

An aerial photograph of a large, winding lake at sunset. The sky is filled with soft, colorful clouds in shades of orange, pink, and blue. The lake's water reflects the sky, showing a mix of blue and brownish tones. The surrounding land is covered in dense green forest. On the right side of the lake, there is a developed area with many small buildings, likely a campsite or resort, with roads and parking areas visible. The overall scene is peaceful and scenic.

CLMP and Water Quality Report

John Jackson
Membership Meeting, August 23, 2025

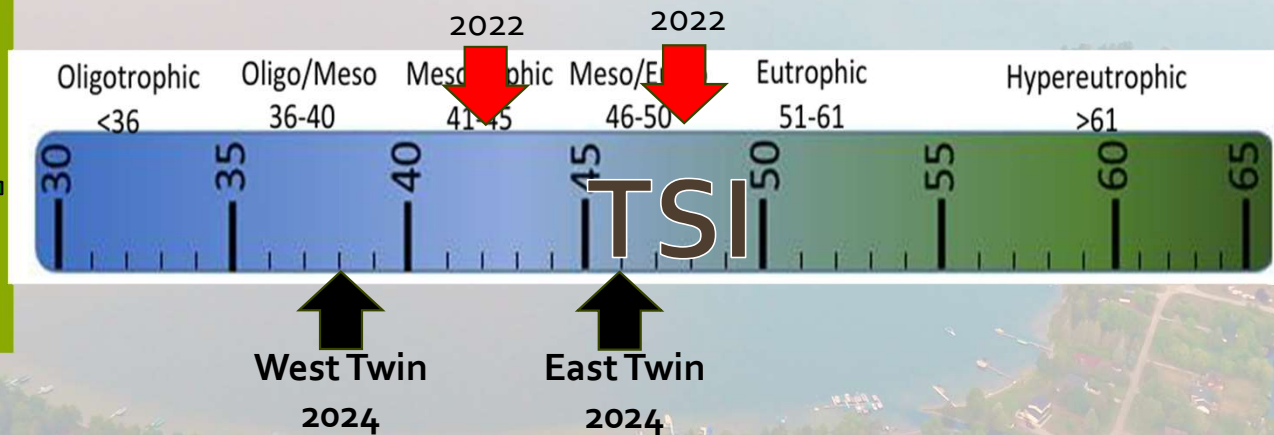
What is the CLMP or Cooperative Lakes Management Program?

- ✓ The organization responsible for collecting all lake water quality data in Michigan
- ✓ It includes local volunteers, myself for ETL and Jerry Beattie WTL, EGLE, MSU, Huron River Watershed Council and Michigan Lakes and Streams
- ✓ TLPOA has participated in the CLMP for 32 years (1993)
- ✓ CLMP has actively monitored lakes in Michigan for 51 years (1974)
- ✓ We monitor 3 critical lake parameters to determine **TSI score and Trophic Status**
 1. Secchi Disk
 2. Summer Phosphorous
 3. Chlorophyll A
- ✓ TSI score is directly related to water clarity (lower value means clearer water)
- ✓ Trophic status describes the lakes productivity (plant, algae and fish)

2024 Twin Lakes CLMP Results



- ✓ West Twin: Average TSI score of 38 this lake is rated between the oligotrophic and mesotrophic lake classification. The lake leans slightly more **oligotrophic than mesotrophic. (4 point improvement)**
- ✓ East Twin: Average TSI score of 46 this lake is rated as **mesotrophic. (2 point improvement)**



HAB's

TLPOA Water Quality Corrective Phosphorus Actions



- 1. Geese Deterrence (Goosebusters)**
 - Immediate and potentially biggest impact
 - Received resolution from Albert and Charlton Twp Boards (5 years)
 - DNR permit required each year
 - -36 Geese on ETL; -10.8 lbs and 24% reduction in Geese P
 - -48 Geese on WTL; -13.44 lbs and 32% reduction in Geese P
- 2. Lewiston Stormwater Control Improvements**
 - Working with Huron Pines, Spicer Group, MC Road Commission and Albert Twp to determine potential improvements
 - Per 2023 Huron Pines study we added Early Season May and Late Season Oct street cleanings to reduce storm system input
 - Spicer Group conducted comprehensive water quality assessment
- 3. Decentralized Wastewater System**
 - Potentially biggest improvement, but very expensive
 - Requires buy in from everyone
 - Very long-term project, similar projects have been rejected in the past

Spicer; Comprehensive East and West Twin Water Quality Testing



- ✓ **Water Nutrient Levels**
 - Total Nitrogen (Nitrate, Nitrite, Kjeldahl Nitrogen, Ammonia)
 - **Total Phosphorous (P)**
 - Reactive Phosphorous (Orthophosphate)
 - Total Suspended Solids
 - Total Chloride
 - **Chlorophyll-a**
- ✓ **General Water Quality Chemistry**
 - Dissolved Oxygen
 - Specific Conductivity
 - pH
 - Temperature
 - Visibility
 - Depth
- ✓ **Algal risk assessment; presence of toxic cyanobacteria**
- ✓ **3 times (April, July, October)**

Spicer Group Key Findings



1. Water Clarity results were like longstanding CLMP results; West Twin Lake approximately 2 feet greater Secchi depth than East Twin
2. Composite trophic state and nutrient calculations also duplicated CLMP results, West Twin **oligotrophic**, East Twin Lake is **mesotrophic**.
3. As expected, dissolved oxygen declined throughout the season, with fall levels dipping below USGS summer guidelines
4. The algal risk assessment showed non-detectable concentrations of toxic-producing cyanobacteria. As a result, **no immediate risk** of Harmful Algal Blooms (HABs)
5. Continue environmental management of invasive species, reduce waterfowl droppings and improve erosion reduction.

What are the TLPOA future steps?



1. **Continue to develop Geese remediation strategies including contract for Goose Busters for next year**
2. **Continue street cleanings late this fall and early spring 2026 per Huron Pines report to reduce storm sewer system input**
3. **Continue CLMP participation**
4. **Investigate additional control strategies to prevent phosphorous from entering the Twin Lakes**

An aerial photograph of a large, irregularly shaped lake during sunset. The sky is filled with soft, colorful clouds in shades of orange, pink, and purple. The lake's surface reflects the light, showing a mix of blue and brown tones. The surrounding land is covered in dense green forest. On the right side of the lake, there is a developed area with many small buildings, likely a campsite or resort, with roads and parking lots visible. The overall scene is peaceful and scenic.

Questions ?

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