



2024 Data Report for

Webinguaw Lake, Newaygo County

Site ID: 620283

43.6735°N, 85.7771°W

The CLMP is brought to you by:



Michigan Clean
Water Corps

EGLE

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

**MICHIGAN STATE
UNIVERSITY**



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About this report:

This report is a summary of the data that have been collected through the Cooperative Lakes Monitoring Program. The contents have been customized for your lake. The first page is a summary of the Trophic Status Indicators of your lake (Secchi Disk Transparency, Chlorophyll-a, Spring Total Phosphorus, and Summer Total Phosphorus). Where data are available, they have been summarized for the most recent field season, five years prior to the most recent field season, and since the first year your lake has been enrolled in the program.

If you did not take 8 or more Secchi disk measurements or 4 or more chlorophyll measurements, there will not be summary data calculated for these parameters. These numbers of measurements are required to ensure that the results are indicative of overall summer conditions.

If you enrolled in Dissolved Oxygen/Temperature, the summary page will have a graph of one of the profiles taken during the late summer (typically August or September). If your lake stratifies, we will use a graph showing the earliest time of stratification, because identifying the timing of this condition and the depth at which it occurs is typically the most important use of dissolved oxygen measurements.

The back of the summary page will be an explanation of the Trophic Status Index and where your lake fits on that scale.

The rest of the report will be aquatic plant summaries, Score the Shore results, and larger graphs, including all Dissolved Oxygen/Temperature Profiles that you recorded. For Secchi Disk, Chlorophyll, and Phosphorus parameters, you need to have two years of data for a graph to make logical sense. Therefore if this is the first year you have enrolled in the CLMP, you will not receive a graph for these parameters.

Remember that some lakes see a lot of fluctuation in these parameters from year to year. Until you have eight years worth of data, consider all trends to be preliminary.

To learn more about the CLMP monitoring parameters or get definitions to unknown terms, check out the CLMP Manual, found at: https://micorps.net/wp-content/uploads/2021/03/CLMP-Manual-2019update2_2021.pdf

Thank you!

The CLMP leadership team would like to thank you for all of your efforts over the past year. The CLMP would not exist without dedicated and hardworking volunteers!

The CLMP Leadership Team is made of: Jo Latimore, Erick Elgin, Jean Roth, Tamara Lipsey, Mike Gallagher, Melissa DeSimone, and Paul Steen

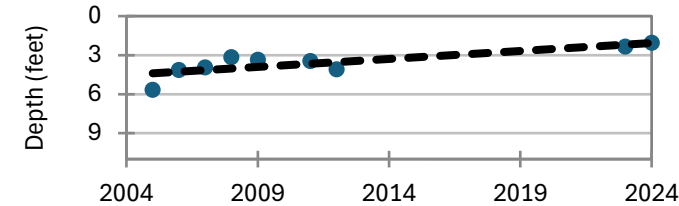
Questions?

If you have questions on this report or believe that the tabulated data for your lake in this report are in error please contact:

Paul Steen (psteen@hrwc.org), CLMP Data Analyst

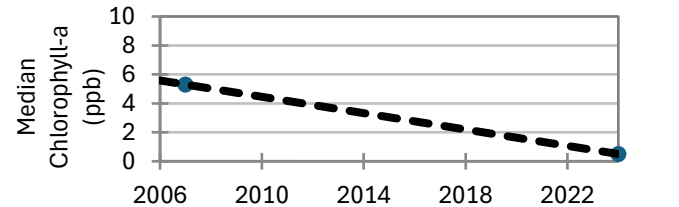
Secchi Disk Transparency (feet)

Year	# Readings	Min	Max	Average	Std. Dev	Carlson TSI
2024	17	1.5	3.0	2.1	0.3	67
2023	17	2.0	2.5	2.4	0.2	65
2005-2018	96	2.5	7.5	4.0	0.6	57
2024 All CLMP Lakes	3348	0.5	85.0	11.7	6.2	43



Chlorophyll-a (parts per billion)

Year	# Samples	Min	Max	Median	Std. Dev	Carlson TSI
2024	5	<1.0	<1.0	<1.0	0.0	31
2006-2007	7	1.3	11.0	5.3	3.0	47
2024 All CLMP Lakes	708	< 1.0	63.0	2.8	7.3	41



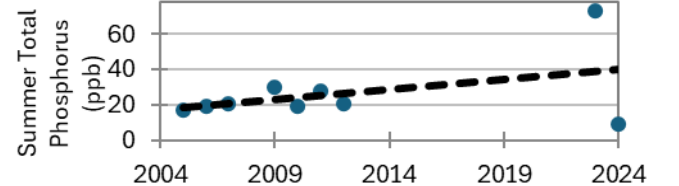
Spring Phosphorus (parts per billion)

Year	# Samples	Min	Max	Average	Std. Dev
2012	1	14.0	14.0	14.0	NA
2007-2011	3	11.0	14.0	12.7	1.5
2006-2006	1	18.0	18.0	18.0	NA
2024 All CLMP Lakes	259	<= 5	140.0	14.3	39.7



Summer Phosphorus (parts per billion)

Year	# Samples	Min	Max	Average	Std. Dev	Carlson TSI
2024	1	9.0	9.0	9.0	NA	36
2019-2023	1	73.0	73.0	73.0	NA	66
2005-2018	7	17.0	30.0	22.1	4.9	49
2024 All CLMP Lakes	261	<= 5	140.0	14.6	11.9	43



Dissolved Oxygen and Temperature Profile

This lake does not have recent (within 5 years) dissolved oxygen/water temperature data available. Consider enrolling in this parameter next year. Fish, insects, mollusks, and crustaceans need dissolved oxygen to live in water. By late summer, many lakes stratify, with cold anoxic water on the bottom and warm, oxygen rich water on the surface. Anoxic (oxygen-depleted) water occurring too close to the surface is a sign of nutrient enrichment. Understanding the pattern of dissolved oxygen and water temperature in a lake is important for assessing nutrient problems as well as the health of the biological community.

Summary

Average TSI	2024	2023	2005-2012
Webinguaw Lake	45	65	53
All CLMP Lakes	41	44	41

With an average TSI score of 45 based on 2024 Secchi transparency, chlorophyll-a, and summer total phosphorus data, this lake is rated as mesotrophic.

There is too little data to assess long term trends. CLMP recommends at least eight years of consistent monitoring to develop a strong data baseline.

* = Minimum # samples not met for average/median/TSI value
<1.0 = Chlorophyll-a: Sample value is less than limit of quantification (<1 ppb).
W= Value is less than the detection limit (<3 ppb) T = Value reported is less than the reporting limit (5 ppb)

Trophic Status Index Explained

In 1977, limnologist Dr. Robert Carlson developed a numerical scale (0-100) where the numbers indicate the level of nutrient enrichment. Using the proper equations, we can convert results from Summer Total Phosphorus, Secchi Depth, and Chlorophyll-a to this Trophic Status Index (TSI). The TSI numbers are furthermore grouped into general categories (oligotrophic, mesotrophic, eutrophic, and hypereutrophic), to quickly give us a way to understand the general nutrient level of any lake.

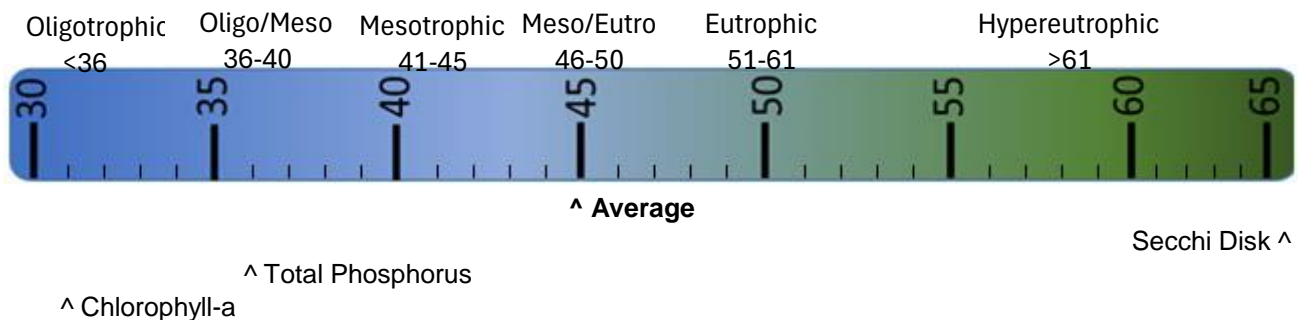
The tables below give the results-to-TSI conversions for the water quality data ranges normally seen in the CLMP. The formulas for this conversion can be found in the CLMP manual (link is on page 2 of this report).

Phosphorus (ppb)	TSI Value
<5	<27
6	30
8	34
10	37
12	40
15	43
18	46
21	48
24	50
32	54
36	56
42	58
48	60
>50	>61

Secchi Depth (ft)	TSI Value
>30	<28
25	31
20	34
15	38
12	42
10	44
7.5	48
6	52
4	57
<3	>61

Chlorophyll-a (ppb)	TSI Value
<1	<31
2	37
3	41
4	44
6	48
8	51
12	55
16	58
22	61
>22	>61

TSI for Webinguaw Lake in 2024	
Average	45
Secchi Disk	67
Summer TP	36
Chlorophyll-a	31



Oligotrophic: Generally deep and clear lakes with little aquatic plant or algae growth. These lakes maintain sufficient dissolved oxygen in the cool, deep-bottom waters during late summer to support cold water fish, such as trout and whitefish.

Mesotrophic: Lakes that fall between oligotrophic and eutrophic. Mid-ranged amounts of nutrients.

Eutrophic: Highly productive eutrophic lakes are generally shallow, turbid, and support abundant aquatic plant growth. In deep eutrophic lakes, the cool bottom waters usually contain little or no dissolved oxygen. Therefore, these lakes can only support warm water fish, such as bass and pike.

Hypereutrophic: A specialized category of eutrophic lakes. These lakes exhibit extremely high productivity, such as nuisance algae and weed growth.

Webinguaw Lake, Newaygo County

2024 Exotic Aquatic Plant Watch Results

The Exotic Aquatic Plant Watch was conducted on Webinguaw Lake in 2024.

This survey involves sampling at multiple locations around the lake to detect new invaders, and document the extent of known invaders. While notes on other plant species may be recorded during the survey, the effort focuses on five highly invasive species: Eurasian watermilfoil (*Myriophyllum spicatum*), starry stonewort (*Nitellopsis obtusa*), curly-leaf pondweed (*Potamogeton crispus*), European Frogbit (*Hydrocharis morsus-ranae*), and Hydrilla (*Hydrilla verticillata*).

The table below summarizes the results of the 2024 Exotic Aquatic Plant Watch on Webinguaw Lake.

Webinguaw Lake, Newaygo County		
2024 Exotic Aquatic Plant Watch Results		
Survey Date(s): August and September		
Species	Status	Comments
Eurasian watermilfoil	not found	No invasives reported in the 10 sites surveyed. No location information or map of the 10 sites provided. No photos provided for confirmation.
Starry stonewort	not found	
Curly-leaf pondweed	not found	
European Frogbit	not found	
Hydrilla	not found	

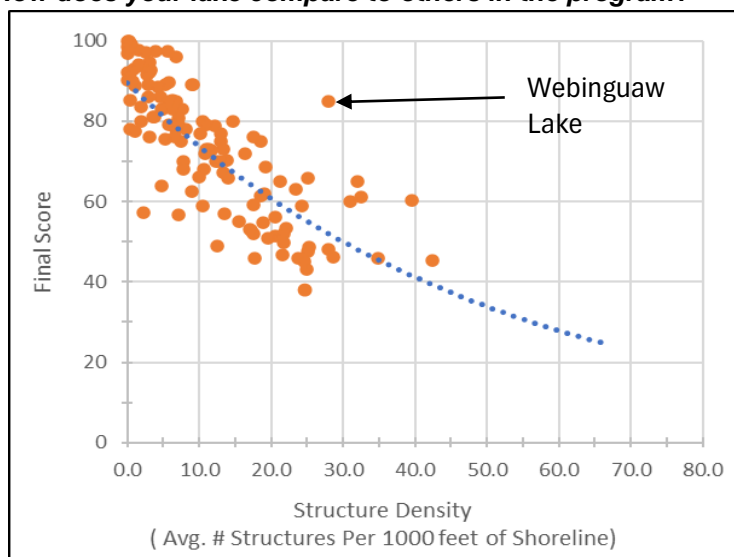
Visit the MiCorps Data Exchange (<https://micorps.net>) or contact the lead volunteer on your lake for more details on the survey, including sampling locations, maps, and abundance information, and for information on past surveys.

Webinguaw Lake, Newaygo County 2024 Score the Shore Results

The Score the Shore Habitat Assessment was conducted on Webinguaw Lake in 2024.

This assessment involves rating 1000 foot sections of shoreline for aquatic vegetation, shoreline vegetation, erosion, and erosion control practices (like sea walls). Each shoreline section is given three scores ranging from 0-100 for the categories of Littoral, Riparian, and Erosion Management. The three scores are averaged to produce a average section score. Then a total score is given to the entire lake by averaging all of the average section scores. A score of 0 indicates a shoreline that has been extremely disturbed by human impacts and no natural shoreline remains. A score of 100 indicates a shoreline that is pristine.

How does your lake compare to others in the program?



Webinguaw Lake	
Number of Sections:	3
Number of Structures:	84
Structure Density:	28
Final Score:	85

All 123 Participating Lakes from 2015-2024:	
Avg. Number of Sections:	16
Avg. Number of Structures:	230
Avg. Structure Density:	12.2
Avg. Final Score:	73.2

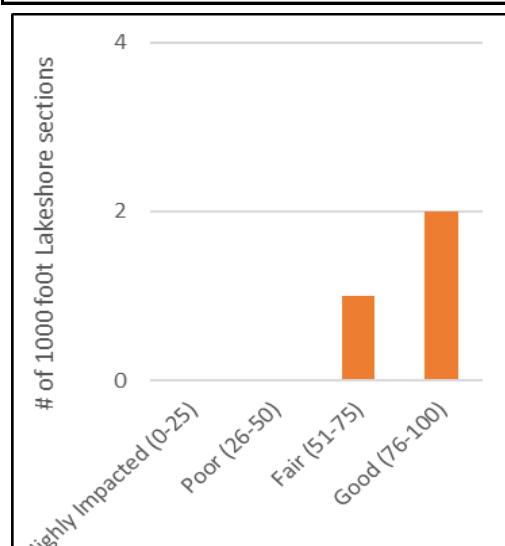
Note about graph to the left: The dotted line sets the average expectation of the score of your lake. If your lake is lower than the dotted line, then your shoreline health is lower than average compared to *lakes with similar amount of shoreline development*. And vice-versa in regards to a lake above the dotted line.

Analysis specific to Webinguaw Lake:

Webinguaw is an interesting rare example of a lake that is doing way better in shoreline health than other lakes with a similar amount of development. Visually, you can see this in the graph because Webinguaw is so separated from other lakes.

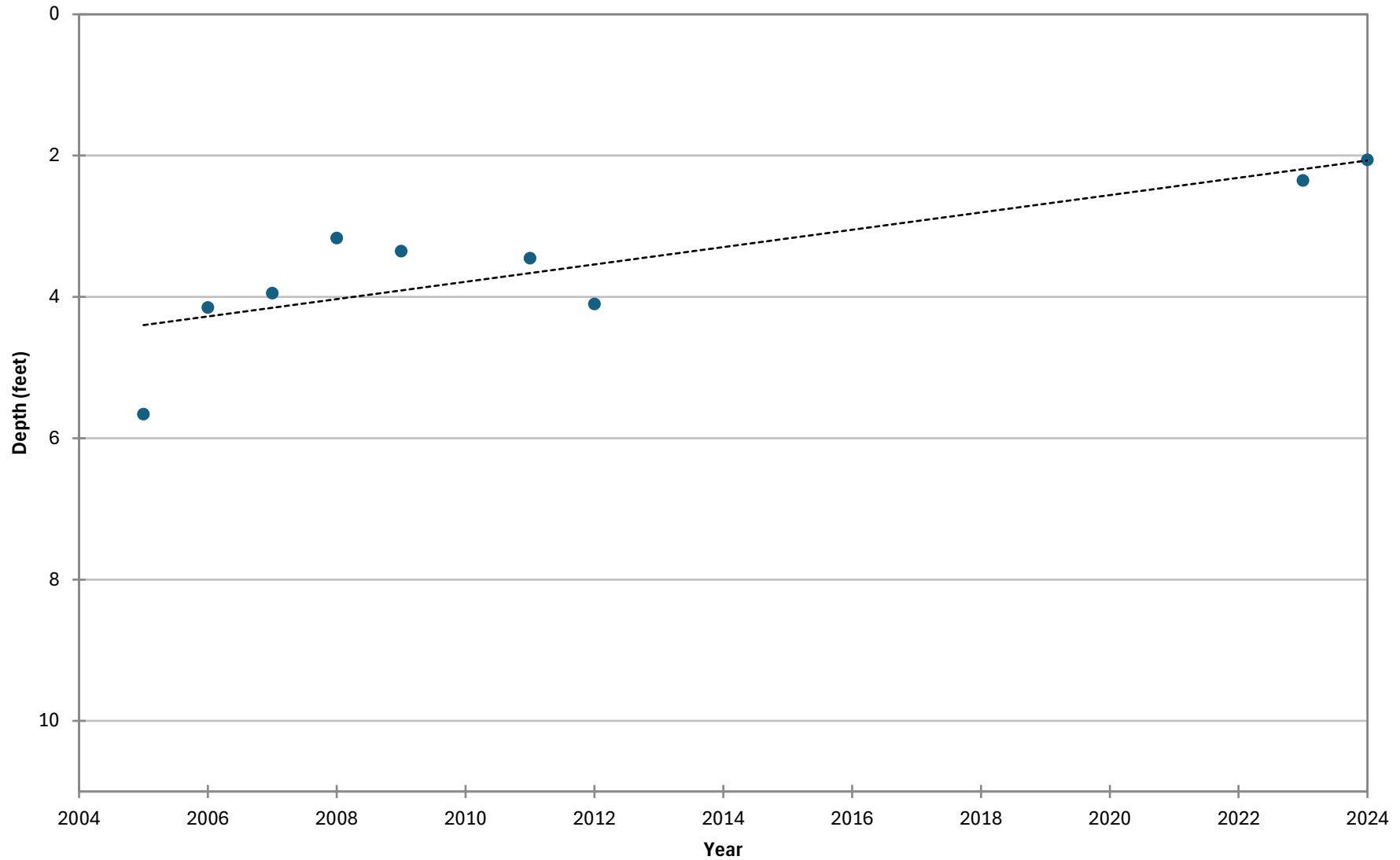
With nearly all development on Section 1, the rest of the lake is able to thrive.

To see even more improvement, put emphasis on fixing up Section 1. This section scores lowest in the Riparian zone, so look at what controls that score. Reduce the amount of mowed grass and increase the amount of unmowed native vegetation along the lakeshore to boost this aspect of the shoreline habitat. You can get plenty of ideas for improving shoreline health from the Michigan Natural Shoreline Partnership.
<https://www.shorelinepartnership.org/>



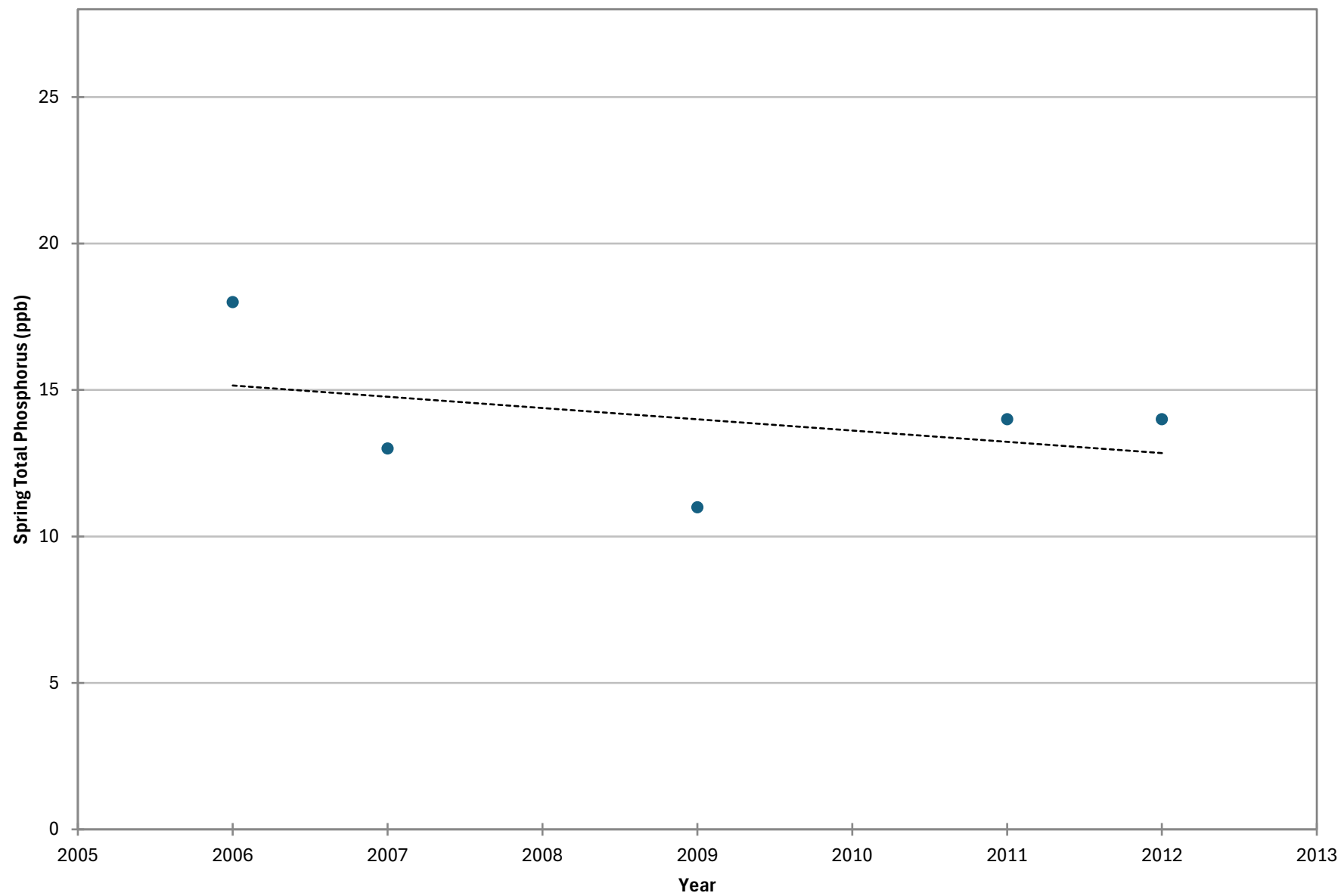
COOPERATIVE LAKES MONITORING PROGRAM
SUMMER MEAN TRANSPARENCY

Webinguaw Lake (Newaygo Co.), 620283



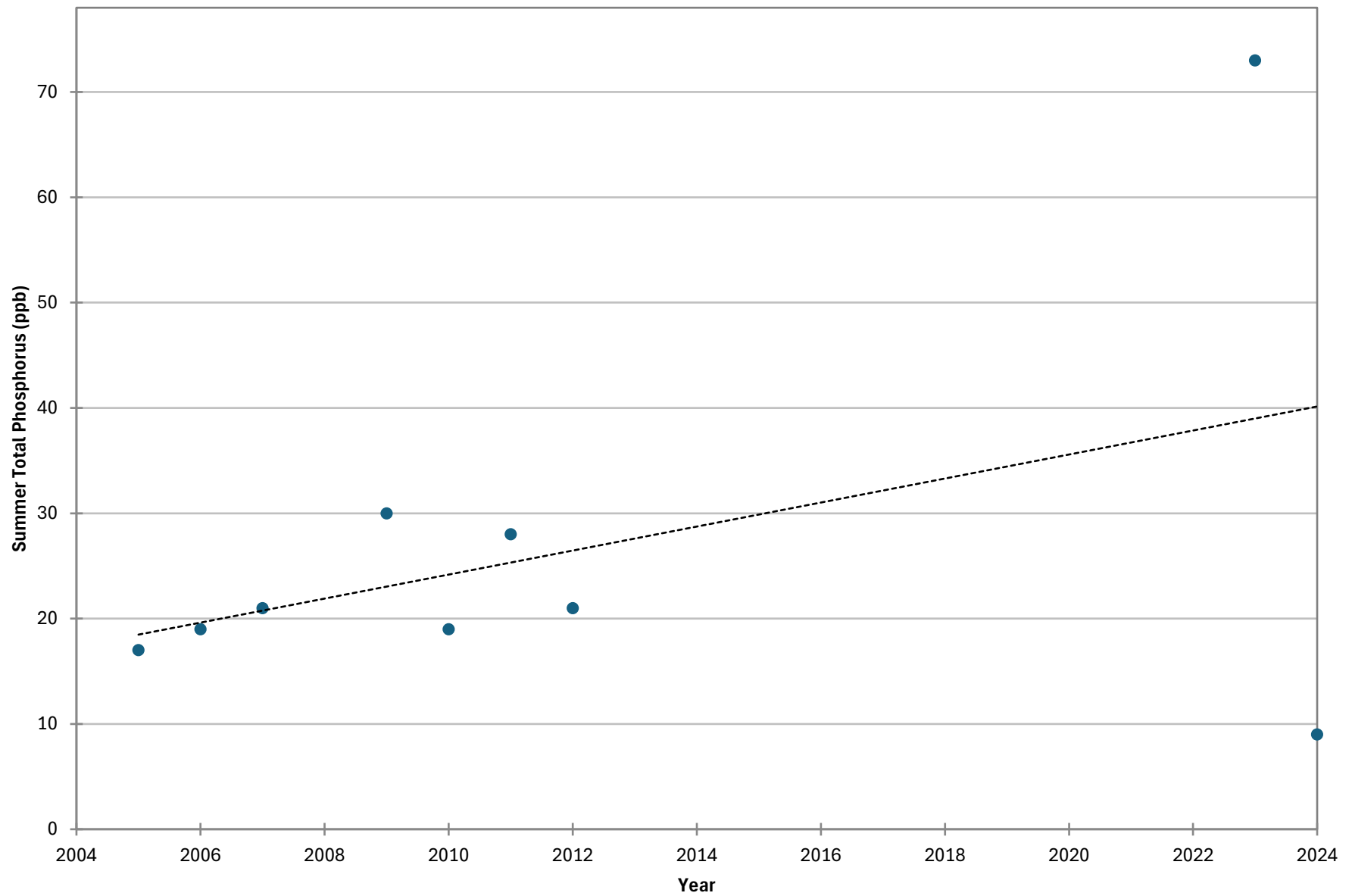
COOPERATIVE LAKES MONITORING PROGRAM
SPRING TOTAL PHOSPHORUS

Webinguaw Lake (Newaygo Co.), 620283



COOPERATIVE LAKES MONITORING PROGRAM
SUMMER TOTAL PHOSPHORUS

Webinguaw Lake (Newaygo Co.), 620283



COOPERATIVE LAKES MONITORING PROGRAM
SUMMER MEDIAN CHLOROPHYLL-A

Webinguaw Lake (Newaygo Co.), 620283

