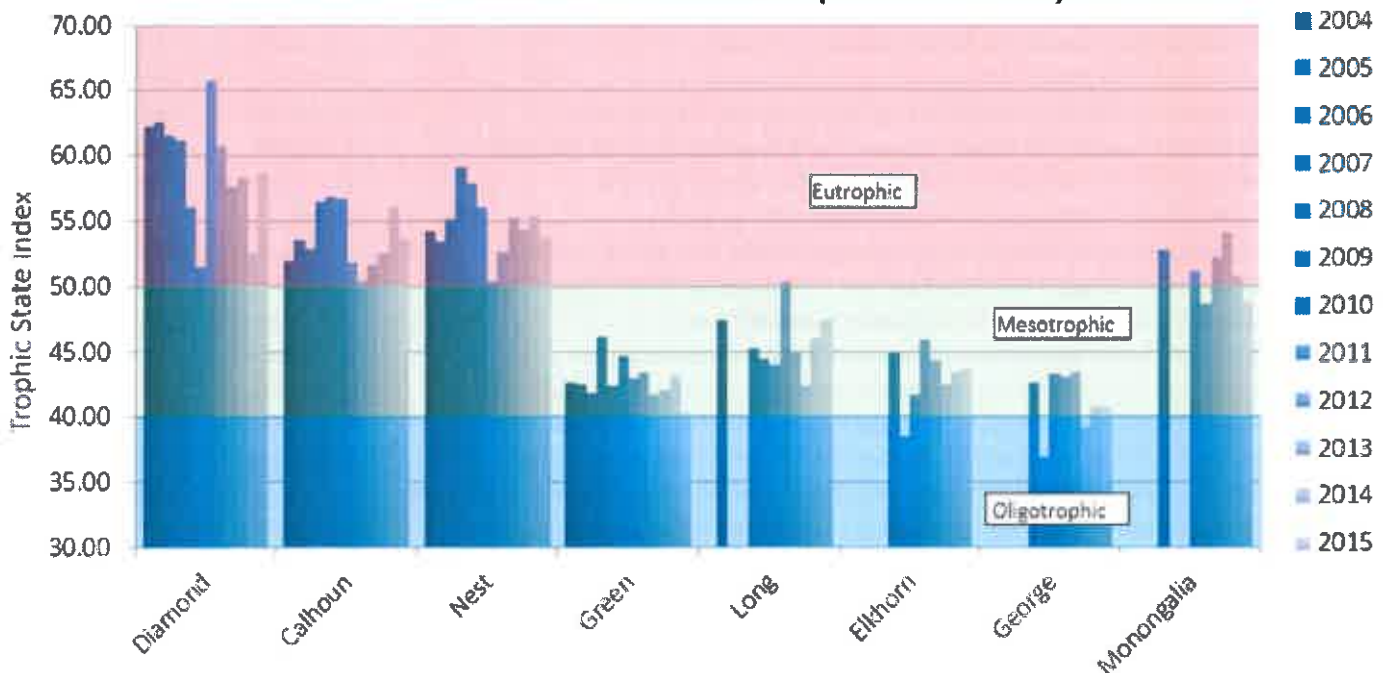
for the following water quality parameters: Total Phosphorus, Total Suspended Solids, Chlorophyll-a, and Total Kjeldahl Nitrogen.

To rank a lake's biological productivity, Trophic State Index (TSI) analysis may be used. TSI utilizes Secchi depth and water chemistry (Total Phosphorus, and Chlorophyll-a) data to classify lakes into categories of either oligotrophic (low algal productivity), mesotrophic (moderate algal productivity), or eutrophic (high algal productivity).

Below is a graph of the TSI values for each of the eight major recreational lakes within the District. Visit the District website and click 'Resources' to view the full 2015 Monitoring Report and past monitoring reports.

Questions? Email Jon: jon@mfcrow.org

Annual TSI Values (2004-2015)



TSI 30-40 Oligotrophic – clear water, hypolimnion oxygenated throughout the year (except in shallow lakes)

TSI 40-50 Mesotrophic – Water moderately clear, but anoxia becoming more likely in hypolimnion during the summer

TSI 50-70 Eutrophic: Decreased transparency, anoxic hypolimnion during the summer, dominance of blue-green algae, algal scums probable, extensive aquatic plant problems possible.