

Northeast Lakeshore Volunteer Monitoring Program
Northeast Lakeshore TMDL
2025 Annual Report



February 17th, 2025

WDNR Contacts

Grace Hiley, Project Coordinator – WDNR
(920) 296-5126
Grace.Hiley@wisconsin.gov

Katherine Rynish, Previous Project Coordinator – WDNR

Keith Marquardt, NEL TMDL Project Manager – WDNR
(920) 717-8031
KeithA.Marquardt@wisconsin.gov

Andrew Hudak, East District Water Resources Field Supervisor – WDNR
(920) 662-5117
Andrew.Hudak@wisconsin.gov

Claire Hetzel, Water Quality Biologist – WDNR
920 717-8386
Claire.Hetzel@wisconsin.gov

Craig Helker, Water Quality Biologist – WDNR
(414) 550-2970
Craig.Helker@wisconsin.gov

Dave Bolha, Water Quality Biologist – WDNR
(920) 424-7892
David.Bolha@wisconsin.gov

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Table of Contents

Northeast Lakeshore Volunteer Monitoring Program.....	1
Northeast Lakeshore TMDL	1
2025 Annual Report	1
Project Summary.....	4
Project Location	4
Project Background	5
Problem Statement	5
Project Goals	6
Proposed Work and Sampling Procedure	6
2025 Sampling Season	8
Sample Collection Summary	8
Outreach	9
Wisconsin Listing Methodology	11
Water Quality Data	13
Total Phosphorus Analysis	13
Dissolved Reactive Phosphorus Analysis	14
Total Suspended Solids Analysis	15
Total Nitrogen Analysis	16
Streamflow and Transparency	17
Field Quality Assurance/Quality Control Duplicate Samples	18
Key Takeaways for 2023-2025	19
Data Conclusions.....	20
Program Conclusions	21
Acknowledgements.....	22
Appendices.....	23
Appendix A: Northeast Lakeshore Volunteer Monitoring Sites and TMDL Basin Boundaries	23
Appendix B: Impaired Monitoring Streams	25
Appendix C: Sampling Data	29
Appendix D: Median Total Phosphorus Concentration by Monitoring Site	41
Appendix E: 2023-2025 Confidence Limit Table	41
Appendix F: Confidence Limit Graphs	45

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Appendix G: Percentage of Total Phosphorus Concentrations from Dissolved Reactive Phosphorus	
.....	50
Appendix H: Duplicate Sample Data	53
Appendix I: Stream Flow and Transparency Data	55
Appendix J: Northeast Lakeshore Volunteer Monitoring Fact Sheet	63

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Project Summary

Project Location

The Northeast Lakeshore (NEL) Volunteer Monitoring Program supports the Northeast Lakeshore Total Maximum Daily Load (TMDL), which was approved on October 30, 2023. The program started in 2023 with 12 surface water monitoring sites, seven sites were added for a total of 19 sites in 2024. The rivers and streams monitored in the program reflect the health of the respective watersheds, rivers, and streams themselves and contribute nutrients and sediment to Lake Michigan. The NEL is approximately 2,000 square miles and covers eight counties (Brown, Calumet, Door, Fond du lac, Kewaunee, Manitowoc, Ozaukee, and Sheboygan). There are three major river basins within the NEL: Kewaunee, Manitowoc, and Sheboygan basins.

The volunteer monitoring program relies on citizen volunteers to collect surface water samples from 19 monitoring sites, the monitoring sites are spread throughout the three basins: Kewaunee, Manitowoc, and Sheboygan. The monitoring sites are displayed in Figure 1 and more detailed location information can be found in Appendix A.

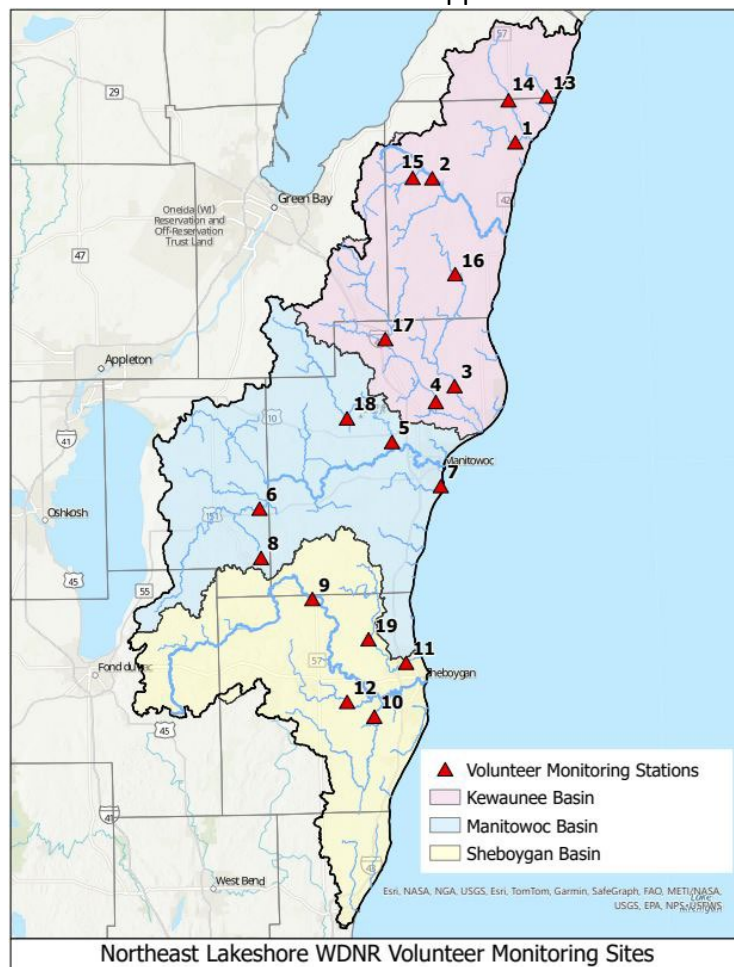


Figure 1: Map of volunteer monitoring sites in Northeast Lakeshore.

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Project Background

The Northeast Lakeshore TMDL was approved by the EPA in October of 2023. The TMDL provides a framework to address total phosphorus (TP) and total suspended solids (TSS) reductions with the goal of achieving water quality standards. The TMDL sets goals for total TP and TSS concentrations in surface waters across the NEL. Loading capacities are defined, which is the maximum amount of a pollutant a waterbody can safely contain while still meeting the water quality standards set in the TMDL. As TMDL implementation progresses, one objective is to evaluate long-term water quality trends across the NEL.

The NEL Volunteer Monitoring Program began in 2023 to achieve some of the monitoring objectives resulting from the TMDL. Because this program started six months prior to the TMDL approval this sampling will also gather baseline data before implementation happens due to the TMDL. The volunteer monitoring program samples 19 sites across 17 different streams, the sites are distributed across the three basins within the NEL. The sites were chosen because they are good representations of water quality in the surrounding watershed, they were monitored during the development phase of the TMDL, and there is historical data to compare to.

Given the time commitment and spatial location of the monitoring sites, the assistance of volunteers is vital to the success of the program. Volunteers serve the essential role of data collectors, as they collect monthly (May – October) surface water samples at 19 monitoring sites. Volunteers are trained on the proper sampling protocol before the sampling season by Wisconsin Department of Natural Resources (WDNR) staff to ensure reliable and accurate results are collected each month.

Problem Statement

Surface waters in the NEL are impaired due to excessive phosphorus and sediment loading. TMDL implementation focuses on restoring waters impaired by excessive sediment and/or high phosphorus concentrations. Phosphorus and sediment cause numerous impairments to waterways, including oxygen depletion, degraded habitat, and nuisance algae growth. These impairments adversely impact fish and aquatic life, water quality, and recreation.

Every two years, Sections 303(d) and 305(b) of the Clean Water Act (CWA) requires states to publish a list of all waters not meeting water quality standards and an overall report on surface water quality status of all waters in the state. All 17 of the streams sampled in the program were on the 2024 303(d) Impaired Waters List, 16 of which are impaired by TP. Appendix B includes more information about the impaired monitoring streams.

Within the Northeast Lakeshore there is one Area of Concern (AOC), the Sheboygan River, which includes the lower 14 miles of the river and the Sheboygan harbor. This is an AOC primarily due to contamination from industrial waste, including polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs). There were originally nine beneficial use impairments (BUIs) listed, but four have been removed due to ongoing work in the area. One of the BUIs removed was for eutrophication or undesirable algae, which causes reduced oxygen in the water, altered food web dynamics, and reduced water quality in general. The BUI was listed in 1987 and was removed in 2015. There are still water quality improvements needed, which is

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

what the NEL TMDL discusses and why the volunteer monitoring program is important. Monitoring current and future conditions of the water and documenting improvements over time due to implementation is important.

Project Goals

There are two main goals for this project: (1) increase public awareness and involvement of water quality issues by engaging the public in citizen science and (2) the collection of reliable surface water quality data to assess long-term water quality trends. This program aims to increase community awareness on local water quality issues and the impact of land use decisions in the watershed. The focus is to raise awareness through building a volunteer base and increasing community involvement and engagement.

Through citizen science the program goal is to collect reliable data to characterize TP, dissolved reactive phosphorus (DRP), TSS, and total nitrogen (TN) during the primary algae and aquatic plant “growing season” of May through October. The monitoring data brings focus to which streams are affected by elevated phosphorus and sediment concentrations.

Additional goals of this project include:

1. Evaluate nutrient and sediment concentrations in the rivers, streams, and tributaries in the Northeast Lakeshore region.
2. Monitor the health of the watershed over time at a regional scale.
3. Evaluate the long-term effectiveness of implementation of the Northeast Lakeshore TMDL.

Proposed Work and Sampling Procedure

2025 was the third year for the NEL Volunteer Monitoring program. Implementation of volunteer monitoring efforts were coordinated by WDNR staff. Specifically, the WDNR:

- Continues to develop a well-trained volunteer base through various means of recruitment and community engagement:
 - o Volunteers are trained to follow Water Action Volunteer (WAV) (<https://wateractionvolunteers.org/>) monitoring protocol to ensure consistency is being met in each sample.
 - o Volunteers collect and ship surface water samples in iced coolers to the Wisconsin State Lab of Hygiene (WSLH) for analysis of TP, DRP, TSS, and TN.
 - o Volunteers collect streamflow and transparency data at the time of surface water sample collection (if able).
 - o One to two duplicate samples are collected at randomly selected sites throughout the sampling season (Appendix H). Duplicates are collected on the same day and at the same time as the regular sample.
- Continues to provide support to volunteers as needed:
 - o Ensures safe access and suitability at each monitoring site.
 - o Orders, prepares, and maintains supplies for volunteers to successfully carry out monitoring activities and shipment of samples.

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

- Fosters an open line of communication with volunteers to ensure that all sites are being monitored at the frequency outlined in the project QAPP.
- Confirms that all 19 monitoring locations are monitored monthly from May to October for a total of six monitoring events annually.
- Compiles monthly sampling data results to share with volunteers and stakeholders:
 - Records data into tables and graphs for analysis.
 - Develops an annual report complete with data and figures to share with stakeholders to assess annual water quality.

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

2025 Sampling Season

Sample Collection Summary

2025 was the third year for the NEL volunteer monitoring program. Recruitment started and supply orders were sent to the WSLH in March, while sampling started in May. All the supplies and lab slips were put together by the WDNR coordinator, the supplies were either dropped off or mailed to returning volunteers. Fifteen volunteers returned from last season and three new volunteers were added. For the new volunteers, the supplies were given to them during their training. Sample collection completeness for the season was 100%. Most of the volunteers returned from last season and understood the importance of taking their sample every month. Sample completeness for each monitoring site can be found in Table 1.

*Table 1: Sample collection completeness by monitoring site. *The first sample for this site was taken at a different location on the same stream.*

Monitoring Site	2023	2024	2025
Ahnapee River	N/A	100%	100%
Branch River (CTH J)	N/A	100%	100%
Branch River (N Union Rd)	100%	100%	100%
Devils River	N/A	100%	100%
East Twin River (CTH J)	N/A	100%	100%
East Twin River (Steiners Corners Rd)	100%	100%	100%
Fisher Creek	N/A	100%	100%
Kewaunee River	100%	100%	100%
Mullet River	100%	100%	100%
Onion River	100%	100%	100%
Pigeon River	67%	100%	100%
Pine Creek	100%	100%	100%
School Creek	N/A	100%*	100%
Sheboygan River	67%	100%	100%
Silver Creek (CTH LS)	100%	100%	100%
Silver Creek (Willow Rd)	100%	100%	100%
South Branch	100%	100%	100%
Manitowoc River	100%	100%	100%
Stony Creek	N/A	100%	100%
West Twin River	100%	100%	100%
Combined Percentage	94%	100%	100%

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

There were no monitoring sites added to the program in 2025, but the location for the Ahnapee River site did change. The Ahnapee River was sampled at the CTH X road crossing in 2024 (SWIMS ID 153029), but this site was hard to access for the volunteers and they requested a new site. After discussion with the local biologist, the site was moved about two miles downstream (SWIMS ID 10059774), there is a county park that allows easier access to the river. This site will continue to be monitored in future seasons.

In 2024 the shipping courier changed to UPS, this courier was also used in 2025. US Postal Service (USPS) Priority Mail was used to ship samples in 2023, but there were issues including packages arriving late and being lost for multiple weeks. Because of the issues with USPS, UPS was chosen as the courier for its dependability and fast shipping times. There were no issues with UPS, and it will be used as the courier for future seasons. All shipping labels were printed and sent to the volunteers throughout the season.

In 2025, a total of six DRP samples, or 5% of the DRP samples collected, were flagged due to samples exceeding the 48-hour hold time for DRP analysis. This number is much less than the last two seasons, in 2023 there were 47 samples and 2024 had 31 samples. The shipping courier changed from USPS to UPS in 2024, leading to the decrease of samples flagged. Also, there were many returning volunteers who understand the timing of shipping the samples to ensure they arrive at the lab the next day. Volunteers are trained to ship samples immediately after collection or as early as possible the next day. They are also instructed to sample at the beginning of the week; volunteers should avoid sampling Thursday-Sunday because the samples have a low likelihood of arriving at the lab within the 48-hour timeframe. Although these samples are flagged by the lab for exceeding the analysis holding time, they are still able to be processed and the data is used.

The 19 sites were monitored by 18 volunteers, fifteen of the volunteers returned from 2024. The new volunteers were trained in May by taking the May sample with the WDNR coordinator. This style of training works well because it ensures the volunteer is sampling at the right location and saves them an extra trip to their site in May.

Outreach

Recruitment was needed for three sites in 2025 due to a few volunteers not returning. The coordinator had a list of volunteers who were interested in the program previously, these people were reached out to first to find volunteers. The NEL Volunteer Monitoring Fact Sheet (Appendix J) was also shared with WDNR contacts, county land and water departments, and local environmental groups.

The volunteer coordinator has attended multiple outreach events for the program, including a presentation to an outdoor enthusiast group, a YMCA naturalist class, and a local river enthusiast group. It is important to spread the word about this program and participate in

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

future events like these to recruit volunteers and make the community aware of the work the WDNR is doing in their area.

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Wisconsin Listing Methodology

To evaluate stream water quality and TP concentration reductions, the WDNR follows a standard assessment procedure which accounts for sample methods, timing, variability, sample size and statistical confidence to more confidently determine whether a stream meets water quality criteria. The NEL TP sampling data is compared to Wisconsin's TP water quality criteria (WQC) for streams (0.075 mg/L) and rivers (0.100 mg/L) by calculating a 90% confidence limit around the Growing Season Median (GSM) of the TP sample dataset. A stream is considered impaired for TP if the lower confidence limit (LCL) of the GSM (May – October) TP concentration exceeds the TP WQC. The LCL is used to ensure a stream exceeds the criteria with a predetermined level of confidence before it is listed. A stream that is impaired for TP will be de-listed if the upper confidence limit (UCL) of the GSM TP subsequently drops below, or clearly attains, the criteria.¹ See Figure 2.

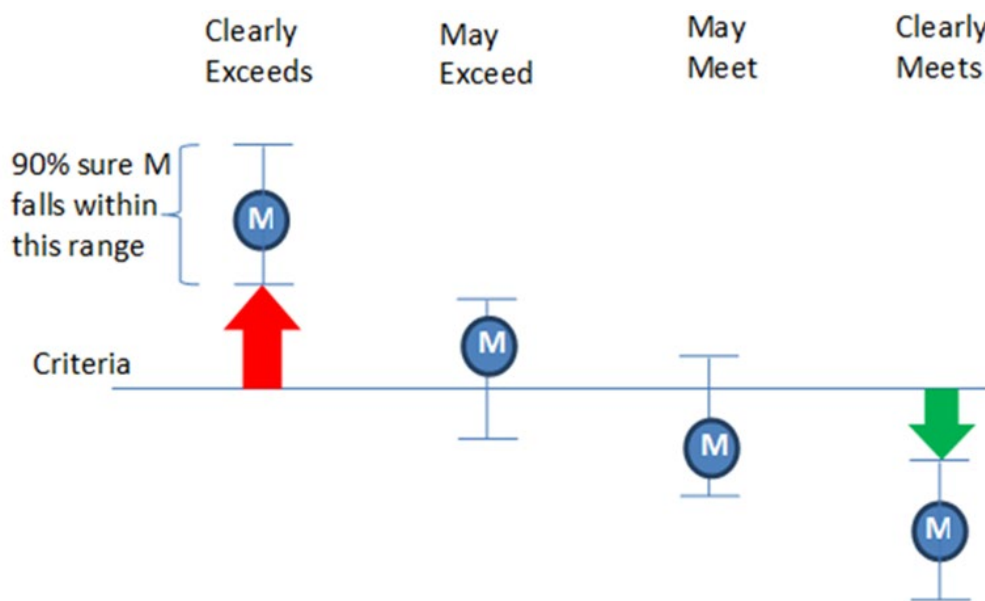


Figure 2: Wisconsin TP criteria confidence table. Criteria line indicates the 0.075 mg/L water quality criteria limit and M represents the Median value.

90% confidence limits are calculated for each monitoring location each year of data collection. A minimum of six samples, one per month from May – October, are needed to calculate the confidence limits. In years with less than six data points at a location, a data point from the same month from the most recent year of a full dataset is used instead. There is no need to use past data because all the samples were collected in 2025. A confidence limit table for each monitoring site is provided in Appendix E and a confidence limit graph for ten of the original monitoring sites can be found in Appendix F. Graphs were created for the sites with three years

¹ WDNR 2020. Guidelines for Monitoring for Watershed Restoration Effectiveness. Wisconsin Department of Natural Resources, Bureau of Water Quality. Madison, Wisconsin. EGAD#3200-2020-26

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

of data, two of the original sites had missing data in 2023, which is why a graph was not created for those sites yet.

In 2025 there was one sampling stream with water quality that “Clearly Meets” the State TP WQC, this was the Ahnapee River, this site also met the State TP WQC in 2024. There are no sites that “May Meet” the WQC. This is less than last year, which had two sites in the “May Meet” category. Ten of the sites “May Exceed” the State TP WQC, Branch River (N Union Road), Branch River (CTH J), East Twin River (Steiners Corners Road), Mullet River, Onion River, Pigeon River, Sheboygan River, Silver Creek (Willow Drive), Silver Creek (CTH S), and West Twin River. The remaining eight streams “Clearly Exceeds” the State TP WQC, meaning the LCL for these streams is above the TP WQC. These results are similar to 2024, as seven of the sites were in the “May Exceed” category and nine of the sites were in the “Clearly Exceeds” category. The TP WQC for 16 of the monitoring streams is 0.075 mg/L, the Sheboygan River is the only monitoring site with a TP WQC of 0.100 mg/L according to the NEL TMDL.

It is important to continue to monitor these sites and calculate confidence limits for many years, determining water quality from only two or three seasons is difficult due to variable factors, including weather. Sampling stream sites across multiple seasons is important for calculating medians that are true to the actual water quality. Implementation across the NEL will increase due to the TMDL, additional sampling data will be useful for detecting changes in water quality.

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Water Quality Data

Total Phosphorus Analysis

Total phosphorus is a key indicator of water quality. It is an essential nutrient for plant growth however, when excess amounts are introduced to a waterbody, water quality can decrease and lead to harmful algal blooms. TP median values were calculated from only the samples collected during the sampling year. Table 2 breaks down the median TP value for each monitoring site. Highlighted values indicate years with less than 100% sample collection, these values may not be a proper representation of the median TP value at that stream location for the specific year due to the missing data points. The median is calculated instead of the mean according to Wisconsin Consolidated Assessment and Listing Methodology (WisCALM) protocol. Median is used for datasets with high variability to ensure results are not skewed by one extremely high or low value; streams and rivers tend to have higher variability in concentrations compared to lakes where the mean is used.

*Table 2: NEL median TP by monitoring site. Highlighted cells indicate at least one sample was missed that year. *At least one of the samples for this site was taken at a different location on the same stream.*

Monitoring Site	2023	2024	2025
Ahnapee River	N/A	0.0596*	0.0471
Branch River (CTH J)	N/A	0.1325	0.0961
Branch River (N Union Rd)	0.0522	0.0937	0.078
Devils River	N/A	0.1056	0.1166
East Twin River (CTH J)	N/A	0.0569	0.0981
East Twin River (Steiners Corners Rd)	0.0458	0.0863	0.0902
Fisher Creek	N/A	0.217	0.3625
Kewaunee River	0.151	0.1105	0.141
Mullet River	0.0568	0.0924	0.0836
Onion River	0.1995	0.202	0.158
Pigeon River	0.1615	0.226	0.1009
Pine Creek	0.177	0.1535	0.2215
School Creek	N/A	0.7110*	0.954
Sheboygan River	0.1265	0.155	0.1525
Silver Creek (CTH LS)	0.124	0.1565	0.149
Silver Creek (Willow Rd)	0.0566	0.0565	0.0757
South Branch	0.2235	0.278	0.2135
Manitowoc River	N/A	N/A	N/A
Stony Creek	N/A	0.106	0.13
West Twin River	0.0524	0.1081	0.0762

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

In 2025, there was only one site with a yearly median value below the State WQC of 0.075 mg/L. This is less than last year, which had three sites below the WQC. Most TP medians in 2025 were above the WQC. However, there were nine sites with a median TP value that decreased from 2024 to 2025. The Sheboygan River is a large river that has a TP WQC of 0.100 mg/L, and the 2025 median TP was above the criteria. Appendix D contains a graph displaying the yearly median TP concentration by monitoring site compared to the TP WQC. All monitoring data can be found in Appendix C.

During the 2025 sampling season, 23 of 108 (21%) TP samples met the WQC for streams, which is 0.075 mg/L. This is less than the previous two seasons, which had 41% (2023) and 27% (2024) of the samples meet the TP WQC. The individual TP results for the Sheboygan River were not included in this count because the WQC for this river is 0.100 mg/L. Two of the six TP samples taken for the Sheboygan River were below 0.100 mg/L. Table 3 compares the number of TP samples meeting and not meeting the stream WQC, Sheboygan River samples were not included. As monitoring continues in the years to come, Table 3 will be useful for assessing water quality improvements.

Table 3: TP Samples compared to TP WQC for 18 of the monitoring sites, Sheboygan River samples not included.

TP Samples Below 0.075 mg/L	2023	2024	2025
# Monitoring Sites	11	18	18
# Samples Collected	64	107	108
# Above 0.075 mg/L	38	78	85
# Below 0.075 mg/L	26	29	23
% Below 0.075 mg/L	41%	27%	21%

Dissolved Reactive Phosphorus Analysis

While TP is a key indicator of water quality, DRP also plays an important role in water quality. DRP is the soluble form of phosphorus and is readily available for plant and algae growth. DRP concentrations can vary widely over short time periods due to plants taking it up and releasing it. Excessive amounts of DRP can also lead to harmful algal blooms and poor water quality. It is important to monitor how much of the TP concentration is made up of DRP across all monitoring sites. Appendix G provides a table with the DRP percentage for each TP sample at all the monitoring sites.

DRP percentage ranges are found in Table 4. The DRP percentage range with the most samples in 2025 was 60 – 80% (44 of 114 samples, 39%), and 40 – 60% (42 of 114 samples, 37%). Last season there were more samples in the 60-80% range, indicating DRP percentages decreased in

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

2025. Despite the number of samples in the lower percentage range, DRP results are still high, allowing harmful algae blooms more of an opportunity to form. These algae blooms decrease water quality, which is why it's important to monitor DRP concentrations over time. As sampling continues, this data will be useful for evaluating implementation progress and effectiveness.

Table 4: DRP Percentage of TP (DRP >100% due to sample variance).

Year	# Sites	# Samples Collected	< 20% DRP	20 - 40% DRP	40 - 60% DRP	60 - 80% DRP	80 - 100% DRP	> 100% DRP
2023	12	67	3	12	21	27	3	1
2024	19	113	10	4	29	63	7	0
2025	19	114	7	11	42	44	10	0
<i>Percent of Total</i>	N/A	N/A	7%	9%	31%	46%	7%	0%

Total Suspended Solids Analysis

Although there is not a statewide TSS WQC, the NEL TMDL defines a TSS target concentration of 12 mg/L. High TSS levels are associated with degraded habitat in streams. Excess TSS reduces light penetration decreasing plant growth and it can interfere with fish feeding patterns. The TSS target of 12 mg/L will help reduce the negative effects of excess TSS across the NEL.

The median TSS concentrations for the monitoring sites and the NEL TSS target are shown in Figure 3. The 2025 median concentration for 16 of the 19 sites was below the TSS target of 12 mg/L. The three sites with medians above the TSS target were the South Branch Manitowoc River, School Creek, and Silver Creek (CTH LS). All three seasons the South Branch Manitowoc River median TSS concentration was much higher than the other monitoring sites, though 2025 had lower results than the previous two seasons. These results could be due to surrounding land use, sampling timing (if samples were taken directly after rain events), or how large the drainage basin for the river is compared to the other monitoring sites. For thirteen of the monitoring sites, the 2025 median was lower than the 2024 median. It will be important to monitor how TSS concentrations change over time and if there are patterns noted across the monitoring sites.

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

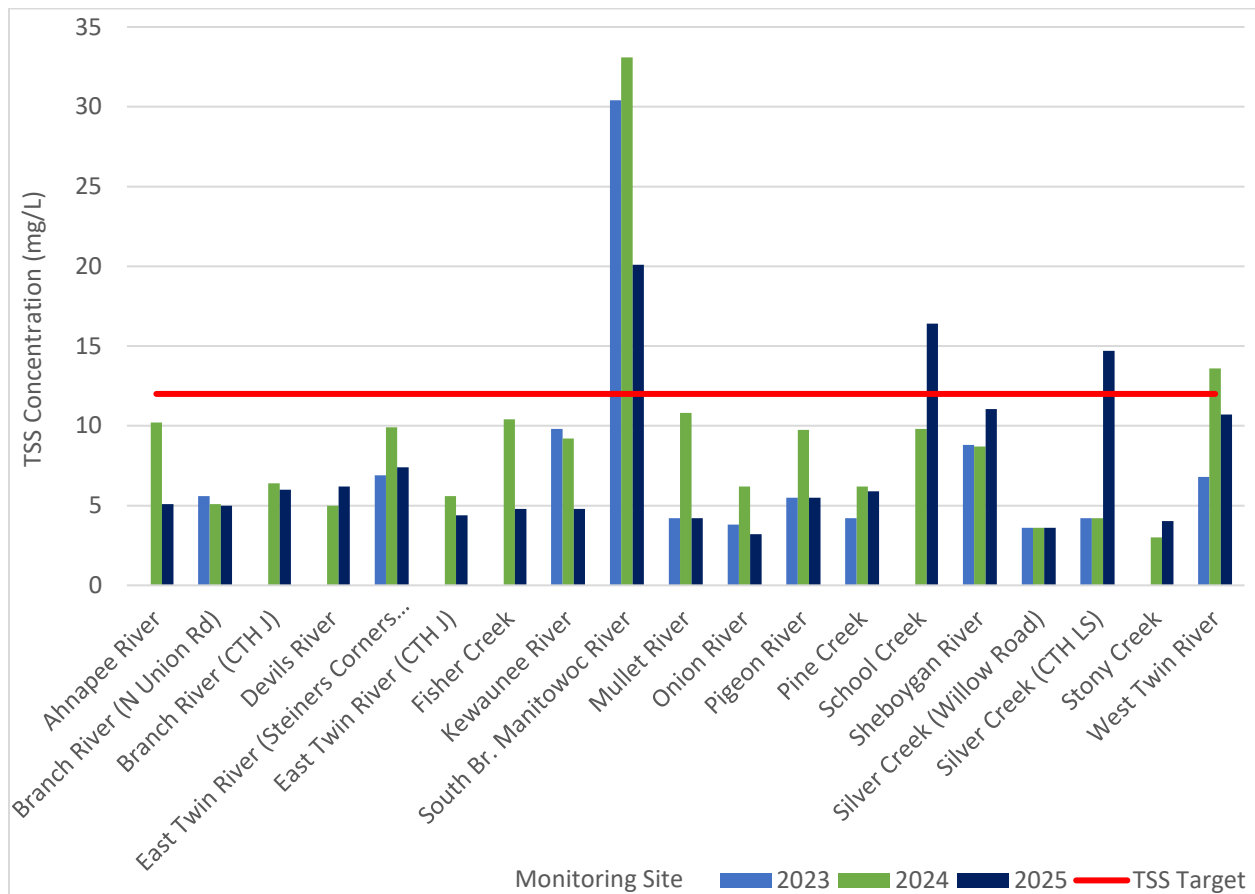


Figure 3: Yearly TSS median concentrations by monitoring site compared to the TSS target of 12mg/L.

Total Nitrogen Analysis

There is no WQC for nitrogen in Wisconsin and TMDLs are not developed for nitrogen, but it is still important to monitor TN trends over time. For 17 of the sites, TN was lower in 2025 than in 2024, the two sites with higher concentrations in 2025 were East Twin River (CTH J) and Sheboygan River. It's unclear why nitrogen results were lower, but it could be due to less

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

precipitation throughout the basin in 2025 compared to 2024. The TN median for each monitoring site from 2023-2025 is displayed in Figure 4.

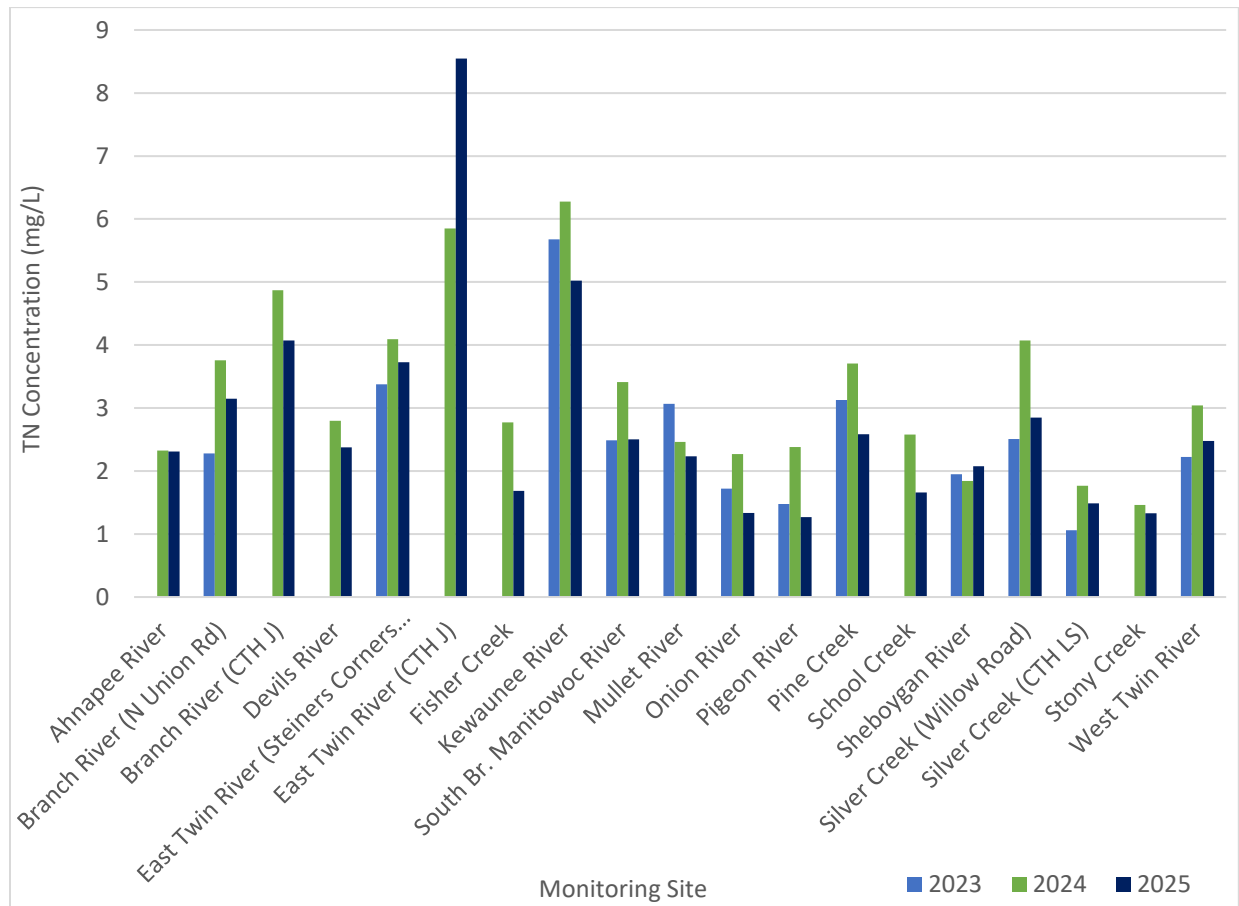


Figure 4: Yearly TN median concentrations by monitoring site.

Streamflow and Transparency

In addition to collecting water chemistry samples (TP, DRP, TSS, TN) each month, volunteers measure water transparency. Streamflow can only be measured when there is at least two volunteers sampling, the stream has 20 ft. section of stream that is straight and accessible, and the stream is wadable. Many of the monitoring streams in the NEL don't meet these criteria, in 2025 there was no streamflow data collected.

Water transparency is collected each month with a 120 cm transparency tube. Water clarity is affected by suspended sediment, dissolved material, and algae. When there is more dissolved material in the water, transparency numbers decrease. The highest transparency reading is 120 cm; this measurement indicates the water is clear and there is minimal dissolved material. Six of the monitoring sites had a median transparency reading of 120 cm in 2025. Transparency data can be found in Appendix I.

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Field Quality Assurance/Quality Control Duplicate Samples

To document the accuracy and precision of the field data collected by volunteers, quality assurance/quality control (QA/QC) samples are taken during the season. There were two duplicate samples taken in 2025, and 2023 and 2024 each had one duplicate sample. The samples are randomly selected from the list of sites that are monitored. These QA/QC tests document the accuracy and precision of the data collected and look at natural variability and sampling error.

Duplicate samples are collected on the same day and time as the regular samples. The duplicate sample is an additional sample for each parameter, it is sampled using the same protocol and shipped to the lab with the regular sample. Duplicate sample results were compared to the regular sample result and an absolute difference was calculated. The absolute difference between the two sets of samples is compared to each test's Level of Quantification (LOQ). Relative percent difference between the regular and duplicate samples was also calculated, the results are flagged if the percentage is greater than 30% as this indicates a variance between the two sample results. The absolute difference for almost every parameter in 2025 was below the relative LOQ, besides the Branch River sample. The relative percent difference for each parameter was below 30%, meaning there is no variance between the sample results. Duplicate sample results are in Appendix H.

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Key Takeaways for 2023-2025

- In 2025, only one of the sites had median TP concentrations below the State TP WQC for streams of 0.075mg/L. This number is lower than previous seasons, where five (2023) and three (2024) of the sites had medians below the TP WQC.
 - The TP median for the Sheboygan River continues to stay above the TP river criteria of 0.100 mg/L.
- DRP concentrations continue to make up a large part of TP concentrations. 39% of the samples had 60 – 80% and 37% of samples had 40 – 60% of their concentrations containing DRP.
 - The DRP percentages are lower than 2024, which had over half of the DRP samples in the 60-80% category.
- The median TSS concentration for almost all the monitoring sites continues to stay below the TSS target of 12 mg/L.
 - The South Branch Manitowoc River TSS median has been above 12 mg/L all three seasons. The other two sites with TSS medians above the target in 2025 were School Creek and Silver Creek (CTH LS).
- TN results varied by monitoring site and there is not a defined TN WQC or target.
 - TN medians were lower in 2025 than in 2024 for 17 of the monitoring sites, the two sites with higher concentrations in 2025 were East Twin River (CTH J) and Sheboygan River.
- The monitoring site for the Ahnapee River changed location in 2025. The river was monitored at CTH X in 2024 (SWIMS ID 153029), but the site had poor access. The monitoring site was changed to a site a few miles downstream located at Blahnik Park (SWIMS ID 10059774). This site provided much easier access and the volunteers will continue to monitor here for future seasons.
- It is important to note weather conditions throughout the season. In 2025, about half of the basin had 1-2 more inches of rain from May-August, while the last two months of the season had less precipitation than average across the whole basin.
 - More precipitation has an effect on all parameters as more runoff can increase the amount of TSS and nutrients in waterbodies.

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Data Conclusions

2025 was the third year of monitoring for the NEL volunteer monitoring program. The program started with 12 sites and seven were added in 2024 for a total of 19 sites. The NEL TMDL was approved in October 2023, with the goal of implementing best management practices across the NEL basin. The future data collected will monitor water quality changes over time with regards to BMP implementation, climate, and land use.

Raw data suggests that variations in weather patterns, temperature, and time of year may have an impact on the TP, DRP, TSS, and TN concentrations. The 2025 sampling season had variable precipitation across the basin. Precipitation during the beginning of sampling season was above average for half of the basin while the last two months of sampling were below average for the entire basin. This is the opposite of 2024 as precipitation events were more frequent last season. More precipitation increases the amount of runoff entering waterways, this can influence concentrations of TP, DRP, TSS, and TN. It is important to note extreme weather events each season and ensure these conditions are considered during data analysis. The NEL volunteer program should continue to monitor water quality trends.

In 2025, 18 of the monitoring sites had median TP concentrations over the State TP WQC, eight of these sites had a confidence limit that “Clearly Exceeds” the TP WQC while the others “May Exceed”. The Sheboygan River is included in the sites that “May Exceed” as the median TP concentration was above the TP WQC for rivers. The 18 streams that exceed the TP WQC are impaired by TP and demonstrate the need for best management practices and implementation in the NEL basin. The Ahnapee River was only one site with a confidence limit that “Clearly Meets” the TP WQC and was the only site to be in this category in 2024 as well.

DRP made up a large portion of TP concentrations across the monitoring streams. Appendix G provides a table of the percentage of DRP making up each TP sample and Table 4 categorizes the values into percentage categories. In 2025, 44 of the 114 samples had a DRP percentage range of 60 – 80%, which is 39% of the samples, and 42 samples, or 37%, were in the 40-60% range. This means most of the TP samples in 2025 were made up of more than 40% DRP. These results are similar to 2024, though there were more samples in the 60-80% range last season. The dissolved form of phosphorus is readily available for plant uptake and contributes to harmful algal blooms, when there is a high percentage of DRP algal blooms can form more readily. It will be important to monitor how DRP concentrations change over time as implementation increases due to the NEL TMDL.

There were 20 TSS samples that reported no detect (ND) throughout the season, almost half of these samples were in October. The median TSS result for 16 of the monitoring sites was below the TSS target of 12mg/L defined by the NEL TMDL. The South Branch Manitowoc River site has been above the target all three seasons and continues to have significantly higher TSS levels than the other sites, this could be due to surrounding land use, timing of sampling, and size of

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

the watershed. The other two sites that were above the TSS target were School Creek and Silver Creek (CTH LS).

There is not a State WQC for TN, and TMDLs are not developed for nitrogen. The TN results for the monitoring sites were variable, but 2025 had lower TN medians than 2024 for 17 of the monitoring sites. As more TN data is collected, the relationship between TN and other parameters will be evaluated. It is important to continue to test for TN because there is high agricultural activity in the NEL region.

Program Conclusions

One of the main goals of the NEL Volunteer Monitoring Program is the engagement of the public and increasing their awareness on water quality issues. There have been over 20 volunteers since the start of the program, multiple volunteers were part of larger organizations, possibly making the volunteer contribution much higher. With the knowledge the volunteers possess, they can communicate with others and be an extension of the program reaching a larger audience.

Volunteer recruitment was carried out in several ways, including outreach to county land and water departments, local environmental groups, and publishing a press release. Presentations were also given during the sampling season to gain interest from future volunteers and to spread awareness about water quality issues in the area. These presentations garnered interest from individuals who were unsure how they could participate in improving water quality. These outreach events were successful and will continue in the future.

Communication proves to be the most important aspect of the WDNR coordinators position. This was the third year for the NEL volunteer program, there were returning volunteers, but seven sites were added to the program and there were still trainings to coordinate and new volunteers to manage. The volunteers were grateful for the high level of communication and appreciated the WDNR coordinator was available for questions and help with sampling when needed.

This water quality monitoring data is also important in measuring implementation progress. There are seven active 9 Key Element Plans within the NEL TMDL area. These plans assess the causes and sources of pollution and prioritize restoration and protection strategies to address water quality concerns. Watersheds with active 9 Key Element Plans include CalMan Lakes (2018), Pine Creek (2019), North Branch of the Manitowoc River (2019), Ahnapee River (2020), Upper Ahnapee River (2020), Pigeon River (2023), and Kewaunee River (2024). The active 9 Key Element watershed plans focus on non-point source agricultural implementation, while the NEL TMDL will focus on implementation across all sources of pollution in the watershed. As implementation of these plans continue, monitoring data can be utilized to help track implementation progress and assist in determining where additional data and information is needed to track progress.

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

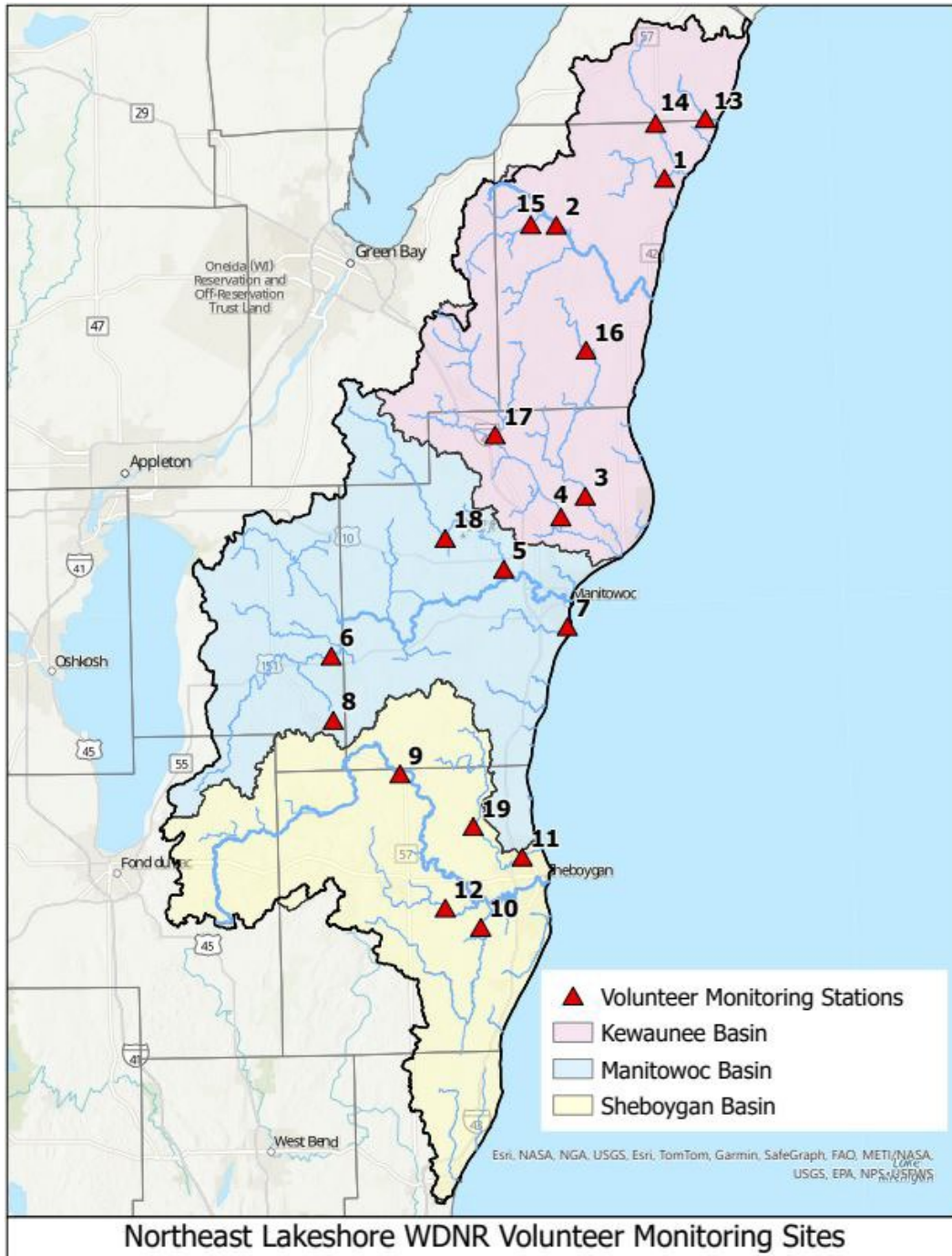
Acknowledgements

Thank you to all the volunteers who made the 2025 monitoring season in the Northeast Lakeshore possible. Thank you to the WDNR and the WAV program for funding and support. The WAV program manages a nutrient data database, where results can be viewed for monitoring sites across the state ([WAV Data Dashboard \(wisc.edu\)](https://wisc.edu/WAV/Data/Dashboard)).

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

Appendices

Appendix A: Northeast Lakeshore Volunteer Monitoring Sites and TMDL Basin Boundaries



Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Site #	Stream Name	WBIC	SWIMS ID	SWIMS Station Name	Latitude	Longitude	Impairment
1	Silver Creek	94900	10020779	Silver Creek at Willow Rd	44.60788	-87.47114	TP
2	Kewaunee River	90700	10029954	Kewaunee River at Hillside Rd	44.55438	-87.65939	TP
3	East Twin River	84000	10008207	East Twin River at Steiners Corners Rd	44.22131	-87.62302	TP
4	West Twin River	87000	10029482	West Twin River at CTH V	44.19678	-87.66578	TP
5	Branch River	71300	363299	Branch River at N Union Rd	44.13479	-87.76542	TP
6	South Branch Manitowoc River	77900	363375	South Branch Manitowoc River at Lemke Rd	44.03367	-88.06298	TP
7	Silver Creek	67300	363228	Silver Creek at CTH LS	44.06227	-87.65994	TP
8	Pine Creek	79900	10020831	Pine Creek at CTH T	43.9548	-88.06231	TP
9	Sheboygan River	50700	10021359	Sheboygan River at STH 57	43.8873	-87.95099	TP
10	Onion River	51200	603480	Onion River at Ourtown Rd	43.69669	-87.82086	TP
11	Pigeon River	62300	603294	Pigeon River at STH 42	43.78144	-87.74747	TP
12	Mullet River	53400	10049358	Mullet River at Sumac Rd	43.72143	-87.88	TP
13	Stony Creek	96100	10051616	Stony Creek at CTH S (C)	44.67920	-87.39765	TP and TSS
14	Ahnapee River	94800	10059774	Ahnapee River at Blahnik Park	44.64342	-87.46655	Unknown Pollutant
15	School Creek	92200	10020829	School Creek-100 Feet Below Bridge Off Rendezvous Road	44.54725	-87.72383	TP
16	East Twin River	84000	10008204	East Twin River at CTH J	44.40007	-87.61436	TP
17	Devils River	89900	10039193	Devils River at CTH R	44.29954	-87.77419	TP
18	Branch River	71300	10016958	Branch River at CTH J	44.17371	-87.86216	TP
19	Fisher Creek	62500	10033781	Fisher Creek- Upstream of STH 32	43.82052	-87.82895	TP

*SWIMS – Surface Water Integrated Monitoring System

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Appendix B: Impaired Monitoring Streams

Local Waterbody Name	Waters ID	WBIC	County	Total Size	Cycle Listed	TMDL Priority	Source Category	Pollutant	Impairment	Listing Condition Category
Ahnapee River	18073	94800	Door, Kewaunee	7.9	2022	Low	PS/NPS	Unknown Pollutant	Degraded Biological Community	TMDL approved by EPA in 2023 (4A)
Branch River	9899	71300	Manitowoc	12.4	2020	High	PS/NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Branch River	482183	71300	Manitowoc	7.7	2020	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Devil's River	10138	89900	Manitowoc	6	2020	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
East Twin River	10205	84000	Kewaunee	7.8	2014	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
East Twin River	10206	84000	Kewaunee	6.7	2014	High	NPS	Total Phosphorus	Degraded Biological Community	TMDL approved by EPA in 2023 (4A)
East Twin River	18071	84000	Kewaunee	10.5	2018	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
East Twin River	4700226	84000	Kewaunee, Manitowoc	15.9	2018	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Fisher Creek	18021	62500	Sheboygan	4.4	2016	High	NPS	Total Phosphorus	Degraded Biological Community	TMDL approved by EPA in 2023 (4A)
Kewaunee River	18061	90700	Kewaunee	10.9	2020	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

Local Waterbody Name	Waters ID	WBIC	County	Total Size	Cycle Listed	TMDL Priority	Source Category	Pollutant	Impairment	Listing Condition Category
Kewaunee River	482871	90700	Brown, Kewaunee	11.53	2020	High	PS/NPS	Total Phosphorus	High Phosphorus Levels	TMDL approved by EPA in 2023 (4A)
Manitowoc River (South Branch)	9924	77900	Calumet, Manitowoc	12.6	2012	High	PS/NPS	Total Phosphorus	High Phosphorus Levels	TMDL approved by EPA in 2023 (4A)
Manitowoc River (South Branch)	9924	77900	Calumet, Manitowoc	12.6	2016	Low	PS/NPS	Unknown Pollutant	Elevated Water Temperature	TMDL Needed (5A)
Manitowoc River (South Branch)	3990110	77900	Calumet, Fond du Lac	23.9	2016	High	NPS	Total Phosphorus	Degraded Biological Community	TMDL approved by EPA in 2023 (4A)
Mullet River	9839	53400	Sheboygan	17.8	2012	High	PS/NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Mullet River	9842	53400	Sheboygan	5.9	2020	High	PS/NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Onion River	3987353	51200	Sheboygan	31.8	2012	High	PS/NPS	Total Phosphorus	Degraded Biological Community	TMDL approved by EPA in 2023 (4A)
Pigeon River	1496062	62300	Manitowoc, Sheboygan	18.1	2012	High	PS/NPS	Total Phosphorus	High Phosphorus Levels	TMDL approved by EPA in 2023 (4A)
Pine Creek	9931	79900	Calumet	5.5	2020	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Local Waterbody Name	Waters ID	WBIC	County	Total Size	Cycle Listed	TMDL Priority	Source Category	Pollutant	Impairment	Listing Condition Category
Pine Creek	9932	79900	Calumet	3.6	2016	High	NPS	Total Phosphorus	High Phosphorus Levels	TMDL approved by EPA in 2023 (4A)
School Creek	10184	92200	Brown, Kewaunee	5.6	2018	High	NPS	Total Phosphorus	High Phosphorus Levels	TMDL approved by EPA in 2023 (4A)
Sheboygan River	11354	50700	Sheboygan	13.6	2014	High	PS/NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Sheboygan River	11356	50700	Calumet, Manitowoc, Sheboygan	20.2	2020	High	PS/NPS	Total Phosphorus	Degraded Biological Community	TMDL approved by EPA in 2023 (4A)
Sheboygan River	5753343	50700	Sheboygan, Fond du Lac	20.8	2020	High	PS/NPS	Total Phosphorus	High Phosphorus Levels	TMDL approved by EPA in 2023 (4A)
Silver Creek (Havel Creek)	10212	94900	Kewaunee	5.5	2018	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Silver Creek	9872	67300	Manitowoc	8.4	2014	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Silver Creek	8106635	67300	Manitowoc	9.3	2014	High	PS/NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Stony Creek	10219	96100	Door, Kewaunee	8.3	2024	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
Stony Creek	10219	96100	Door, Kewaunee	8.3	1998	High	NPS	Total Suspended Solids	Degraded Habitat	TMDL approved by EPA in 2023 (4A)

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Local Waterbody Name	Waters ID	WBIC	County	Total Size	Cycle Listed	TMDL Priority	Source Category	Pollutant	Impairment	Listing Condition Category
Stony Creek	10220	96100	Door	7.8	2018	High	NPS	Total Phosphorus	Impairment Unknown	TMDL approved by EPA in 2023 (4A)
West Twin River	9948	87000	Manitowoc	9.5	1998	High	NPS	Total Phosphorus	Low DO	TMDL approved by EPA in 2023 (4A)
West Twin River	9949	87000	Manitowoc	0.4	1998	High	NPS	Total Phosphorus	Low DO	TMDL approved by EPA in 2023 (4A)
West Twin River	9950	87000	Manitowoc	1.4	1998	High	NPS	Total Phosphorus	Low DO	TMDL approved by EPA in 2023 (4A)
West Twin River	18050	87000	Manitowoc	5.9	2016	High	PS/NPS	Unknown Pollutant	Elevated Water Temperature	TMDL approved by EPA in 2023 (4A)
West Twin River	18050	87000	Manitowoc	5.9	1998	High	NPS	Total Phosphorus	Low DO	TMDL approved by EPA in 2023 (4A)
West Twin River	18051	87000	Manitowoc	1.3	2016	High	NPS	Unknown Pollutant	Elevated Water Temperature	TMDL approved by EPA in 2023 (4A)

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Appendix C: Sampling Data

Stream Name	Month	2023 TP (mg/L)	2024 TP (mg/L)	2025 TP (mg/L)	2023 DRP (mg/L)	2024 DRP (mg/L)	2025 DRP (mg/L)
Ahnapee River	May	N/A	0.112	0.0757	N/A	0.0109	0.00527
Ahnapee River	June	N/A	0.0571	0.155	N/A	0.00855	0.00502
Ahnapee River	July	N/A	0.081	0.0421	N/A	0.00756	ND
Ahnapee River	August	N/A	0.0492	0.0503	N/A	0.00593	ND
Ahnapee River	September	N/A	0.062	0.0364	N/A	ND	ND
Ahnapee River	October	N/A	0.0546	0.0438	N/A	0.00651	0.00811
Branch River (N Union Rd)	May	0.0554	0.0613	0.0826	0.0204	0.0337	0.0444
Branch River (N Union Rd)	June	0.0496	0.126	0.0733	0.0252	0.0857	0.0392
Branch River (N Union Rd)	July	0.0566	0.191	0.197	0.016	0.134	0.133
Branch River (N Union Rd)	August	0.0547	0.2	0.201	0.027	0.163	0.115
Branch River (N Union Rd)	September	0.0284	0.0499	0.03	0.00998	0.0217	0.0139
Branch River (N Union Rd)	October	0.0235	0.0276	0.0331	0.00656	0.0119	0.0155
Branch River (CTH J)	May	N/A	0.115	0.0712	N/A	0.0821	0.0391
Branch River (CTH J)	June	N/A	0.15	0.121	N/A	0.101	0.0677
Branch River (CTH J)	July	N/A	0.205	0.242	N/A	0.141	0.156
Branch River (CTH J)	August	N/A	0.159	0.201	N/A	0.12	0.121

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TP (mg/L)	2024 TP (mg/L)	2025 TP (mg/L)	2023 DRP (mg/L)	2024 DRP (mg/L)	2025 DRP (mg/L)
Branch River (CTH J)	September	N/A	0.0665	0.034	N/A	0.0435	0.00962
Branch River (CTH J)	October	N/A	0.0422	0.043	N/A	0.0292	0.0199
Devils River	May	N/A	0.203	0.0725	N/A	0.157	0.0419
Devils River	June	N/A	0.116	0.135	N/A	0.087	0.0895
Devils River	July	N/A	0.0952	0.155	N/A	0.0794	0.114
Devils River	August	N/A	0.158	0.224	N/A	0.112	0.133
Devils River	September	N/A	0.0718	0.0879	N/A	0.0546	0.0664
Devils River	October	N/A	0.0315	0.0981	N/A	0.0238	0.0767
East Twin River (Steiners Corners Rd)	May	0.0398	0.0813	0.0534	0.0132	0.0512	0.0236
East Twin River (Steiners Corners Rd)	June	0.0518	0.0913	0.0995	0.0231	0.0564	0.0542
East Twin River (Steiners Corners Rd)	July	0.111	0.19	0.11	0.0688	0.118	0.071
East Twin River (Steiners Corners Rd)	August	0.0921	0.24	0.2	0.0493	0.148	0.112
East Twin River (Steiners Corners Rd)	September	0.0373	0.0456	0.0754	0.0169	0.0209	0.0366
East Twin River (Steiners Corners Rd)	October	0.0321	0.0468	0.0808	0.0138	0.0241	0.0275
East Twin River (CTH J)	May	N/A	0.119	0.0993	N/A	0.0902	0.0507
East Twin River (CTH J)	June	N/A	0.0868	0.0893	N/A	0.0657	0.0507

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TP (mg/L)	2024 TP (mg/L)	2025 TP (mg/L)	2023 DRP (mg/L)	2024 DRP (mg/L)	2025 DRP (mg/L)
East Twin River (CTH J)	July	N/A	0.0467	0.0968	N/A	0.033	0.0676
East Twin River (CTH J)	August	N/A	0.0671	0.124	N/A	0.0335	0.0803
East Twin River (CTH J)	September	N/A	0.0368	0.101	N/A	0.023	0.0401
East Twin River (CTH J)	October	N/A	0.0215	0.077	N/A	0.0184	0.0375
Fisher Creek	May	N/A	0.403	0.108	N/A	0.172	0.0648
Fisher Creek	June	N/A	0.21	0.148	N/A	0.13	0.0914
Fisher Creek	July	N/A	0.224	0.623	N/A	0.156	0.564
Fisher Creek	August	N/A	0.129	0.484	N/A	0.0923	0.336
Fisher Creek	September	N/A	0.0849	0.262	N/A	0.0609	0.215
Fisher Creek	October	N/A	0.382	0.463	N/A	0.331	0.401
Kewaunee River	May	0.157	0.116	0.108	0.0967	0.0785	0.0547
Kewaunee River	June	0.131	0.976	0.273	0.0824	0.26	0.224
Kewaunee River	July	0.159	0.101	0.181	0.104	0.0697	0.144
Kewaunee River	August	0.385	0.12	0.166	0.3	0.0822	0.117
Kewaunee River	September	0.145	0.105	0.116	0.0902	0.0554	0.0775
Kewaunee River	October	0.0998	0.0879	0.0807	0.0544	0.0552	0.0578
Mullet River	May	0.0608	0.0748	0.0439	0.0216	0.0397	0.00884
Mullet River	June	0.0601	0.116	0.0843	0.0291	0.0624	0.0311
Mullet River	July	0.056	0.17	0.103	0.0367	0.0988	0.0679
Mullet River	August	0.0575	0.11	0.1	0.0459	0.0652	0.0778
Mullet River	September	0.0401	0.0732	0.0701	0.0147	0.0533	0.044
Mullet River	October	0.00964	0.0315	0.0829	0.0242	0.0182	0.0487
Onion River	May	0.103	0.132	0.0993	0.0634	0.0964	0.0562
Onion River	June	0.281	0.216	0.156	0.223	0.166	0.101
Onion River	July	0.249	0.246	0.249	0.201	0.186	0.215
Onion River	August	0.231	0.292	0.533	0.189	0.234	0.4
Onion River	September	0.134	0.188	0.114	0.0993	0.146	0.0791
Onion River	October	0.168	0.0439	0.16	0.113	0.0282	0.12

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TP (mg/L)	2024 TP (mg/L)	2025 TP (mg/L)	2023 DRP (mg/L)	2024 DRP (mg/L)	2025 DRP (mg/L)
Pigeon River	May	0.105	0.351	0.0639	0.0713	0.189	0.0315
Pigeon River	June	0.272	0.138	0.106	0.218	0.0979	0.0578
Pigeon River	July	0.218	0.35	0.31	0.158	0.213	0.256
Pigeon River	August	N/A	0.191	0.288	N/A	0.138	0.235
Pigeon River	September	N/A	0.261	0.0957	N/A	0.231	0.033
Pigeon River	October	0.101	0.0437	0.0898	0.0599	0.0266	0.0491
Pine Creek	May	0.0925	0.13	0.2	0.0588	0.0744	0.092
Pine Creek	June	0.16	0.164	0.38	0.119	0.11	0.25
Pine Creek	July	0.194	0.399	0.263	0.155	0.117	0.189
Pine Creek	August	0.252	0.143	0.161	0.194	0.102	0.115
Pine Creek	September	0.293	0.169	0.233	0.0646	0.104	0.143
Pine Creek	October	0.144	0.0954	0.21	0.0884	0.0548	0.112
School Creek	May	N/A	N/A	0.143	N/A	N/A	0.0857
School Creek	June	N/A	0.553	0.314	N/A	0.442	0.249
School Creek	July	N/A	0.521	1.26	N/A	0.396	0.972
School Creek	August	N/A	0.813	0.736	N/A	0.654	0.497
School Creek	September	N/A	0.711	0.954	N/A	0.492	0.709
School Creek	October	N/A	0.737	1.12	N/A	0.539	0.914
Sheboygan River	May	0.124	0.145	0.33	0.0557	0.0134	0.0115
Sheboygan River	June	0.129	0.165	0.192	0.0255	0.0117	0.101
Sheboygan River	July	0.164	0.294	0.195	0.0257	0.218	0.109
Sheboygan River	August	N/A	0.177	0.113	N/A	0.113	0.037
Sheboygan River	September	N/A	0.0836	0.0621	N/A	0.0278	0.0255
Sheboygan River	October	0.0874	0.0753	0.0531	0.0593	0.039	0.0201
Silver Creek (Willow Rd)	May	0.0801	0.0667	0.0429	0.0496	0.0365	0.0142

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TP (mg/L)	2024 TP (mg/L)	2025 TP (mg/L)	2023 DRP (mg/L)	2024 DRP (mg/L)	2025 DRP (mg/L)
Silver Creek (Willow Rd)	June	0.0586	0.0958	0.0434	0.0277	0.0638	0.0203
Silver Creek (Willow Rd)	July	0.075	0.0462	0.15	0.0417	0.0288	0.111
Silver Creek (Willow Rd)	August	0.0545	0.0402	0.183	0.0229	0.0164	0.13
Silver Creek (Willow Rd)	September	0.0409	0.0258	0.0884	0.0174	0.00713	0.0529
Silver Creek (Willow Rd)	October	0.0298	0.115	0.0629	0.00947	0.0226	0.0332
Silver Creek (CTH LS)	May	0.141	0.161	0.163	0.111	0.0965	0.123
Silver Creek (CTH LS)	June	0.107	0.152	0.0994	0.0671	0.114	0.064
Silver Creek (CTH LS)	July	0.214	0.195	0.418	0.136	0.152	0.34
Silver Creek (CTH LS)	August	0.191	0.204	0.302	0.123	0.158	0.248
Silver Creek (CTH LS)	September	0.101	0.0793	0.135	0.0636	0.0486	0.0898
Silver Creek (CTH LS)	October	0.103	0.0704	0.117	0.0613	0.0383	0.0362
South Branch Manitowoc River	May	0.289	0.316	0.224	0.173	0.0176	0.148
South Branch Manitowoc River	June	0.19	0.349	0.389	0.0877	0.225	0.263
South Branch Manitowoc River	July	0.252	0.501	0.29	0.149	0.367	0.178
South Branch Manitowoc River	August	0.26	0.24	0.191	0.146	0.134	0.129
South Branch Manitowoc River	September	0.195	0.16	0.203	0.0757	0.0954	0.103
Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

Stream Name	Month	2023 TP (mg/L)	2024 TP (mg/L)	2025 TP (mg/L)	2023 DRP (mg/L)	2024 DRP (mg/L)	2025 DRP (mg/L)
South Branch Manitowoc River	October	0.121	0.0806	0.16	0.0706	0.0508	0.0935
Stony Creek	May	N/A	0.086	0.0698	N/A	0.0527	0.036
Stony Creek	June	N/A	0.592	0.11	N/A	0.35	0.0596
Stony Creek	July	N/A	0.184	0.254	N/A	0.125	0.147
Stony Creek	August	N/A	0.107	0.191	N/A	0.0708	0.139
Stony Creek	September	N/A	0.105	0.15	N/A	0.0721	0.108
Stony Creek	October	N/A	0.102	0.0733	N/A	0.046	0.0488
West Twin River	May	0.0557	0.0861	0.124	0.0106	0.0499	0.0574
West Twin River	June	0.049	0.13	0.0819	0.0165	0.0857	0.0478
West Twin River	July	0.0802	0.237	0.317	0.05	0.13	0.134
West Twin River	August	0.0672	0.266	0.0704	0.0329	0.197	0.0487
West Twin River	September	0.0191	0.0415	0.0211	0.00593	0.0229	0.00754
West Twin River	October	0.024	0.038	0.0595	N/A	0.0215	0.0307

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TSS (mg/L)	2024 TSS (mg/L)	2025 TSS (mg/L)	2023 TN (mg/L)	2024 TN (mg/L)	2025 TN (mg/L)
Ahnapee River	May	N/A	38.2	13.3	N/A	2.87	3.16
Ahnapee River	June	N/A	17.2	51	N/A	2.75	2.82
Ahnapee River	July	N/A	9.4	4.6	N/A	2.69	2.17
Ahnapee River	August	N/A	5.6	4.4	N/A	1.45	1.83
Ahnapee River	September	N/A	11	3.8	N/A	1.25	2.04
Ahnapee River	October	N/A	7.8	5.6	N/A	1.96	2.45
Branch River (N Union Rd)	May	N/A	5	3.4	N/A	3.4	4.05
Branch River (N Union Rd)	June	N/A	18	8.4	N/A	4.72	4.09
Branch River (N Union Rd)	July	N/A	16.8	30.6	N/A	4.78	3.35
Branch River (N Union Rd)	August	N/A	7.8	18.8	N/A	4.96	3.91
Branch River (N Union Rd)	September	N/A	4.6	3.6	N/A	5.32	5.32
Branch River (N Union Rd)	October	N/A	3.2	2	N/A	6.06	5.02
Branch River (CTH J)	May	5.2	4.2	4	3.71	2.33	3.48
Branch River (CTH J)	June	5.6	12.6	5	2.98	3.71	2.7
Branch River (CTH J)	July	5.6	15.2	10.8	1.59	3.8	2.83
Branch River (CTH J)	August	7	6	29.4	1.82	3.55	2.82
Branch River (CTH J)	September	4.4	3.4	3.8	2.18	3.92	4.04

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TSS (mg/L)	2024 TSS (mg/L)	2025 TSS (mg/L)	2023 TN (mg/L)	2024 TN (mg/L)	2025 TN (mg/L)
Branch River (CTH J)	October	ND	2.4	ND	2.38	4.06	3.47
Devils River	May	N/A	10.6	2.4	N/A	2.02	2.23
Devils River	June	N/A	5	6.2	N/A	2.76	2.47
Devils River	July	N/A	2.8	8.6	N/A	3.18	2.28
Devils River	August	N/A	7	27	N/A	2.29	1.94
Devils River	September	N/A	2.2	2.4	N/A	2.83	2.77
Devils River	October	N/A	ND	ND	N/A	3.07	2.95
East Twin River (Steiners Corners Rd)	May	N/A	7.8	14.4	N/A	6.6	5.65
East Twin River (Steiners Corners Rd)	June	N/A	5.2	5.4	N/A	8.95	9.55
East Twin River (Steiners Corners Rd)	July	N/A	2.4	ND	N/A	12	7.66
East Twin River (Steiners Corners Rd)	August	N/A	6	3.4	N/A	1.57	6.86
East Twin River (Steiners Corners Rd)	September	N/A	6.8	2.2	N/A	4.85	12.4
East Twin River (Steiners Corners Rd)	October	N/A	5	ND	N/A	5.1	9.43
East Twin River (CTH J)	May	3.5	5.8	4.6	3.59	3.29	3.79
East Twin River (CTH J)	June	4	11.2	9.4	3.71	4.17	3.53
East Twin River (CTH J)	July	11.6	27	7.2	2.27	3.41	3.66

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TSS (mg/L)	2024 TSS (mg/L)	2025 TSS (mg/L)	2023 TN (mg/L)	2024 TN (mg/L)	2025 TN (mg/L)
East Twin River (CTH J)	August	9.8	28.2	24.8	2.69	4.01	2.72
East Twin River (CTH J)	September	17.8	4.4	7.2	3.16	5.95	3.81
East Twin River (CTH J)	October	3.6	8.6	7.6	4.25	4.7	4.48
Fisher Creek	May	N/A	80	4	N/A	8.01	2.08
Fisher Creek	June	N/A	8.2	5	N/A	2.76	4.51
Fisher Creek	July	N/A	12.6	4.8	N/A	2.78	1.29
Fisher Creek	August	N/A	ND	15	N/A	3.19	3.47
Fisher Creek	September	N/A	2	4.6	N/A	1.08	1.03
Fisher Creek	October	N/A	ND	ND	N/A	0.841	0.755
Kewaunee River	May	7.4	10	3	6.62	5.94	5.17
Kewaunee River	June	3.75	491	4	9.42	6.61	3.67
Kewaunee River	July	16.6	3.4	6.4	6.02	0.613	5.16
Kewaunee River	August	14.4	6.4	8.4	5.33	7.19	5.43
Kewaunee River	September	11.6	12	5.6	4.37	7.37	4.88
Kewaunee River	October	8	8.4	3.8	3.43	5.47	4.43
Mullet River	May	10	9.4	11.2	2.63	2.2	1.44
Mullet River	June	4.2	13.5	16	2.93	2.45	2.19
Mullet River	July	3	17.8	4.2	4.57	1.95	2.28
Mullet River	August	ND	12.2	ND	3.04	2.47	1.72
Mullet River	September	ND	3.8	2.4	3.8	3.08	2.67
Mullet River	October	ND	2.2	2.6	3.09	3.48	2.43
Onion River	May	4.25	2.8	3.2	1.92	2.39	1.46
Onion River	June	ND	6.75	3.2	0.84	3.31	2.95
Onion River	July	2.8	15	ND	2.33	2.57	0.788
Onion River	August	3.6	6.2	35.8	1.52	2.15	4.42
Onion River	September	ND	4.4	ND	0.76	1.62	1.07
Onion River	October	4	ND	ND	2.37	1.01	1.21
Pigeon River	May	4.4	60	5.6	1.66	8.07	1.77

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TSS (mg/L)	2024 TSS (mg/L)	2025 TSS (mg/L)	2023 TN (mg/L)	2024 TN (mg/L)	2025 TN (mg/L)
Pigeon River	June	9	7	5.4	0.868	2.81	4.06
Pigeon River	July	6.6	18.2	4.8	1.29	2.28	1.26
Pigeon River	August	N/A	9.75	6.6	N/A	2.48	1.28
Pigeon River	September	N/A	2.6	19.6	N/A	0.904	0.956
Pigeon River	October	3.4	ND	2.6	4.47	0.974	0.946
Pine Creek	May	3.6	6	6	2.61	2.51	2.33
Pine Creek	June	4.8	6.4	10.6	3.62	3.33	2.61
Pine Creek	July	4.4	13.8	4.6	4.71	2.85	1.88
Pine Creek	August	3.4	4	3.4	2.63	4.28	2.91
Pine Creek	September	4	8.4	6	5.06	4.08	3.97
Pine Creek	October	6.8	3.6	5.8	1.92	4.34	2.56
School Creek	May	N/A	3.4*	ND	N/A	7.05*	4.5
School Creek	June	N/A	18.5	9	N/A	4.67	6.77
School Creek	July	N/A	9.8	86.6	N/A	2.58	2.04
School Creek	August	N/A	28	17.3	N/A	3.64	1.55
School Creek	September	N/A	9	10.8	N/A	1.3	1.66
School Creek	October	N/A	3.4	16.4	N/A	0.943	1.1
Sheboygan River	May	7.8	24.8	122	1.94	1.81	3
Sheboygan River	June	9.8	21.8	16.4	1.96	2.05	2.07
Sheboygan River	July	17	9	11.8	1.5	1.68	1.84
Sheboygan River	August	N/A	7.33	10.3	N/A	1.89	2.08
Sheboygan River	September	N/A	8.4	5.6	N/A	1.72	1.77
Sheboygan River	October	3	4.6	2.8	2.15	1.87	2.18
Silver Creek (Willow Rd)	May	6.4	14.2	ND	2.34	2.14	1.36
Silver Creek (Willow Rd)	June	2.6	4.2	ND	1.04	2.65	1.81

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TSS (mg/L)	2024 TSS (mg/L)	2025 TSS (mg/L)	2023 TN (mg/L)	2024 TN (mg/L)	2025 TN (mg/L)
Silver Creek (Willow Rd)	July	5.4	6	14.7	1.34	2.24	2.54
Silver Creek (Willow Rd)	August	16.2	3.2	6	1.08	1.39	1.61
Silver Creek (Willow Rd)	September	3	ND	ND	0.988	1.04	1.02
Silver Creek (Willow Rd)	October	2	2.6	35.6	1.04	1.08	1.15
Silver Creek (CTH LS)	May	3.6	3.4	ND	2.61	3.93	3.1
Silver Creek (CTH LS)	June	3.25	3.6	ND	5.55	4.45	2.6
Silver Creek (CTH LS)	July	5	4.4	3.6	2.41	5.47	3.24
Silver Creek (CTH LS)	August	4.8	2.4	4.2	2.08	4.21	3.69
Silver Creek (CTH LS)	September	3.2	ND	2.4	2.63	2.42	2.27
Silver Creek (CTH LS)	October	ND	51.6	ND	2.33	2.49	1.96
South Branch Manitowoc River	May	48.6	67.6	9.5	3.02	1.94	3.34
South Branch Manitowoc River	June	24.6	36	35.4	2.86	3.34	2.59
South Branch Manitowoc River	July	29.2	8.6	30.7	1.78	1.84	2.22
South Branch Manitowoc River	August	31.6	43	13.2	2.17	3.48	2.86
South Branch Manitowoc River	September	51.8	30.2	26	2.53	3.56	2.42
South Branch Manitowoc River	October	5.8	5.2	14.2	2.44	4.54	1.99

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Stream Name	Month	2023 TSS (mg/L)	2024 TSS (mg/L)	2025 TSS (mg/L)	2023 TN (mg/L)	2024 TN (mg/L)	2025 TN (mg/L)
Stony Creek	May	N/A	4.4	ND	N/A	1.41	1.25
Stony Creek	June	N/A	72	4.8	N/A	5.07	1.28
Stony Creek	July	N/A	3	5	N/A	1.61	1.9
Stony Creek	August	N/A	ND	3.25	N/A	1.32	1.5
Stony Creek	September	N/A	2.2	2.8	N/A	1.51	1.38
Stony Creek	October	N/A	2.8	ND	N/A	1.39	1.05
West Twin River	May	8.75	4.8	15.4	2.31	2.6	3.37
West Twin River	June	2.2	13.6	6	2.4	3.35	2.33
West Twin River	July	9.4	38.4	79.4	1.82	3.83	3.11
West Twin River	August	6.8	13.6	2.2	2.14	3.68	2.14
West Twin River	September	2.2	ND	ND	2.07	2.73	2.48
West Twin River	October	ND	ND	ND	2.41	2.57	2.47

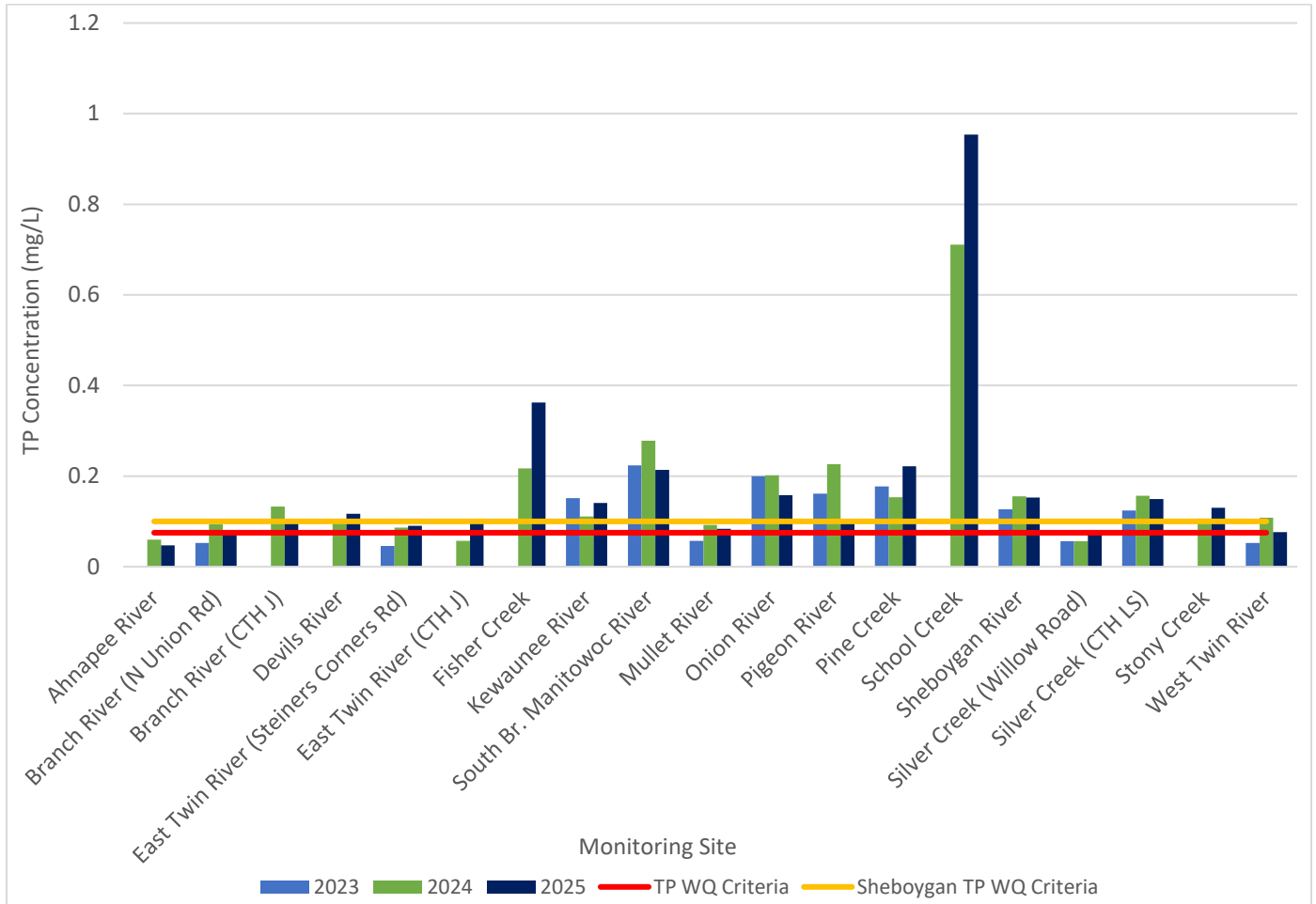
ND indicates sample concentration was not detected.

***Sample was taken at a different station. The samples were taken at School Creek at Christoff Lane, Station ID 313122.**

Highlighted cells indicate samples were taken at original monitoring site Ahnapee River at CTH X (153029).

Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report

Appendix D: Median Total Phosphorus Concentration by Monitoring Site



TP WQC is 0.075 mg/l for all sites except Sheboygan River, Sheboygan River TP WQC is 0.100 mg/L.

Appendix E: 2023-2025 Confidence Limit Table

Monitoring Site	TP Calculation	2023	2024	2025
Ahnapee River	U90% (mg/L)	N/A	0.074	0.0747
Ahnapee River	Median (mg/L)	N/A	0.06	0.047
Ahnapee River	L90% (mg/L)	N/A	0.0451	0.0194
Ahnapee River	Relation to Criteria	N/A	Clearly Meets	Clearly Meets
Branch River (CTH J)	U90% (mg/L)	N/A	0.1698	0.1489
Branch River (CTH J)	Median (mg/L)	N/A	0.1325	0.096
Branch River (CTH J)	L90% (mg/L)	N/A	0.0952	0.0433
Branch River (CTH J)	Relation to Criteria	N/A	Clearly Exceeds	May Exceed

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	TP Calculation	2023	2024	2025
Branch River (N Union Rd)	U90% (mg/L)	0.0612	0.1393	0.1254
Branch River (N Union Rd)	Median (mg/L)	0.05215	0.0937	0.078
Branch River (N Union Rd)	L90% (mg/L)	0.0431	0.048	0.0305
Branch River (N Union Rd)	Relation to Criteria	Clearly Meets	May Exceed	May Exceed
Devils River	U90% (mg/L)	N/A	0.1432	0.1508
Devils River	Median (mg/L)	N/A	0.1056	0.117
Devils River	L90% (mg/L)	N/A	0.068	0.0823
Devils River	Relation to Criteria	N/A	May Exceed	Clearly Exceeds
East Twin River (CTH J)	U90% (mg/L)	N/A	0.0788	0.1076
East Twin River (CTH J)	Median (mg/L)	N/A	0.0569	0.098
East Twin River (CTH J)	L90% (mg/L)	N/A	0.035	0.0885
East Twin River (CTH J)	Relation to Criteria	N/A	May Meet	Clearly Exceeds
East Twin River (Steiners Corners Rd)	U90% (mg/L)	0.0659	0.1357	0.1216
East Twin River (Steiners Corners Rd)	Median (mg/L)	0.0458	0.0863	0.09
East Twin River (Steiners Corners Rd)	L90% (mg/L)	0.0257	0.0369	0.0587
East Twin River (Steiners Corners Rd)	Relation to Criteria	Clearly Meets	May Exceed	May Exceed
Fisher Creek	U90% (mg/L)	N/A	0.2966	0.4888
Fisher Creek	Median (mg/L)	N/A	0.217	0.363
Fisher Creek	L90% (mg/L)	N/A	0.1374	0.2362
Fisher Creek	Relation to Criteria	N/A	Clearly Exceeds	Clearly Exceeds
Kewaunee River	U90% (mg/L)	0.2141	0.3284	0.1834
Kewaunee River	Median (mg/L)	0.151	0.1105	0.141
Kewaunee River	L90% (mg/L)	0.0879	-0.1074	0.0986
Kewaunee River	Relation to Criteria	Clearly Exceeds	May Exceed	Clearly Exceeds

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	TP Calculation	2023	2024	2025
Mullet River	U90% (mg/L)	0.069	0.1214	0.0969
Mullet River	Median (mg/L)	0.05675	0.0924	0.084
Mullet River	L90% (mg/L)	0.0445	0.0634	0.0703
Mullet River	Relation to Criteria	Clearly Meets	May Exceed	May Exceed
Onion River	U90% (mg/L)	0.2424	0.256	0.2577
Onion River	Median (mg/L)	0.1995	0.202	0.158
Onion River	L90% (mg/L)	0.1566	0.148	0.0583
Onion River	Relation to Criteria	Clearly Exceeds	Clearly Exceeds	May Exceed
Pigeon River	U90% (mg/L)	0.222	0.3008	0.1681
Pigeon River	Median (mg/L)	0.1615	0.226	0.101
Pigeon River	L90% (mg/L)	0.101	0.1512	0.0336
Pigeon River	Relation to Criteria	Clearly Exceeds	Clearly Exceeds	May Exceed
Pine Creek	U90% (mg/L)	0.222	0.2203	0.2681
Pine Creek	Median (mg/L)	0.177	0.1535	0.222
Pine Creek	L90% (mg/L)	0.132	0.0867	0.1749
Pine Creek	Relation to Criteria	Clearly Exceeds	Clearly Exceeds	Clearly Exceeds
School Creek	U90% (mg/L)	N/A	0.7932	1.2278
School Creek	Median (mg/L)	N/A	0.711	0.954
School Creek	L90% (mg/L)	N/A	0.6288	0.6802
School Creek	Relation to Criteria	N/A	Clearly Exceeds	Clearly Exceeds
Sheboygan River	U90% (mg/L)	0.1488	0.2036	0.2164
Sheboygan River	Median (mg/L)	0.1265	0.155	0.153
Sheboygan River	L90% (mg/L)	0.1042	0.1064	0.0886
Sheboygan River	Relation to Criteria	Clearly Exceeds	Clearly Exceeds	May Exceed
Silver Creek (CTH LS)	U90% (mg/L)	0.154	0.1913	0.2267
Silver Creek (CTH LS)	Median (mg/L)	0.124	0.1565	0.149

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	TP Calculation	2023	2024	2025
Silver Creek (CTH LS)	L90% (mg/L)	0.094	0.1217	0.0713
Silver Creek (CTH LS)	Relation to Criteria	Clearly Exceeds	Clearly Exceeds	May Exceed
Silver Creek (Willow Road)	U90% (mg/L)	0.0684	0.0776	0.1116
Silver Creek (Willow Road)	Median (mg/L)	0.05655	0.0565	0.076
Silver Creek (Willow Road)	L90% (mg/L)	0.0447	0.0353	0.0397
Silver Creek (Willow Road)	Relation to Criteria	Clearly Meets	May Meet	May Exceed
South Branch Manitowoc River	U90% (mg/L)	0.261	0.3691	0.2648
South Branch Manitowoc River	Median (mg/L)	0.2235	0.278	0.214
South Branch Manitowoc River	L90% (mg/L)	0.186	0.1869	0.1622
South Branch Manitowoc River	Relation to Criteria	Clearly Exceeds	Clearly Exceeds	Clearly Exceeds
Stony Creek	U90% (mg/L)	N/A	0.2268	0.1742
Stony Creek	Median (mg/L)	N/A	0.106	0.13
Stony Creek	L90% (mg/L)	N/A	-0.0148	0.0858
Stony Creek	Relation to Criteria	N/A	May Exceed	Clearly Exceeds
West Twin River	U90% (mg/L)	0.067	0.1682	0.1409
West Twin River	Median (mg/L)	0.05235	0.1081	0.076
West Twin River	L90% (mg/L)	0.0377	0.0479	0.0114
West Twin River	Relation to Criteria	Clearly Meets	May Exceed	May Exceed

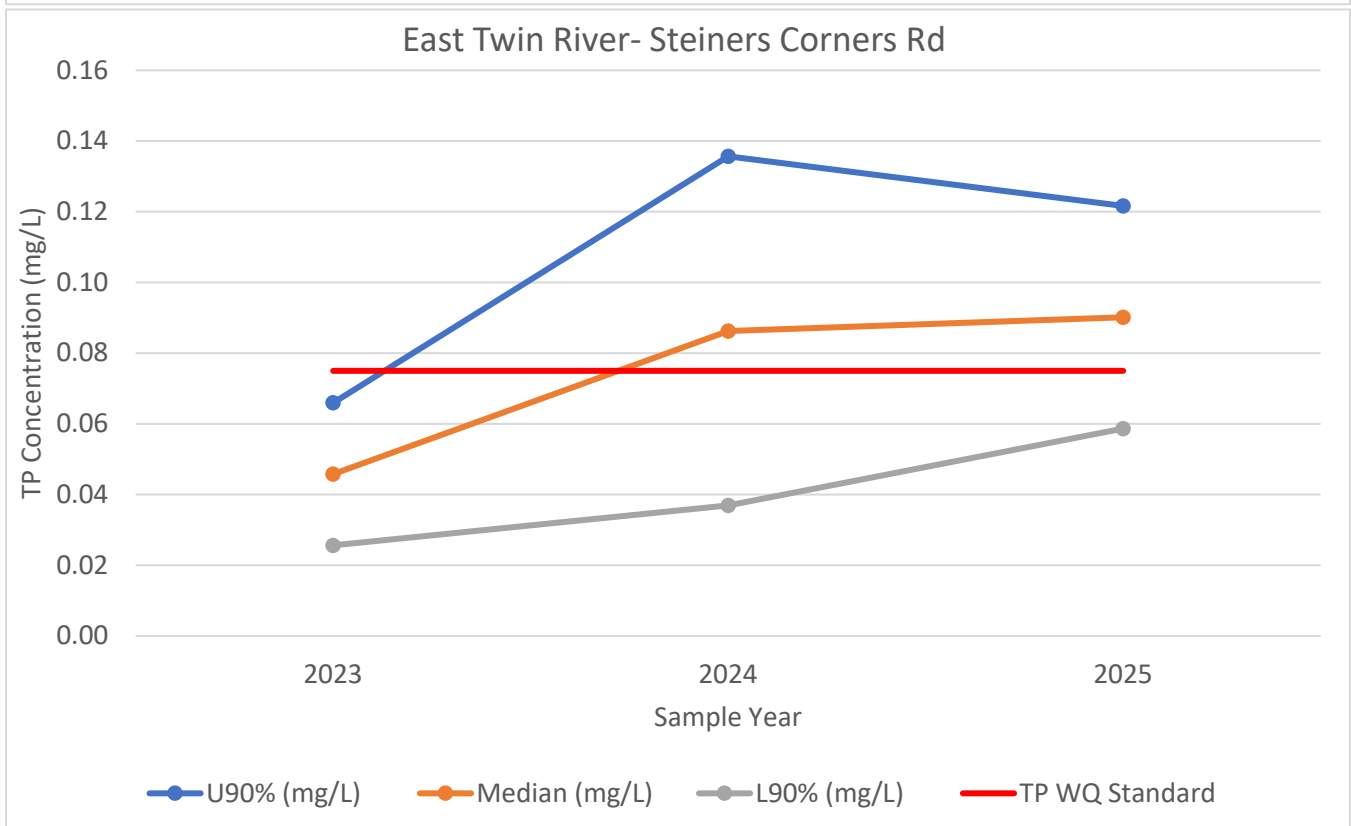
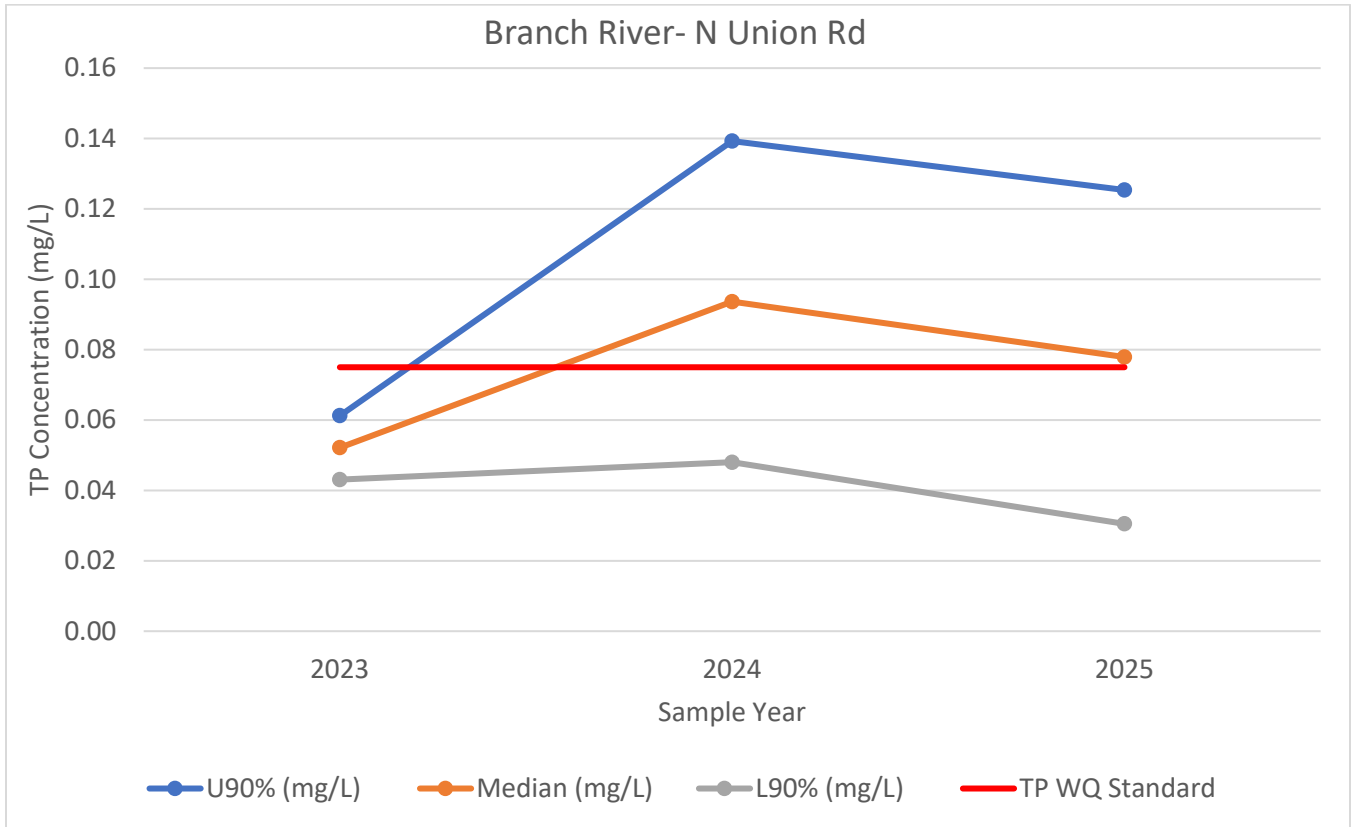
Bold numbers indicate less than six samples were taken over the sampling season, relation to criteria is an estimate.

Highlighted cells indicate samples were taken at original monitoring site Ahnapee River at CTH X (153029).

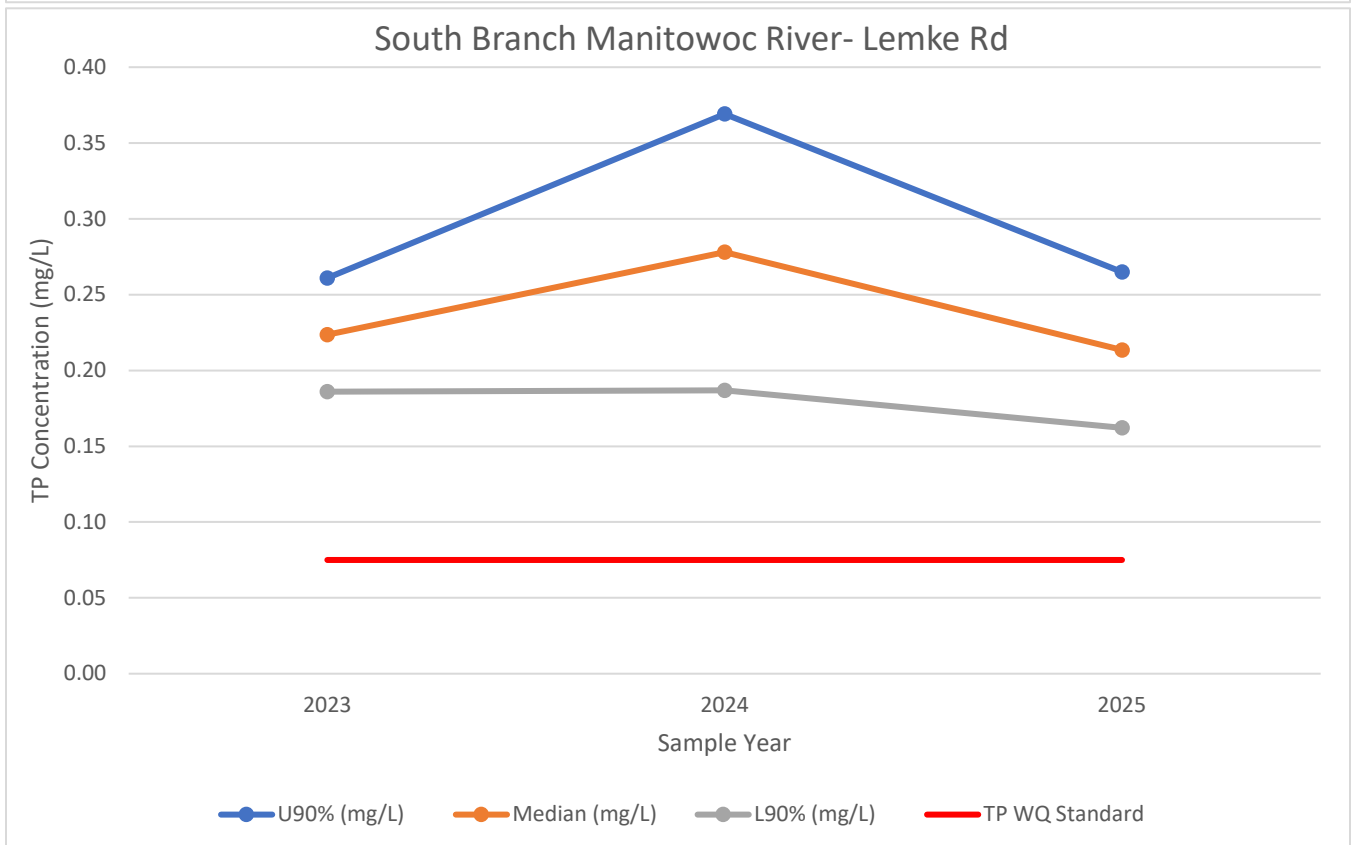
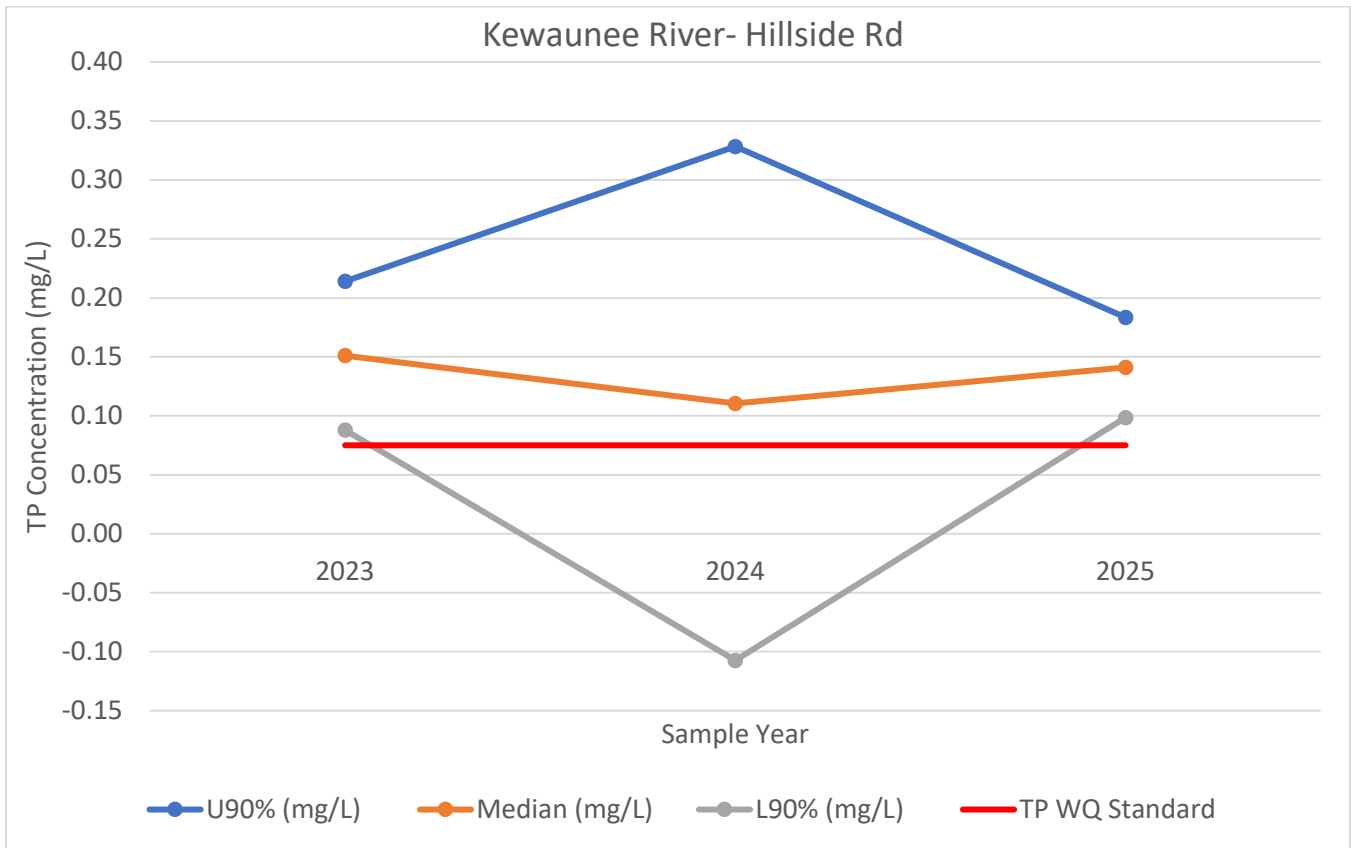
Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

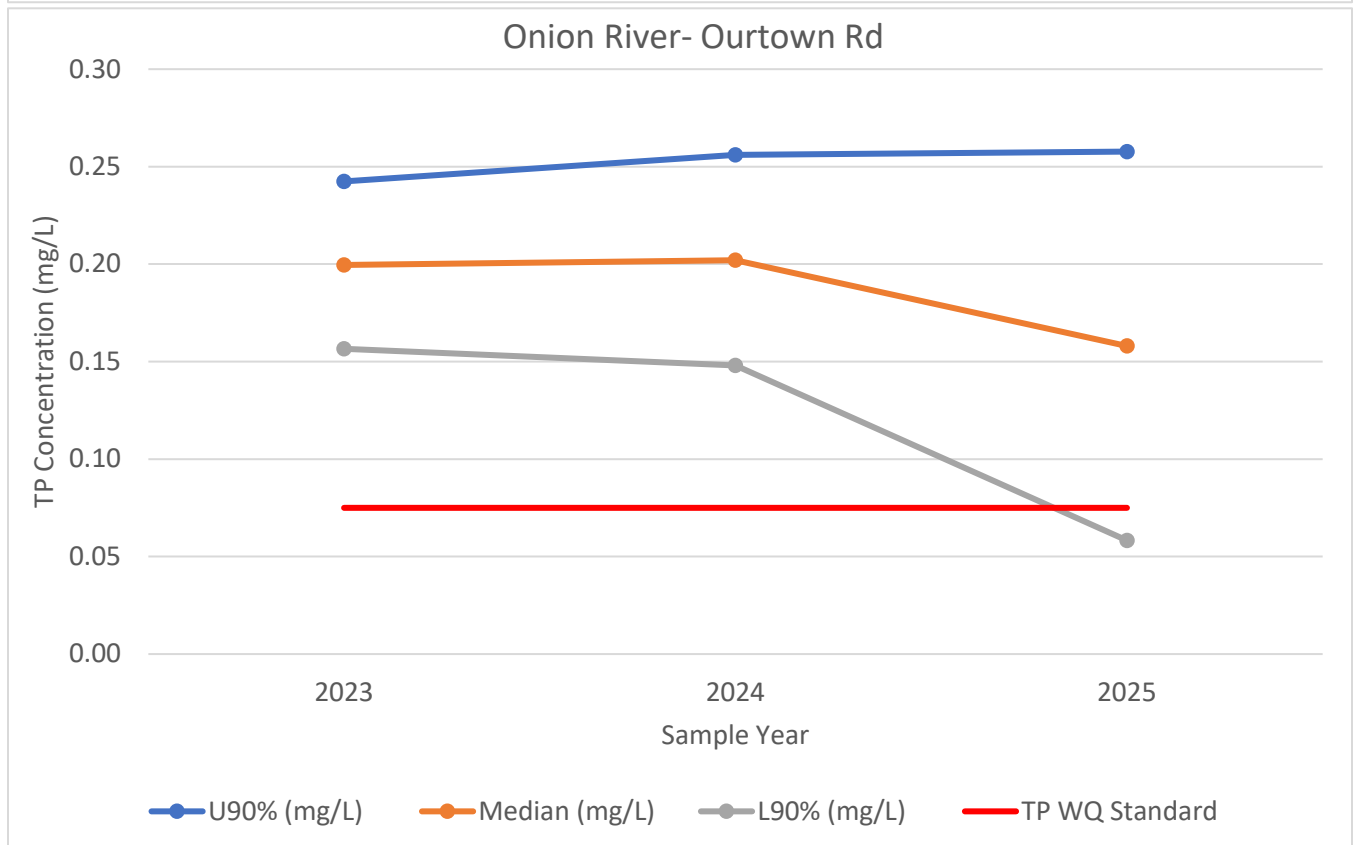
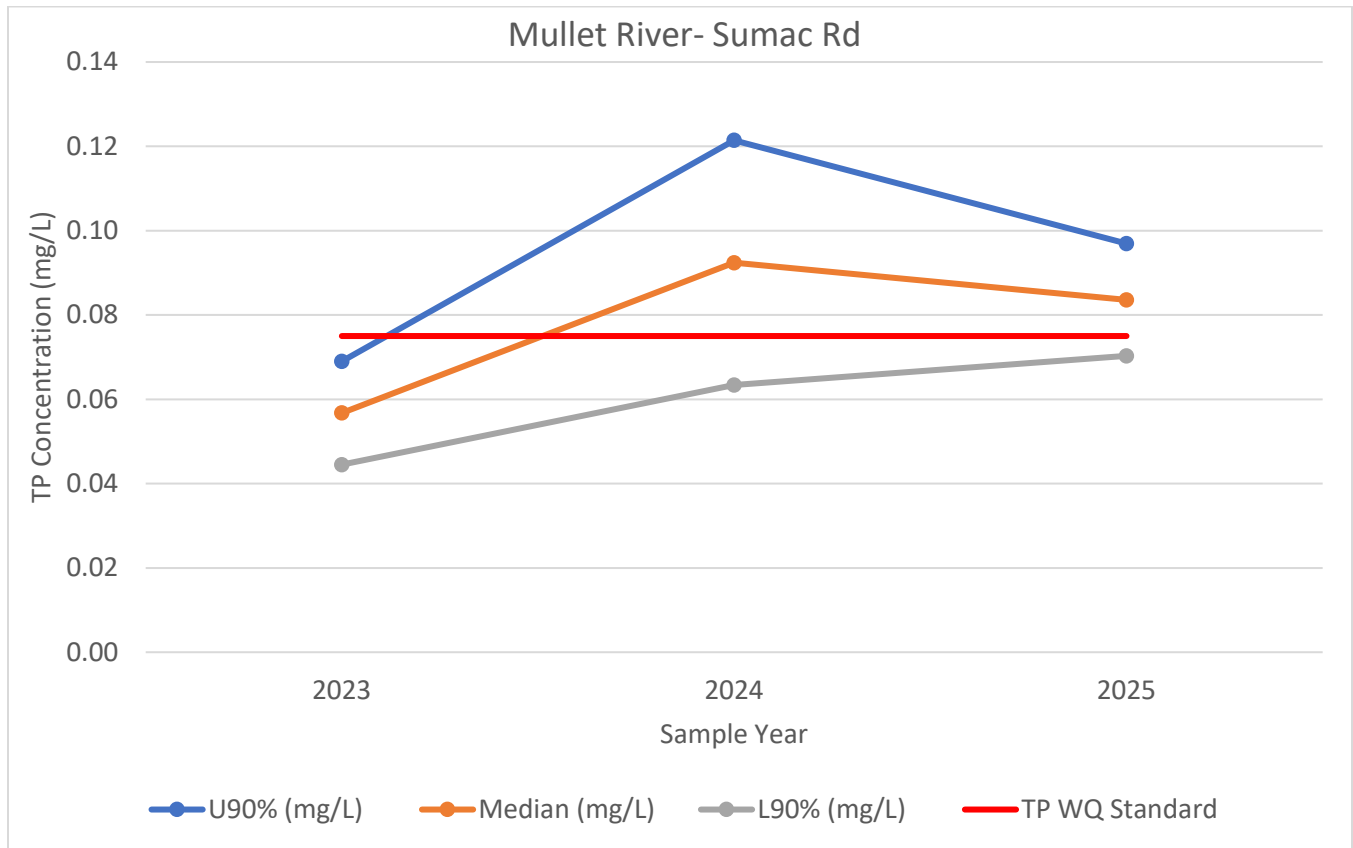
Appendix F: Confidence Limit Graphs



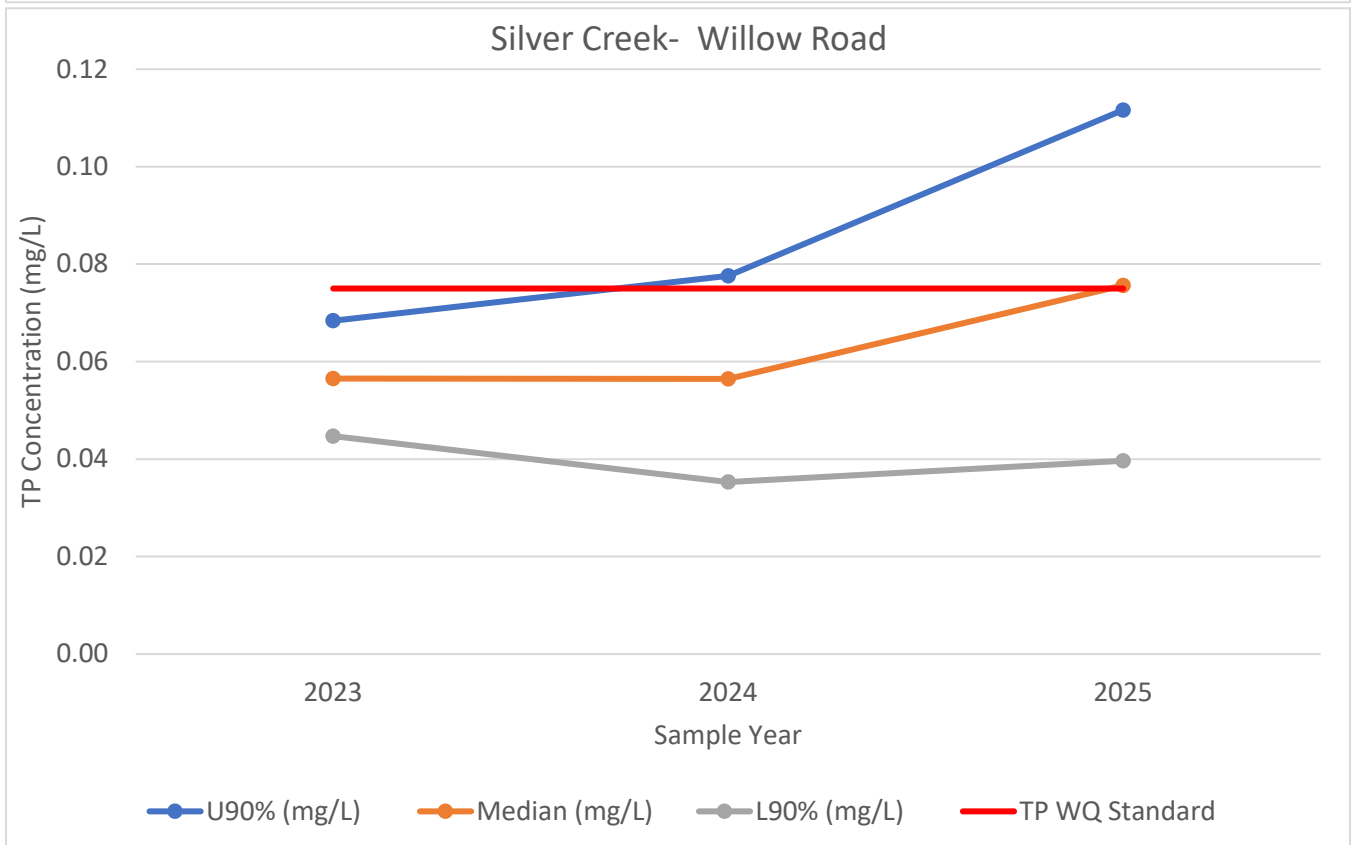
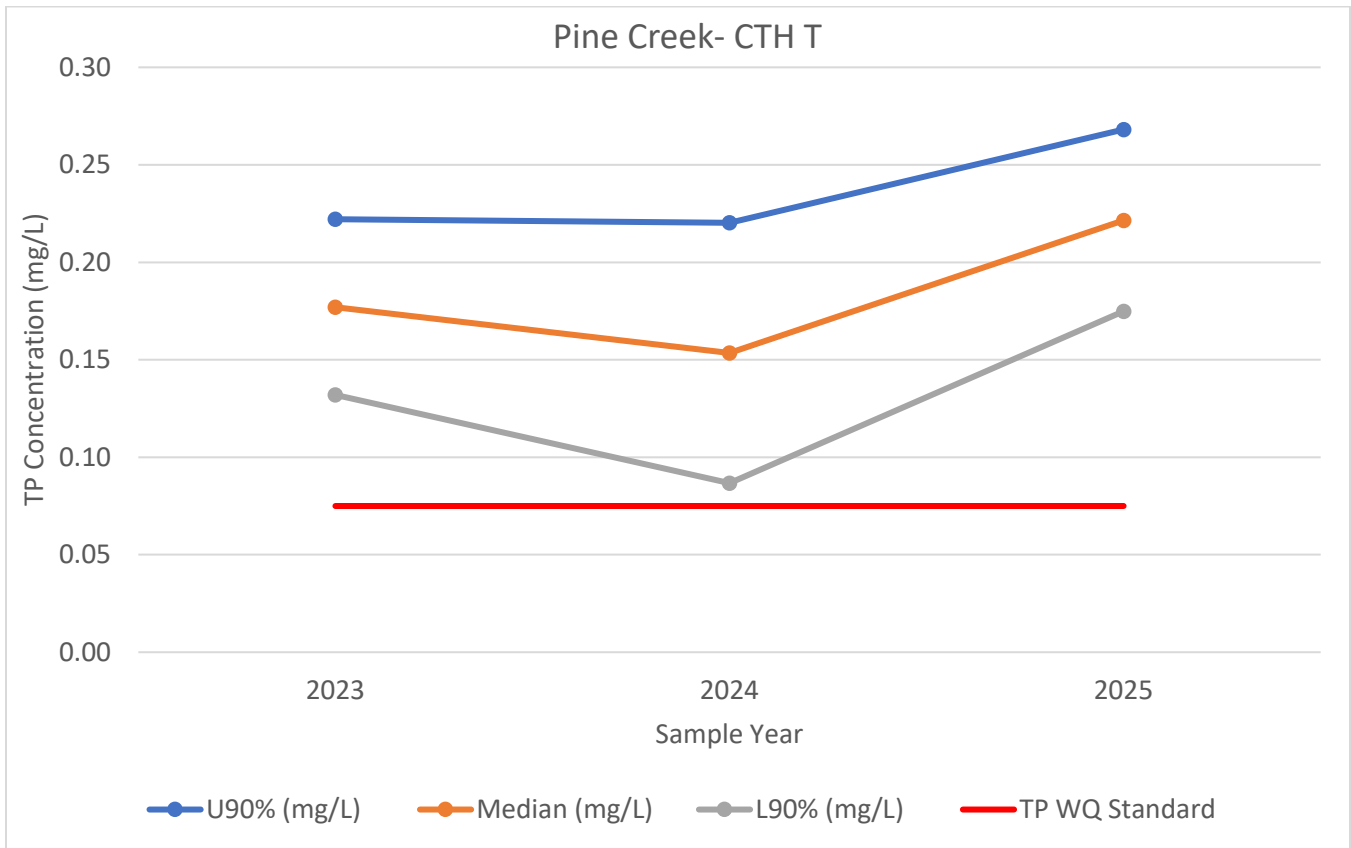
Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report



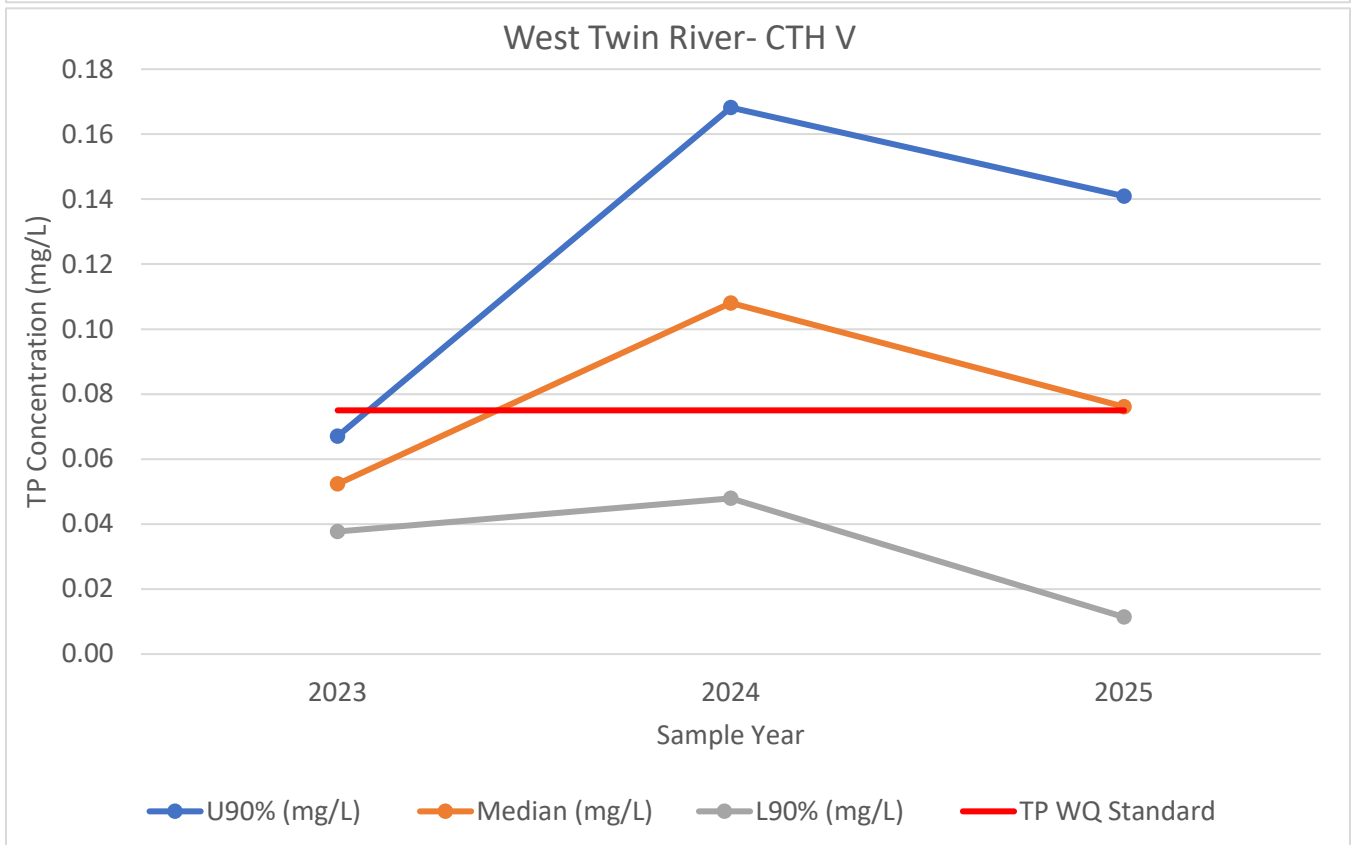
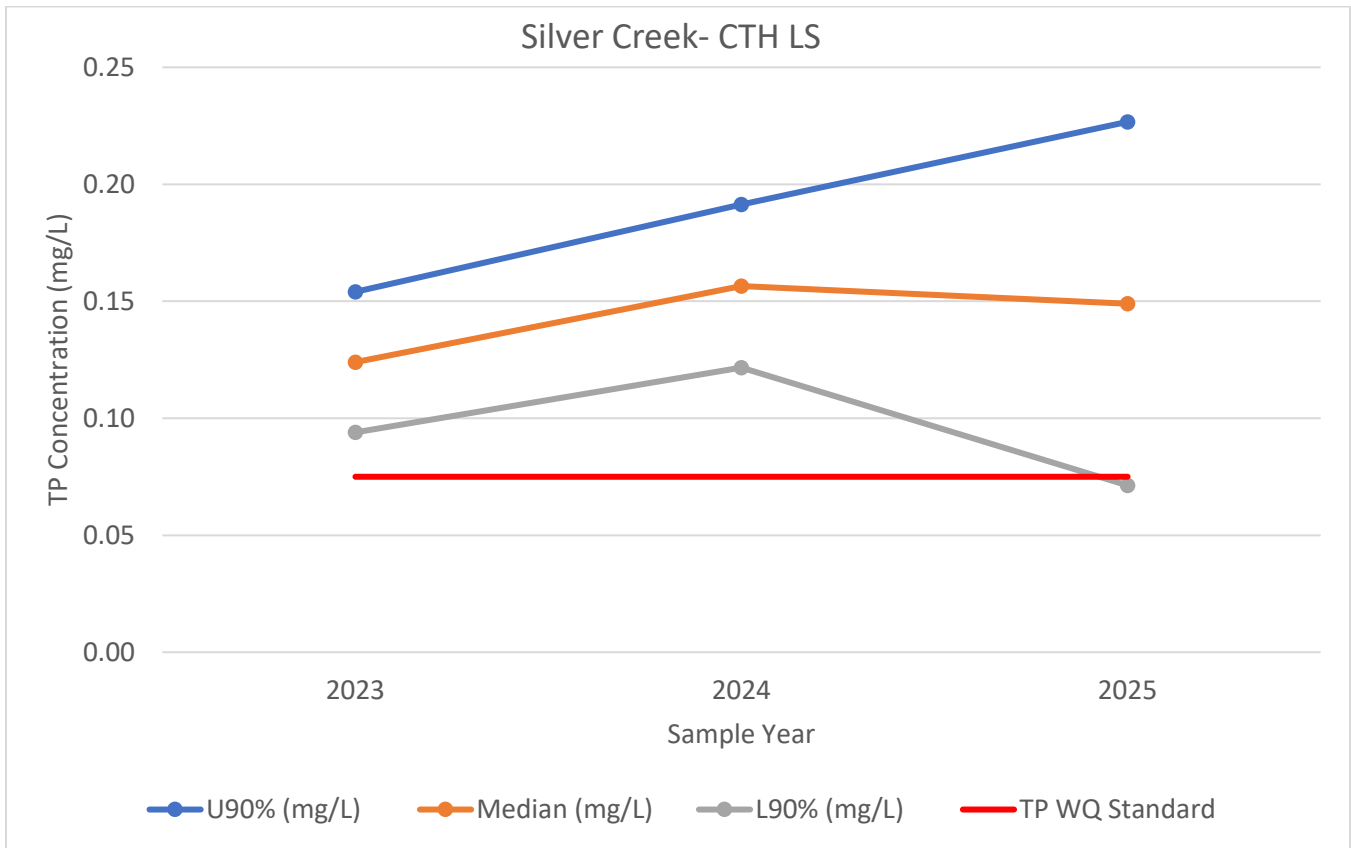
Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report



Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report



Northeast Lakeshore Volunteer Monitoring Program 2025 Annual Report



Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Appendix G: Percentage of Total Phosphorus Concentrations from Dissolved Reactive Phosphorus

Monitoring Site	Month	2023	2024	2025
Ahnapee River	May	N/A	10%	7%
Ahnapee River	June	N/A	15%	3%
Ahnapee River	July	N/A	9%	0%
Ahnapee River	August	N/A	12%	0%
Ahnapee River	September	N/A	0%	0%
Ahnapee River	October	N/A	12%	19%
Branch River (CTH J)	May	N/A	71%	55%
Branch River (CTH J)	June	N/A	67%	56%
Branch River (CTH J)	July	N/A	69%	64%
Branch River (CTH J)	August	N/A	75%	60%
Branch River (CTH J)	September	N/A	65%	28%
Branch River (CTH J)	October	N/A	69%	46%
Branch River (N Union Rd)	May	37%	55%	54%
Branch River (N Union Rd)	June	51%	68%	53%
Branch River (N Union Rd)	July	28%	70%	68%
Branch River (N Union Rd)	August	49%	82%	57%
Branch River (N Union Rd)	September	35%	43%	46%
Branch River (N Union Rd)	October	28%	43%	47%
Devils River	May	N/A	77%	58%
Devils River	June	N/A	75%	66%
Devils River	July	N/A	83%	74%
Devils River	August	N/A	71%	59%
Devils River	September	N/A	76%	76%
Devils River	October	N/A	76%	78%
East Twin River (CTH J)	May	N/A	76%	51%
East Twin River (CTH J)	June	N/A	76%	57%
East Twin River (CTH J)	July	N/A	71%	70%
East Twin River (CTH J)	August	N/A	50%	65%
East Twin River (CTH J)	September	N/A	63%	40%
East Twin River (CTH J)	October	N/A	86%	49%
East Twin River (Steiners Corners Rd)	May	33%	63%	44%
East Twin River (Steiners Corners Rd)	June	45%	62%	54%
East Twin River (Steiners Corners Rd)	July	62%	62%	65%
East Twin River (Steiners Corners Rd)	August	54%	62%	56%
East Twin River (Steiners Corners Rd)	September	45%	46%	49%
East Twin River (Steiners Corners Rd)	October	43%	51%	34%

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023	2024	2025
Fisher Creek	May	N/A	43%	60%
Fisher Creek	June	N/A	62%	62%
Fisher Creek	July	N/A	70%	91%
Fisher Creek	August	N/A	72%	69%
Fisher Creek	September	N/A	72%	82%
Fisher Creek	October	N/A	87%	87%
Kewaunee River	May	62%	68%	51%
Kewaunee River	June	63%	27%	82%
Kewaunee River	July	65%	69%	80%
Kewaunee River	August	78%	69%	70%
Kewaunee River	September	62%	53%	67%
Kewaunee River	October	55%	63%	72%
Mullet River	May	36%	53%	20%
Mullet River	June	48%	54%	37%
Mullet River	July	66%	58%	66%
Mullet River	August	80%	59%	78%
Mullet River	September	37%	73%	63%
Mullet River	October	251%	58%	59%
Onion River	May	62%	73%	57%
Onion River	June	79%	77%	65%
Onion River	July	81%	76%	86%
Onion River	August	82%	80%	75%
Onion River	September	74%	78%	69%
Onion River	October	67%	64%	75%
Pigeon River	May	68%	54%	49%
Pigeon River	June	80%	71%	55%
Pigeon River	July	72%	61%	83%
Pigeon River	August	N/A	72%	82%
Pigeon River	September	N/A	89%	34%
Pigeon River	October	59%	61%	55%
Pine Creek	May	64%	57%	46%
Pine Creek	June	74%	67%	66%
Pine Creek	July	80%	29%	72%
Pine Creek	August	77%	71%	71%
Pine Creek	September	22%	62%	61%
Pine Creek	October	61%	57%	53%
School Creek	May	N/A	82%*	60%
School Creek	June	N/A	80%	79%

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023	2024	2025
School Creek	July	N/A	76%	77%
School Creek	August	N/A	80%	68%
School Creek	September	N/A	69%	74%
School Creek	October	N/A	73%	82%
Sheboygan River	May	45%	9%	3%
Sheboygan River	June	20%	7%	53%
Sheboygan River	July	16%	74%	56%
Sheboygan River	August	N/A	64%	33%
Sheboygan River	September	N/A	33%	41%
Sheboygan River	October	68%	52%	38%
Silver Creek (CTH LS)	May	79%	60%	75%
Silver Creek (CTH LS)	June	63%	75%	64%
Silver Creek (CTH LS)	July	64%	78%	81%
Silver Creek (CTH LS)	August	64%	77%	82%
Silver Creek (CTH LS)	September	63%	61%	67%
Silver Creek (CTH LS)	October	60%	54%	31%
Silver Creek (Willow Road)	May	62%	55%	33%
Silver Creek (Willow Road)	June	47%	67%	47%
Silver Creek (Willow Road)	July	56%	62%	74%
Silver Creek (Willow Road)	August	42%	41%	71%
Silver Creek (Willow Road)	September	43%	28%	60%
Silver Creek (Willow Road)	October	32%	20%	53%
South Branch Manitowoc River	May	60%	6%	66%
South Branch Manitowoc River	June	46%	64%	68%
South Branch Manitowoc River	July	59%	73%	61%
South Branch Manitowoc River	August	56%	56%	68%
South Branch Manitowoc River	September	39%	60%	51%
South Branch Manitowoc River	October	58%	63%	58%
Stony Creek	May	N/A	61%	52%
Stony Creek	June	N/A	59%	54%
Stony Creek	July	N/A	68%	58%
Stony Creek	August	N/A	66%	73%
Stony Creek	September	N/A	69%	72%
Stony Creek	October	N/A	45%	67%
West Twin River	May	19%	58%	46%
West Twin River	June	34%	66%	58%
West Twin River	July	62%	55%	42%
West Twin River	August	49%	74%	69%

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023	2024	2025
West Twin River	September	31%	55%	36%
West Twin River	October	N/A	57%	52%

Red highlighted percentages indicate the DRP concentration exceeded the TP concentration (DRP >100%).

Italicized and bold percentages indicate the DRP sample concentration was above the 0.075 mg/L TP criteria. TP criteria is 0.100 mg/L for Sheboygan River.

***The sample was taken at a different station. The samples were taken at School Creek at Christoff Lane, Station ID 313122.**

Highlighted cells indicate samples were taken at original monitoring site Ahnapee River at CTH X (153029).

Appendix H: Duplicate Sample Data

Site Name	Date	Parameter	Duplicate Sample	Sample	Absolute Difference	Unit	Relative Percent Difference
Mullet River	8/9/2023	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)	ND	ND	N/A	MG/L	N/A
Mullet River	8/9/2023	PHOSPHORUS TOTAL	0.0561	0.0575	0.0014	MG/L	2.46
Mullet River	8/9/2023	PHOSPHATE ORTHO AS PO4 DISS	0.0403	0.0459	0.0056	MG/L	12.99
Mullet River	8/9/2023	NITROGEN TOTAL	3.04	3.04	0	MG/L	0
Mullet River	8/7/2024	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)	11.9	12.2	0.3	MG/L	2.49
Mullet River	8/7/2024	PHOSPHORUS TOTAL	0.106	0.11	0.004	MG/L	3.7
Mullet River	8/7/2024	PHOSPHATE ORTHO AS PO4 DISS	0.0622	0.0652	0.003	MG/L	4.71
Mullet River	8/7/2024	NITROGEN TOTAL	2.45	2.47	0.02	MG/L	0.81
Sheboygan River	6/9/2025	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)	16.2	16.4	0.2	MG/L	1.23
Sheboygan River	6/9/2025	PHOSPHORUS TOTAL	0.193	0.192	0.001	MG/L	0.52

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Site Name	Date	Parameter	Duplicate Sample	Sample	Absolute Difference	Unit	Relative Percent Difference
Sheboygan River	6/9/2025	PHOSPHATE ORTHO AS PO4 DISS	0.102	0.101	0.001	MG/L	0.99
Sheboygan River	6/9/2025	NITROGEN TOTAL	2.07	2.07	0	MG/L	0
Branch River (N Union Rd)	8/20/2025	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)	31.8	29.4	2.4	MG/L	7.84
Branch River (N Union Rd)	8/20/2025	PHOSPHORUS TOTAL	0.197	0.201	0.004	MG/L	2.01
Branch River (N Union Rd)	8/20/2025	PHOSPHATE ORTHO AS PO4 DISS	0.114	0.115	0.001	MG/L	0.87
Branch River (N Union Rd)	8/20/2025	NITROGEN TOTAL	2.8	2.82	0.02	MG/L	0.71

Parameter	Level of Detection (LOD) mg/L	Level of Quantification (LOQ) mg/L
TP	0.009	0.03
DRP	0.004	0.013
TSS	2	2
TN	0.058	0.192

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Appendix I: Stream Flow and Transparency Data

Monitoring Site	Month	2023 Transparency (CM)	2024 Transparency (CM)	2025 Transparency (CM)	2023 Streamflow (CFS)	2024 Streamflow (CFS)	2025 Streamflow (CFS)
Ahnapee River	May	N/A	27	60	N/A	N/A	N/A
Ahnapee River	June	N/A	43	20	N/A	N/A	N/A
Ahnapee River	July	N/A	50	65	N/A	N/A	N/A
Ahnapee River	August	N/A	94	101	N/A	N/A	N/A
Ahnapee River	September	N/A	40	118	N/A	N/A	N/A
Ahnapee River	October	N/A	60	75	N/A	N/A	N/A
Branch River (CTH J)	May	N/A	120	112	N/A	N/A	N/A
Branch River (CTH J)	June	N/A	47	80	N/A	N/A	N/A
Branch River (CTH J)	July	N/A	48	40	N/A	N/A	N/A
Branch River (CTH J)	August	N/A	75.4	45	N/A	N/A	N/A
Branch River (CTH J)	September	N/A	87	120	N/A	N/A	N/A
Branch River (CTH J)	October	N/A	97	120	N/A	N/A	N/A
Branch River (N Union Rd)	May	120	120	120	N/A	N/A	N/A
Branch River (N Union Rd)	June	120	80	120	N/A	N/A	N/A
Branch River (N Union Rd)	July	120	60	70	N/A	N/A	N/A
Branch River (N Union Rd)	August	120	120	40	N/A	N/A	N/A

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023 Transparency (CM)	2024 Transparency (CM)	2025 Transparency (CM)	2023 Streamflow (CFS)	2024 Streamflow (CFS)	2025 Streamflow (CFS)
Branch River (N Union Rd)	September	120	120	120	N/A	N/A	N/A
Branch River (N Union Rd)	October	120	120	120	N/A	N/A	N/A
Devils River	May	N/A	100	107	N/A	N/A	N/A
Devils River	June	N/A	N/A	96	N/A	N/A	N/A
Devils River	July	N/A	105.7	71	N/A	N/A	N/A
Devils River	August	N/A	62	32	N/A	N/A	N/A
Devils River	September	N/A	120	115	N/A	N/A	N/A
Devils River	October	N/A	120	120	N/A	N/A	N/A
East Twin River (CTH J)	May	N/A	120	120	N/A	N/A	N/A
East Twin River (CTH J)	June	N/A	95	120	N/A	N/A	N/A
East Twin River (CTH J)	July	N/A	120	120	N/A	N/A	N/A
East Twin River (CTH J)	August	N/A	120	120	N/A	N/A	N/A
East Twin River (CTH J)	September	N/A	102	120	N/A	N/A	N/A
East Twin River (CTH J)	October	N/A	120	120	N/A	N/A	N/A
East Twin River (Steiners Corners Rd)	May	120	120	110	N/A	N/A	N/A

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023 Transparency (CM)	2024 Transparency (CM)	2025 Transparency (CM)	2023 Streamflow (CFS)	2024 Streamflow (CFS)	2025 Streamflow (CFS)
East Twin River (Steiners Corners Rd)	June	120	90	108	N/A	N/A	N/A
East Twin River (Steiners Corners Rd)	July	107.5	60	107	N/A	N/A	N/A
East Twin River (Steiners Corners Rd)	August	90	37	59	N/A	N/A	N/A
East Twin River (Steiners Corners Rd)	September	85	120	110	N/A	N/A	N/A
East Twin River (Steiners Corners Rd)	October	120	N/A	100	N/A	N/A	N/A
Fisher Creek	May	N/A	8	120	N/A	N/A	N/A
Fisher Creek	June	N/A	N/A	120	N/A	N/A	N/A
Fisher Creek	July	N/A	63.5	112	N/A	N/A	N/A
Fisher Creek	August	N/A	120	42	N/A	N/A	N/A
Fisher Creek	September	N/A	120	120	N/A	N/A	N/A
Fisher Creek	October	N/A	120	120	N/A	N/A	N/A
Kewaunee River	May	N/A	70	105	N/A	N/A	N/A
Kewaunee River	June	120	N/A	85	N/A	N/A	N/A

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023 Transparency (CM)	2024 Transparency (CM)	2025 Transparency (CM)	2023 Streamflow (CFS)	2024 Streamflow (CFS)	2025 Streamflow (CFS)
Kewaunee River	July	58	N/A	88	N/A	N/A	N/A
Kewaunee River	August	45	N/A	65	N/A	N/A	N/A
Kewaunee River	September	75	N/A	63	N/A	N/A	N/A
Kewaunee River	October	70	N/A	90	N/A	N/A	N/A
Mullet River	May	113.3	104	107	N/A	N/A	N/A
Mullet River	June	120	57	73	N/A	N/A	N/A
Mullet River	July	120	61	117	N/A	N/A	N/A
Mullet River	August	120	49	120	N/A	N/A	N/A
Mullet River	September	120	120	120	N/A	N/A	N/A
Mullet River	October	120	120	120	N/A	N/A	N/A
Onion River	May	120	20	20	N/A	N/A	N/A
Onion River	June	120	80	110	N/A	N/A	N/A
Onion River	July	120	60	120	N/A	N/A	N/A
Onion River	August	120	90	40	N/A	N/A	N/A
Onion River	September	N/A	20	110	N/A	N/A	N/A
Onion River	October	110	120	120	N/A	N/A	N/A
Pigeon River	May	64.4	13	113	1.25	N/A	N/A
Pigeon River	June	51	N/A	120	N/A	N/A	N/A
Pigeon River	July	N/A	52.5	120	N/A	N/A	N/A
Pigeon River	August	N/A	79	115	N/A	N/A	N/A

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023 Transparency (CM)	2024 Transparency (CM)	2025 Transparency (CM)	2023 Streamflow (CFS)	2024 Streamflow (CFS)	2025 Streamflow (CFS)
Pigeon River	September	N/A	120	120	N/A	N/A	N/A
Pigeon River	October	N/A	120	120	N/A	N/A	N/A
Pine Creek	May	120	120	N/A	N/A	N/A	N/A
Pine Creek	June	120	101.2	58	N/A	N/A	N/A
Pine Creek	July	120	63.1	120	N/A	N/A	N/A
Pine Creek	August	120	113.4	111	N/A	N/A	N/A
Pine Creek	September	76	85.2	112	N/A	N/A	N/A
Pine Creek	October	120	119.5	102	N/A	N/A	N/A
School Creek	May	N/A	120*	N/A	N/A	N/A	N/A
School Creek	June	N/A	17.5	120	N/A	N/A	N/A
School Creek	July	N/A	95	60	N/A	N/A	N/A
School Creek	August	N/A	34	27	N/A	N/A	N/A
School Creek	September	N/A	40	53	N/A	N/A	N/A
School Creek	October	N/A	95	N/A	N/A	N/A	N/A
Sheboygan River	May	64.2	35	15	2.25	N/A	N/A
Sheboygan River	June	54	N/A	50	N/A	N/A	N/A
Sheboygan River	July	45	81.5	57	N/A	N/A	N/A
Sheboygan River	August	N/A	87	95	N/A	N/A	N/A
Sheboygan River	September	N/A	97.5	120	N/A	N/A	N/A
Sheboygan River	October	N/A	120	120	N/A	N/A	N/A
Silver Creek (CTH LS)	May	120	N/A	120	N/A	N/A	N/A
Silver Creek (CTH LS)	June	120	102	120	N/A	N/A	N/A

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023 Transparency (CM)	2024 Transparency (CM)	2025 Transparency (CM)	2023 Streamflow (CFS)	2024 Streamflow (CFS)	2025 Streamflow (CFS)
Silver Creek (CTH LS)	July	N/A	120	76	N/A	N/A	N/A
Silver Creek (CTH LS)	August	67	N/A	111	N/A	N/A	N/A
Silver Creek (CTH LS)	September	120	120	120	N/A	N/A	N/A
Silver Creek (CTH LS)	October	120	120	120	N/A	N/A	N/A
Silver Creek (Willow Road)	May	120	117	120	N/A	N/A	N/A
Silver Creek (Willow Road)	June	120	82	120	N/A	N/A	N/A
Silver Creek (Willow Road)	July	120	113	108	N/A	N/A	N/A
Silver Creek (Willow Road)	August	120	120	110	N/A	N/A	N/A
Silver Creek (Willow Road)	September	120	120	120	N/A	N/A	N/A
Silver Creek (Willow Road)	October	N/A	120	115	N/A	N/A	N/A
South Branch Manitowoc River	May	27.25	17.1	83	N/A	N/A	N/A
Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank	Intentionally Blank

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023 Transparency (CM)	2024 Transparency (CM)	2025 Transparency (CM)	2023 Streamflow (CFS)	2024 Streamflow (CFS)	2025 Streamflow (CFS)
South Branch Manitowoc River	June	30	34.1	29	N/A	N/A	N/A
South Branch Manitowoc River	July	28	68.55	21	N/A	N/A	N/A
South Branch Manitowoc River	August	31	32.2	48	N/A	N/A	N/A
South Branch Manitowoc River	September	19	34.5	28	N/A	N/A	N/A
South Branch Manitowoc River	October	84	97.2	50	N/A	N/A	N/A
Stony Creek	May	N/A	120	120	N/A	N/A	N/A
Stony Creek	June	N/A	120	120	N/A	N/A	N/A
Stony Creek	July	N/A	120	110	N/A	N/A	N/A
Stony Creek	August	N/A	120	120	N/A	N/A	N/A
Stony Creek	September	N/A	120	120	N/A	N/A	N/A
Stony Creek	October	N/A	120	120	N/A	N/A	N/A
West Twin River	May	120	120	48	N/A	N/A	N/A

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Monitoring Site	Month	2023 Transparency (CM)	2024 Transparency (CM)	2025 Transparency (CM)	2023 Streamflow (CFS)	2024 Streamflow (CFS)	2025 Streamflow (CFS)
West Twin River	June	120	N/A	94	N/A	N/A	N/A
West Twin River	July	120	120	24	N/A	N/A	N/A
West Twin River	August	120	120	120	N/A	N/A	N/A
West Twin River	September	120	120	120	N/A	N/A	N/A
West Twin River	October	120	120	120	N/A	N/A	N/A

****The sample was taken at a different station. The samples were taken at School Creek at Christoff Lane, Station ID 313122.***

Highlighted cells indicate samples were taken at original monitoring site Ahnapee River at CTH X (153029).

Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

Appendix J: Northeast Lakeshore Volunteer Monitoring Fact Sheet

Northeast Lakeshore Volunteer Monitoring Fact Sheet

The Northeast Lakeshore Total Maximum Daily Load (TMDL) was approved on October 30, 2023. The TMDL identifies the need for pollutant reductions in waterbodies throughout the basin to meet water quality standards. There are 51 stream segments and 12 lakes in the Northeast Lakeshore region listed as impaired due to excess phosphorus and/or sediment loading.

Phosphorus is an essential nutrient for plant growth, but can have detrimental effects on lakes, rivers, and streams when excessive amounts are introduced to these systems. Common forms of pollutant delivery in these systems include surface runoff from urban and agricultural areas and discharges from wastewater treatment facilities, industrial businesses, and farms. Excess phosphorus in a river system can potentially create harmful algal blooms during the summer months which impact human, plant, and animal life.

The Northeast Lakeshore Volunteer Monitoring Program began in 2023 to help achieve the monitoring goals outlined in the TMDL. The program started with 12 stream monitoring sites. Seven sites were added in 2024, bringing the total to 19 sites across 17 rivers and streams. Volunteers are relied upon to collect surface water samples following WDNR protocol on a monthly basis between the months of May and October. Water samples are shipped to the State Lab of Hygiene in Madison and are analyzed for Total Phosphorus, Total Suspended Solids, and Total Nitrogen.

Northeast Lakeshore Facts:

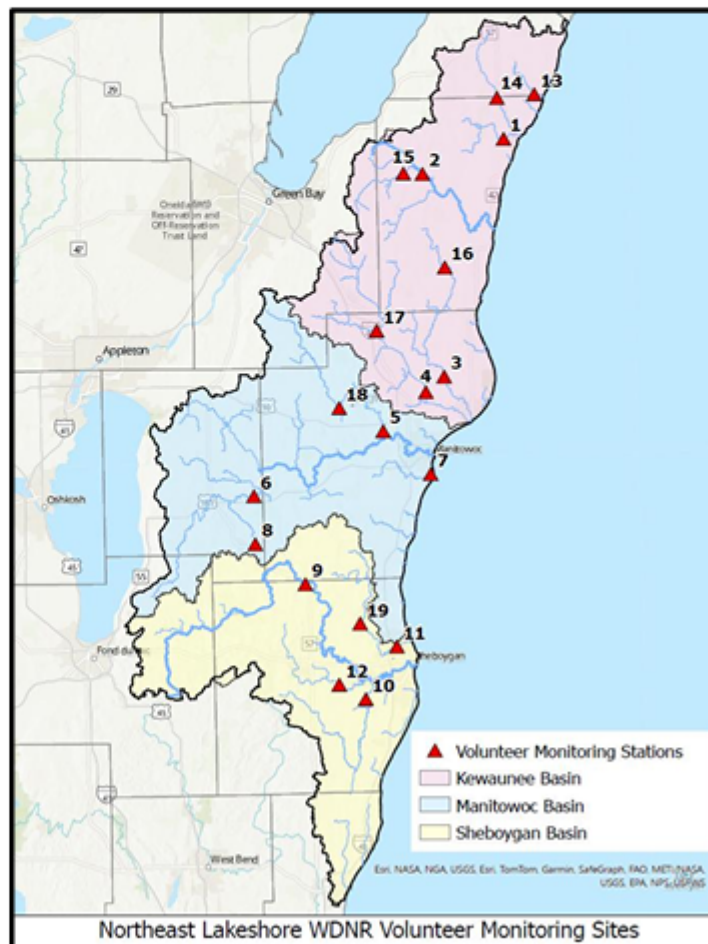
- Watershed area: ~2,000 square miles
- Includes 8 counties (Brown, Calumet, Door, Fond du Lac, Kewaunee, Manitowoc, Ozaukee, and Sheboygan)
- 63 impaired waterbody segments
- 69 Concentrated Animal Feeding Operations (CAFOs)
- 10 MS4s*
- 49 Dischargers
 - 32 municipal
 - 17 industrial

Want to get involved or have questions? Contact:

Grace Hiley
Water Resource Management Specialist
Phone: (920) 296-5126
Email: Grace.Hiley@wisconsin.gov

See backside for exact sample locations.

*MS4s - municipal separate storm sewer system; municipalities with WPDES permits for stormwater management.



Northeast Lakeshore Volunteer Monitoring Program

2025 Annual Report

	<i>Stream Name</i>	<i>WBIC</i>	<i>SWIMS ID</i>	<i>SWIMS Station Name</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Impairment</i>
1	Silver Creek	94900	10020779	Silver Creek at Willow Rd	44.60788	-87.47114	TP
2	Kewaunee River	90700	10029954	Kewaunee River at Hillside Rd	44.55438	-87.65939	TP
3	East Twin River	84000	10008207	East Twin River at Steiners Corners Rd	44.22131	-87.62302	TP
4	West Twin River	87000	10029482	West Twin River at CTH V	44.19678	-87.66578	TP
5	Branch River	71300	363299	Branch River at N Union Rd	44.13479	-87.76542	TP
6	South Branch Manitowoc River	77900	363375	South Branch Manitowoc River at Lemke Rd	44.03367	-88.06298	TP
7	Silver Creek	67300	363228	Silver Creek at CTH LS	44.06227	-87.65994	TP
8	Pine Creek	79900	10020831	Pine Creek at CTH T	43.9548	-88.06231	TP
9	Sheboygan River	50700	10021359	Sheboygan River at STH 57	43.8873	-87.95099	TP
10	Onion River	51200	603480	Onion River at Ourtown Rd	43.69669	-87.82086	TP
11	Pigeon River	62300	603294	Pigeon River at STH 42	43.78144	-87.74747	TP
12	Mullet River	53400	10049358	Mullet River at Sumac Rd	43.72143	-87.88	TP
13	Stony Creek	96100	10051616	Stony Creek at CTH S (C)	44.67920	-87.39765	TP and TSS
14	Ahnapee River	94800	153029	Ahnapee River at CTH X Nr Forestville	44.67525	-87.48349	Unknown Pollutant
15	School Creek	92200	10020829	School Creek-100 Feet Below Bridge Off Rendezvous Road	44.54725	-87.72383	TP
16	East Twin River	84000	10008204	East Twin River at CTH J	44.40007	-87.61436	TP
17	Devils River	89900	10039193	Devils River at CTH R	44.29954	-87.77419	TP
18	Branch River	71300	10016958	Branch River at CTH J	44.17371	-87.86216	TP
19	Fisher Creek	62500	10033781	Fisher Creek- Upstream of STH 32	43.82052	-87.82895	TP

*SWIMS – Surface Water Integrated Monitoring System; a Wisconsin DNR information system that holds chemistry (water, sediment), physical, and biological (macroinvertebrate, aquatic invasive species) surface water data.

More information can be found at:

<https://dnr.wisconsin.gov/topic/TMDLs/NElakeshore/VolunteerMonitoring.html>