



March 1, 2025

Ms. Jennifer Klang
Water Resources Division, District Supervisor
Michigan Department of Environment, Great Lakes and Energy
7953 Adobe Rd.
Kalamazoo, MI 49009-5026

Board of Directors

Christine Kosmowski

Kenneth Kornheiser

Shannan Deater

Steven Kohler

Robert Shuchman

Matt Diana

Renee Mulcrone

Monica Day

Malissa Miller

Ryan Reincke

Stephen Hamilton

RE: 2024 Annual Report Submittal for the Kalamazoo River/Lake Allegan Watershed Cooperative Agreement for the Reduction of Phosphorus Loading

Dear District Supervisor Klang,

On behalf of the signatories of the 2021 Kalamazoo River/Lake Allegan Watershed Cooperative Agreement for the reduction of Phosphorus Loading (hereafter known as the “Cooperative Agreement”), this report is being submitted as required in item 7 of the Cooperative Agreement. The required six (6) elements are addressed in Attachment 1. The original Implementation Plan was formally submitted on August 29, 2002 to the Michigan Department of Environmental Quality and to Region 5 of the United States Environmental Protection Agency (EPA).

This is the 23rd annual Cooperative Agreement report and it outlines the activities conducted by the Point Source (PS) group in 2024. Members of this group have been meeting and actively involved in the development and implementation of a phosphorus reduction strategy for the watershed since 1998. The PS group agreed to meet at least twice per year, as specified in the Cooperative Agreement and Implementation Plan. Joint PS/Implementation Committee meetings were held on January 18, April 18, July 18, and October 17, 2024. A meeting summary can be found in Attachment 1 and the list of attendees, agendas, and meeting minutes in Attachment 2.

The detailed analysis of PS and NPS total phosphorus loads in 2024 is provided in Attachment 3. The data were provided to the TMDL group for analysis by EGLE staff. The data also can be obtained using the EGLE MI Enviro Portal (<https://mienviro.michigan.gov/ncore/external/home>). The PS group successfully met the total maximum daily load (TMDL) monthly goals for point source phosphorus discharges in 2024. During the six-month TMDL season (April through September) the PS group discharged a total of 19,415 pounds or roughly 42% of the allowable TMDL goal of 46,200 pounds. PS signatories met their phosphorus discharge and broader TMDL goals by successfully implementing chemical and biological treatment procedures, maintaining regular communication with indirect phosphorus dischargers, and dedicating staff to employee and public education and outreach efforts. The results of their efforts are summarized in Attachment 1 and Attachment 4, and detailed reports from individual signatories are provided in Attachment 4.

The Point Sources and TMDL Implementation group would like to express their gratitude to EGLE and EPA for the opportunity to sign on to the 2021 TMDL Cooperative Agreement. The group will continue with their phosphorus reduction efforts to obtain the final goals of the Total Maximum Daily Load in the Kalamazoo River/Lake Allegan Watershed.

The Kalamazoo River Watershed Council is a public, non-profit 501(c)3 organization whose purpose is to work collaboratively with the community, government agencies, local officials and businesses to improve and protect the health of the Kalamazoo River, its tributaries, and its watershed.

Please consider this a full and complete submittal of the annual report by the Cooperative Agreement signatories. Please contact me at 269-317-4015 if you have any questions regarding this submittal.

Best regards,

A handwritten signature in black ink that reads "Douglas B. McLaughlin". The signature is fluid and cursive, with "Douglas" and "B." on the first line and "McLaughlin" on the second line.

Douglas McLaughlin – Executive Director
Kalamazoo River Watershed Council

CC:

Janelle Hohm, EGLE
Patty Hoch-Melluish, City of Battle Creek (Chair, TMDL Signatory Group)
Malissa Miller, City of Kalamazoo (Secretary, TMDL Signatory Group)

ATTACHMENT 1

RESPONSES ON SIX (6) REQUIRED ELEMENTS FOR THE 2024 TMDL ANNUAL REPORT FOR THE LAKE
ALLEGAN/KALAMAZOO RIVER TMDL

ATTACHMENT 1

Responses on Six (6) Required Elements for the 2024 TMDL Annual Report

1. Summaries of the quarterly TMDL committee joint meetings:

In 2024 the TMDL Point Source (PS) and Implementation Committee held four joint meetings on January 18, April 18, July 18, and October 17, 2024, (meeting agendas, minutes, and attendance lists are included in Attachment 2). One meeting was held at the A.M. Todd facility in Kalamazoo, one meeting was held at the Marshall Public Services Building in Marshall, one meeting was held at the Kalamazoo Water Reclamation Plant in Kalamazoo, and one meeting was held at the Battle Creek Dept. of Public Works in Battle Creek. All four meetings offered virtual and in-person attendance options as noted on the attached agendas. Key issues covered included updates on funding opportunities from EGLE, review and approval of administrative and technical services contracts, 2024 PS and M-89 P load estimates, updates on a Lake Allegan carp removal project implemented by Georgia Pacific and US EPA, public education information available through the EGLE Environmental Information program, progress on a Gun River Section 319 grant project to improve land use practices by farmers, land protection efforts in the upper Kalamazoo River watershed, a summary of the Kalamazoo River Youth Experience project lead by the Kalamazoo River Watershed Council, updates on Kanoe the Kazoo events, technical updates on activities relevant to the 2024-2026 Implementation Plan, and M-89 weekly total phosphorus concentration sampling activities and results for 2024.

2. Summaries of non-point source activities:

Both committees worked together on several NPS activities.

- In 2024, TMDL signatories helped facilitate seven **Kanoe the Kazoo** events held from June through October. These events were spread out from upstream of Albion to New Richmond. The TMDL signatories helped fund event planning and promotion, and the purchase of t-shirts and stickers. TMDL signatory fees and additional local financial support through the KRWC was used to ensure that refreshments provided at each event included box lunches and non-alcoholic drinks. One Kanoe the Kazoo event in August was billed as the second annual Kalamazoo River celebration. As in 2023, this event included an afternoon paddle beginning at the M-89 bridge near the Swan Creek marsh and ending at New Richmond. The paddle trip was followed by a catered meal, informational tables, and live music. Roughly 60 people participated, somewhat fewer than in 2023 likely due in part to a threat of rain throughout the day. A second Kanoe the Kazoo event repeated a successful “paddle and ride” event in 2023. In partnership with the Kalamazoo Nature Center and the Open Roads Bike Program, participants rode bicycles on the Kalamazoo River Valley Trail from D Avenue in Cooper Township to Commerce Lane in Parchment, then were able to kayak or canoe back to D Avenue with a stop

for lunch at the KNC River Deck. At least one TMDL representative attended each event and provided educational information to participants regarding water quality as it relates specifically to the phosphorus TMDL.

- Two **Krazy for the Kazoo** river cleanup events were held in 2024, and a third scheduled event had to be cancelled due to high water and downed trees in the Battle Creek River. A TMDL representative in attendance at each Krazy for the Kazoo event provided educational information to participants regarding water quality as it relates to the phosphorus TMDL.
- **Public Education** sponsored and facilitated by the TMDL group focused on public outreach through in-person Kanoe the Kazoo and Krazy for the Kazoo events. As described in the attached annual reports provided by individual signatories (Attachment 4), a variety of additional educational activities were implemented during 2024. A detailed summary of these activities, challenges encountered, and plans for 2025 are also provided in Attachment 4.
- **Water Quality Monitoring:** The TMDL group agreed, as in 2021 and 2022, that additional data collection was needed at the M-89 bridge (historically representing the inlet to Lake Allegan) during the 6-month TMDL season to more accurately estimate the total river and NPS total phosphorus (TP) loads to Lake Allegan. City of Allegan staff collected and preserved weekly phosphorus samples for analysis by a contract laboratory, Trace Analytical, Inc. The City of Allegan covered the costs for the sample collection and the TMDL group covered the cost of sample analysis. Results are detailed in Attachment 3.

3. Progress made on items identified in the implementation plans:

In 2024, several aspects of the 2024 – 2026 TMDL Implementation Plan were carried out in addition to Kanoe the Kazoo and Krazy for the Kazoo events. This included continuing to implement increased sampling frequency at the M-89 Bridge, tracking and assessment of point and nonpoint source TP loadings in relation to TMDL goals, investigating alternative methods to estimate nonpoint source phosphorus loads using methods employed by USGS, tracking progress on efforts to replace the concrete river channel in Battle Creek with a more natural channel, seeking other funding options for public education and outreach and nonpoint source pollutant reductions including submittal of an application in response to the EGLE Environmental Justice Impact grant, evaluating opportunities to conduct tree planting in the watershed to help reduce nonpoint source pollution, and helping to connect urban and underserved youth in Kalamazoo with opportunities to learn about and experience the Kalamazoo River through the Kalamazoo River Watershed Council's Kalamazoo River Youth Experience project. Also, a new “chatbot” tool was added to the KRWC website to help the general public obtain information from the Kalamazoo River Watershed Management Plan about improving water quality, both in English and Spanish. The Plan was published in 2015 and has been approved by USEPA. More actions taken by TMDL signatories in 2024 are described in Attachment 4.

4. Local Success in Phosphorus Control:

The success of the PS group in implementing phosphorus control is evident in the continued reduction of PS total phosphorus loadings to Lake Allegan. A detailed presentation of these loadings in 2024, and of annual trends since the TMDL was established, can be found in Attachment 3, prepared by WaterWays SEM, L3C. The total monthly PS total phosphorus load attained TMDL goals in all six months of the 2023 TMDL season, as has been the case since 2008. The total PS load for all of 2024 was 38,174 lbs, which is slightly lower than the 2023 TP load and the new third lowest annual load in the 23-year record of loads in which data were available for all months of the year. At 19,415 lbs for the six-month TMDL season, the 2024 PS loading is roughly 42% of the TMDL PS load goal of 46,200 pounds established for the TMDL season, April through September. In addition, the TMDL signatories conducted clean-up projects, storm water management and education projects, and dedicated many hours to various committees, employee and public education activities, and community engagement events. The activities of individual TMDL signatories are described further in Attachment 4.

5. Summary of the Point Source phosphorus effluent data and control methods:

Attachment 3 provides a summary of the PS and NPS total phosphorus loadings to the Kalamazoo River for 2024, prepared by Waterways SEM, L3C. Individual PS effluent data reported by TMDL signatories on Discharge Monitoring Reports required by National Pollutant Discharge Elimination System (NPDES) permits can now be found on the “MI Enviro Portal” (<https://www.michigan.gov/egle/maps-data/mienviroportal>) where phosphorus data are made available to the public. For the analysis of 2024 TMDL PS phosphorus load data, EGLE staff provided these data to WaterWays SEM in spreadsheets customized to the TMDL signatories using a query tool now available to EGLE staff. This approach, used for the 2022 and 2023 TMDL reporting years, continues to simplify the reporting and data analysis process compared to previous years. (Note: in 2016 the PS facilities discontinued recording their monthly loading data to www.kalamazooriver.net and began using MiWaters/MI Enviro Portal exclusively). Attachment 3 also contains a summary of the data formats provided by EGLE to the TMDL technical services consultant and subsequent analysis of the data to generate the PS load analysis. As described in Section 4 above, the total monthly PS total phosphorus load in 2023 was within the TMDL goals for all six months of the TMDL season, as has been the case since 2008.

Most facilities have optimized operational techniques to meet/or exceed the phosphorus discharge goals. Biological Nutrient Removal (BNR) continues to be effectively used at the Allegan Resource Recovery Facility and the Kalamazoo Water Reclamation Plant (KWRP), helping to reduce the usage of chemical nutrient removal with alum and/or ferric chloride. Continued use of online phosphorus and nitrogen analyzers within treatment plant operations at the KWRP is specifically identified as contributing to good BNR phosphorus reduction.

6. Summary of any locally derived watershed monitoring data, including trend data, as implementation proceeds:

Recent monitoring data relevant to the Lake Allegan/Kalamazoo River TMDL that is not part of EGLE's biennial sampling of Lake Allegan and the Kalamazoo River include the weekly grab samples collected by Allegan WWTP staff and used to estimate PS loads to Lake Allegan. These data now have been collected in four consecutive years, 2021, 2022, 2023, and 2024. The 2024 data are included in Attachment 3 (see the 2022 and 2023 TMDL Annual reports for data from 2021, 2022, and 2023). The KRWC has created and posted on its website a phosphorus data dashboard (<https://kalamazooriver.org/phosphorus-dashboard/>) which can be used to view recent and historical phosphorus data collected from within the Kalamazoo River watershed and contained in the Water Quality Portal (WQP), a public source of water quality data from the U.S. Geological Survey, the U.S. Environmental Protection Agency, and state and tribal agencies (<https://www.waterqualitydata.us/>).

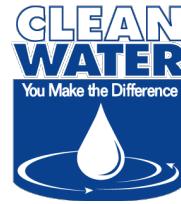
A WQX query conducted for this report of the Kalamazoo River Watershed (Hydrologic Unit Code 0405003) for phosphorus data collected between January 1, 2015 and December 31, 2023 showed that no State of Michigan data from Lake Allegan water quality sampling have been added to WQX in the past year. Adding the Lake Allegan EGLE data to WQX would make it much more widely available to the public, increase public access to relevant TMDL data, and increase public awareness of progress toward TMDL goals for Lake Allegan and the Kalamazoo River. EGLE should be encouraged to add these data to the WQX database in 2025.

In addition, information was obtained from Dr. Matt Diebel of USGS showing trends in total phosphorus concentration in the Kalamazoo River at New Richmond, Michigan. Results are part of a project to estimate total phosphorus trends in several major tributaries to the Great Lakes through a project funded by the Great Lakes Restoration Initiative. Results are available online at www.rconnectusgs.gov/glrtrends/. Results indicate a decline in TP concentration and loading for the period 2012 to 2020 at this location.

ATTACHMENT 2

MEETING AGENDAS, MINUTES, AND ATTENDANCE LISTS FOR QUARTERLY MEETINGS FOR THE LAKE
ALLEGAN/KALAMAZOO RIVER TMDL

Lake Allegan/Kalamazoo River Watershed Phosphorus TMDL Point Source/Implementation Committee Joint Meeting



January 18, 2024
10:00 AM – 12:00 PM

LOCATION: IN-PERSON

ADM (A.M. Todd) Kalamazoo 1717 Douglas Avenue in Kalamazoo

Virtual Option

Connecting via Zoom:

<https://us06web.zoom.us/j/85033822933?pwd=c4j6CWRNocY5IH2ZaYEvvYel5hRh2K.1>

Meeting ID: 850 3382 2933

Passcode: 453574

Meeting Agenda

Call to order	Patty Hoch-Melluish
Introductions	All
Approval of Agenda	Patty Hoch-Melluish
Approval of Oct. 12, 2023 meeting minutes	Patty Hoch-Melluish
Point Source Portion	
1. EGLE Updates	Janelle Hohm
2. Budget	Doug McLaughlin
Implementation Committee Portion	
1. Lake Allegan Carp Removal Study - Update	Matt Basler, WSP
2. EGLE Environmental Education Program	Eileen Boekestein
3. Implementation Plan updates	Doug McLaughlin, All
4. TMDL activity updates from all signatories	All
Other Business/Announcements	All
1. TMDL Signatory Annual Reports Due to J. Hohm by February 9, 2024	

Adjourn

**Lake Allegan/Kalamazoo River Watershed
Phosphorus TMDL Point Source/Implementation
Committee Joint Meeting MINUTES**



**Thursday January 18, 2023
10:00 AM – 12:00 PM**

LOCATION: A&M Todd & Microsoft Teams Meeting

Meeting Agenda

Call to order (10:07 AM) Bessie Stears

Introductions All

Approval of Agenda Bessie Stears
Motion— Patty Hoch-Melluish Second— Malissa Miller
Approval of October 12, 2023 meeting minutes (amended w/one added name) Motion passed
Motion -Patty Hoch-Melluish Second -R. Nichols??? Approved Bessie Stears

1. EGLE Updates Janelle Hohm
 - Implementation Grants- 1 full proposal from Southwest Michigan Land Conservancy. Winner should be announced May/June.
2. Financial Update Doug McLaughlin
 - Carry over of \$5,027.58. Still waiting on a few signatory fees. Remaining expenses from contract with KRWC, will be taken out after report is generated. \$9000 contract with technical services company, have not submitted invoices yet for M-89 or Lake Allegan sampling. Projected balance of \$1,912.06 to carry over into 2024.
3. Carp Removal Project- Lake Allegan Matt Hassett/Karl Gustavson
 - Georgia-Pacific carp removal project in Lake Allegan has been active for a few years. WSP and Carp Solutions implement removal.
 - Karl Gustavson Two benefits of carp removal are 1. PCB removal from ecosystem and 2. habitat restoration. Lake Allegan was found to be dominated by common carp which can be destructive to aquatic ecosystems. High turbidity, nutrients, algal blooms. Carp change the system to benefit themselves which can lead to PCBs being pushed into the system. If sediments are allowed to settle it can sequester toxins and prevent them from moving into the ecosystem but the carp keep sediment suspended.
 - Goal is to determine if carp removal can decrease the level of PCBs in Lake Allegan fish and increase habitat.
 - Comparing to Allegan impoundment upstream to test the effectiveness of carp removal in Lake Allegan (downstream). Looking at fish tissue for PCBs as well as PCB levels in the water column. Also comparing plant and fish diversity.
 - Started surveys 2016/2017 and have had long term studies on fish tissue concentrations.
 - Carp were removed by box netting and cracked corn. By-catch was low because cracked corn primarily attracts common carp, occasionally will attract catfish. Was a good method for large scale removal. Over the 6 years of removal over 150,000 carp have been removed from the system.
 - Goal was to reach a level where the carp wouldn't have detrimental effects to the ecosystem, reached by 2023. Threshold goal 89 pounds/acre met.
 - Passive samplers for PCBs and measures for turbidity over time. Starting to see decreases in turbidity in Lake Allegan whereas not seeing a decrease in the control area from 2019 to 2022. Also seeing slight decline in PCBs in Lake Allegan but not upstream -early indicator. Georgia-Pacific and WSP also doing long-term fish surveys to monitor how carp removal is impacting the ecosystem.

- Panfish are a primary predator of carp eggs which contain PCBs, could lead to elevated levels of the PCBs in the panfish being consumed. Could be a contribution of 0.15-0.47 ppm PCBs per bluegill.
- Saw 44% increase in vegetation surface area coverage between 2019 and 2022. All species increased 2019-2022; 6 species increased 10%+. Species specific densities increased also. Nonnative invasive plants densities also increased; Eurasian milfoil increased but was not dominate plant. Pond weed and coontail were dominating plants. Increase in fish community index rating (poor to fair), native fish appear to be responding and reproducing. Largemouth bass, yellow perch, and bluegill among other fish species saw large increases.
- Challenges: how to determine it was the carp removal making the difference and not outside factors
 - Drawing information from multiple aspects of the project to see a bigger picture and reach a conclusion
- Question: Will the data/ slides be shared. And how long do you predict that the carp levels will stay down/ how sustainable is the carp removal project?
 - Not all ecosystems are carp dominated, there is a tipping point where the carp take over. Most systems can have a balance which is largely driven by predators and if there is a point that we are able to create a macrophyte community that can support the predators there is potential to find that balance. Currently not seeing large amounts of reproduction, the carp that are present are old and not seeing many young. Also have catfish that will prey on younger/ smaller carp(?). Largely the outcome is still unknown but are hopeful that we will find balance in the ecosystem.
- Question: Lowered levels of phosphorous input into the system can lead to lower levels of turbidity, algae, and phosphorous in the water column so how/ is that being assessed as a contributor to the effects of carp removal?
 - Have been looking at turbidity and chlorophyll, not directly at phosphorous. Some algae is leading to the turbidity but not all of it. Looking at the levels from the upstream reservoir vs Lake Allegan which can help separate out contributions from other sources.

4. Education/ Outreach Resources

Eileen Boekestein

- 5 principles of education/outreach
 - Start your messaging with stories. Stories connect to people and help people remember the cause.
 - Mold your presentation to your target audience
 - Think about what the audience is hearing and how they will retain/understand the information
 - What do you want the audience to get out of this presentation?
 - What does your audience already know about the topic?
 - Remember what resources you have available
 - Supplies (binoculars, bug nets, etc), colleagues, Enviroscapes, EGLE classroom
 - Practice means progress
- If working with kids:
 - Very young kids (Pre-K) tend to connect most with empathy for the environment and especially animals.
 - Elementary age (8-11yo) tends to want to explore more, and it sticks with them
 - Adolescent (12-18 yo) brains can understand more social action and consequences
- Question: If the adolescents you want to educate are in two different groups (those that have been exposed to nature and those that haven't gotten to interact with nature as much), how do you go about educating?
 - Don't get too caught up in the age groups because there are many people that haven't gotten to connect with nature or have had negative experiences. Thinking in the abstract can be harder for younger students to understand. Always incorporate exploration and empathy in all age groups to try to include everyone.
- Question: Is there a list of available grants for education support?
 - Implementation grants available. 319 funding. Many smaller grants that can be shared if you reach out. Applications due March 1st through NOAA for BWET funding, specifically for watershed education.

5. Implementation plan update

Doug McLaughlin

- Group is required to provide update for implementation plan by January 31, 2024. Draft has been emailed to leadership team. Table shows problems and issues that have been worked on through this implementation plan since 2012. Proposed updates- effort put into finding other funding sources, continue M-89 sampling (seeking additional data), stay connected with carp removal to get an idea of trends they are seeing
- Not proposing any additional signatory fees
- 2023 data point source loading and workup from Lake Allegan preliminary summary of point source load data shows goals were met again. Nonpoint source data was not met in the beginning of the year → seems to change with amount of flow moving through river. Will all be included in report which is due March 1st.
- If reports could be to Janelle by February 9th data will be included in report.

6. General Updates All

- Bessie Stears- aiming for in person school water festival April 17th, 2025 at Kellogg Arena. Currently trying to get schools on board. Looking for vendors/sponsors/volunteers.
- Patty Hoch-Melluish-DART containers grant-\$4,000 for stormwater catchment devices. Can be for municipalities, companies, organizations. Just implement the device and will be reimbursed by DART.
- Doug McLaughlin- Organization that provides dumpsters free of charge for community clean ups. Contact if interested.
- Brian Talsma- 5 people participating in no till/ cover crop who were new. About to start a new implementation grant through EGLE for same project (no till / cover crop) along watershed. Submitting application for feasibility study for restoring a channel along Gun River.

Other Business/Announcements

None

Meeting adjourned at 12:07 AM

Attendees: Please review attendee list

B. Stears, City of Battle Creek
D. McLaughlin, KRWG
L. Keyzer, City of Otsego
J. Hohm, EGLE
R. Nichols, AM Todd
W. Bender, AM Todd
J. Fullbright, AM Todd
E. Boekstein, EGLE
B. Talsma, Allegan Conservation District
R. Desimone, City of Kalamazoo
J. Talanda, City of Kalamazoo
M. Miller, City of Kalamazoo
M. Adkins, City of Kalamazoo
L. Keyzer, City of Otsego
P. Hoch-Melluish, City of Battle Creek
F. Knowles, City of Otsego
C. Maynard, JBS Plainwell
J. Bosserd, A.M. Todd
J. Staggs, City of Olivet
C. Hawes, Village of Springport
Kent Phillips, Village of Springport
A. Egnatuk, City of Marshall
B. Pond, City of Plainwell
Matt Basler, Georgia Pacific

M. Griffith, City of Charlotte

J. Greis, City of Allegan

Joe Abid, WSP (Georgia Pacific contractor)

Matt Hassett, Georgia Pacific

Karl Gustavson, USEPA

Louise Venne, WSP (Georgia Pacific contractor)

Andrew Olifier, West Rock

**Lake Allegan/Kalamazoo River Watershed
Phosphorus TMDL Point Source/Implementation
Committee Joint Meeting**



**April 18, 2024
10:00 AM – 12:00 PM**

LOCATION: IN-PERSON
**Marshall Public Services Building
Conference Room**
900 S. Marshall Avenue, Marshall, MI

Virtual Option

Connecting via Zoom:

<https://us06web.zoom.us/j/85265573782?pwd=NmyNEt1KL4BbExUx3QDqDxMgj8RSXt.1>
Meeting ID: 852 6557 3782
Passcode: 659229

Meeting Agenda

Call to order	Patty Hoch-Melluish
Introductions	All
Approval of Agenda	Patty Hoch-Melluish
Approval of January 18, 2024 meeting minutes	Patty Hoch-Melluish

Point Source Portion

1. EGLE Updates
2. Budget
3. Administrative Services Contract (Vote needed)
4. Technical Services Contract (Vote needed)

Janelle Hohm
Doug McLaughlin
Doug McLaughlin
Doug McLaughlin

Implementation Committee Portion

1. Gun River 319 grant project
2. Review of 2023 Kalamazoo River/Lake Allegan Report
3. TMDL activity updates from all signatories

Brian Talsma, Allegan CD
Doug McLaughlin
All

Other Business/Announcements

All

Adjourn

**Lake Allegan/Kalamazoo River Watershed
Phosphorus TMDL Point Source/Implementation
Committee Joint Meeting MINUTES**



**Thursday April 18, 2024
10:00 AM – 12:00 PM**

LOCATION: City of Marshall & Microsoft Teams Meeting

Call to order (10:05 AM)	Patty Hoch-Melluish
Introductions	All
Approval of Agenda	Patty Hoch-Melluish
Motion— Alec Egnatuk	Second— Jerry Staggs
Motion passed.	
Approval of January 18, 2024, meeting minutes	Patty Hoch-Melluish
Motion -Alec Egnatuk	Second - Jerry Staggs
Approved	
1. EGLE Updates	Doug McLaughlin
• Gun River Watershed Management Plan Revision and Implementation Projects are underway. Swan Lake Management and Inventory Project being funded by EGLE for harmful algal bloom and <i>E. coli</i> concerns. Kalamazoo River Youth Experience Project to provide paddle and educational opportunities to youth in the area.	
• Good time to start thinking about the 319 non-point source grant opportunity. Applications come out in July/August.	
2. Financial Update	Doug McLaughlin
• 2023 budget summary including signatory fees and costs of activities and services. \$1,638.06 will be carried over into 2024. Want to keep fees the same in 2024 as previous years.	
3. Administrative Service Contract and Technical Assistance Agreement	Doug McLaughlin
• Administrative Service Contract	
○ EGLE and the KRWC will help implement meetings.	
○ Members of the TMDL group will host/assist in hosting Kanoe the Kazoo and Krazy for the Kazoo events.	
▪ Close to finalizing calendar, if you need assistance with putting on an event let Doug know.	
○ Reporting support, KRWC assists in putting together technical reports to submit to EGLE.	
○ Request for \$11,200 for 2024 budget.	
○ Contract approved by signatories.	
• Technical assistance agreement for consulting company to be a subcontractor for the watershed council.	
○ Whole board gets final approval of contract.	
○ Various activities supported by this contract including:	
▪ A number of tasks for the implementation plan, assessing stormwater, continue reporting on NPS progress, support weekly river sampling at M-89 bridge.	
▪ Monitoring and updating nutrient data	
▪ Grant development	
▪ Review previous TMDL documents and give feedback on improvements.	
▪ Providing written technical summary in annual report	
○ Not to exceed \$9,000, costs will be passed by signatories.	
○ Contract approved by signatories.	

4. Education/ Outreach Resources

Brian Talsma

- Allegan Conservation District has been doing numerous implementation projects.
- For implementation grant focused on the Lake Allegan area and the Swan Creek subwatershed. Total load allocation of 9600 lbs per month April-June and 3950 lbs per month July-September
- Interested in Gun Lake branch and a few tributaries that are reaching impaired levels concerning *E. coli*. Also, fish consumption advisories due to PCBs.
- 5 CAFOs around the watershed. A lot of the area has been drained for agriculture. Typical corn and soybean production as well as other large vegetable operations. Made note of all tillage methods. Cover crop and no-till could be implemented on all fields which would greatly reduce erosion of soils and sedimentation in water bodies. Also looking at animal production including manure storage. Not seeing a lot of conservation practices being utilized which could potentially reduce farming costs and increase production for farmers.
- Used Agricultural Conservation Planning Framework modeling software to synthesize data to retrieve recommendations for best management practices and the urgency of needing management for each individual area (runoff risk). Surveyed around 29,000 acres total so implementing conservation practices on even 25% of the area would have a big impact. Recommended practices include: no-till (1 lb reduction of phosphorus per acre per year), cover crops (1/2 lb phosphorus reduction per acre per year), comprehensive or regular nutrient removal planning, ensuring nutrients aren't being carried off fields by tile lines, buffer zones, and livestock access control.
- 2018-2021 Pay for Performance Model: if a farmer came to them with a field, they wanted to implement a practice on they would provide modeling for the farmer with an estimate of how much sediment pollution would be reduced and pay out that much for implementing the program. \$150 per ton reduced. Got three participants resulting in 600-700 pounds of phosphorous loading reduced per year. 1/3 of this reduction is from implementing filter strips in only three fields.
- Need to brainstorm continuous incentive for farmers to continue implementing conservation practices.
- Reverse auction structure: if you want to implement conservation practices you tell us what you think we should pay you. Then rank bids and select highest payoff fields for implementation. \$26-30 per lb phosphorous removal and focused on no-till and cover crop.
- Cover crop and no-till implementation lead to 1800 lbs reduced phosphorus.
- Grant 2024-2026. Pay model much simpler. Paid per acre of implementation at the NRCS rate. Goal is to hit half of reduction target (80 pounds per year phosphorus reduction) and get over 1500 acres participating in conservation practices. Want to hit five-year mark with farmers using conservation practices.
- Plan on hosting four educational events about best practices and the benefits of these practices.
- Will be monitoring various catchment areas and their nutrient levels and relationships to land use in the areas. Hopefully will be able to isolate critical areas in the watershed. Newer parameter for monitoring includes optical enhancers
- Patty question: what is the biggest resistance to no-till?
 - Answer: can be cultural issue (like to see clean fields) or equipment. May have to deal with the compaction from previous management practices for a while before starting to see improvements in soil and crop production.
- Harper question: Have you found that there are some farmers that really want to try new conservation practices?
 - Answer: Yes, there was one farmer that was very involved and wanted to try all of the practices and is still partaking in some of the practices.
- Doug question: Have you an idea of the top two or three convincing arguments to get farmers to partake in these programs?
 - Answer: Doing some social surveys to see where people stand already and using that to inform people at the educational events. From the experiences had so far, the economics are the biggest influence but also long-term aspect of soil health for farming generations from now.
 -

5. 2023 Annual Report Data

Doug McLaughlin

- Table lists all the point sources and their loadings. Taking a monthly average.
- Trace Analytics phosphorus test for April 18th was 0.066 mg/L, EGLE's split sample read at 0.058 mg/L. Gave an RPD of 13%. Three out of four samples that had duplicates to compare passed the RPD limit of 20%.
- Schedule for doing the same kind of duplicate sampling and a field blank for quality control this year.
- A lot of values below the 0.072 mg/L phosphorus TMDL goal. Phosphorus levels relatively high when the flow of the river was high in the early part of the TMDL season.
- USGS gauges are used to estimate the flow at M-89 to then calculate total pounds of phosphorus.
- For five of the six months in the TMDL season the total loading was at or below the goal. Point source levels have been relatively low over the years but have had issues with total load exceedances.
- Chlorophyll *a* came in at 26.7 µg/L (under the 30 µg/L goal). Dissolved oxygen level were all better than the 5 mg/L oxygen goal for April, May, July, August and September. Goal for Secchi depth was 3ft, average was just over 3ft due to April skewing data.
- 2021 and 2023 averages met the 0.06 mg/l phosphorus goal and chlorophyll *a* goal was also met in both years.
- Fish community assessment- carp were around 4% of total fish and 40% of total fish biomass. Well below what the goal was.
- Point source goals were met this year for phosphorous and chlorophyll *a*. Secchi disk levels and dissolved oxygen levels were close to the goals. Fish community metrics may be met at this point. M-89 weekly phosphorus sampling has begun.
- Patty question: based on split sampling is EGLE willing to allow Trace Analytical's data? Also, what is Georgia Pacific working on this year?
 - Answer: no confirmation yet on the data. Georgia Pacific is continuing to remove carp.
- Jean question: do you think that the dredging of the Kalamazoo River for PCB removal is having any effect?
 - Answer: Guess is the impact of dredging sediment is minimal on phosphorous levels.

6. General Updates

All

- Kent Phillips- Working with Albion, has a lot of projects coming up. Back up at a culvert full of a hard substance. Traced to a wastewater treatment plant that uses the air stripping technology. Air strippers will create a hard substance as a result of treating hard water that will flow over the weir. Looking for insight into this issue.
 - Jean mentions that the City of Kalamazoo has drinking water stations that use similar technology for treatment. Occasionally have to treat with muriatic acid to prevent buildup of solids. Will put Kent in contact with water treatment operators.
- Doug McLaughlin- Have a lot of river clean up and float events coming up. Will have another river clean up celebration paddling from M-89 to New Richmond then proceed to the Chapel where there will be music, food, beer and wine.
- Patty Hoch-Melluish- Rain barrel sale, had 50 barrels sold. Held a tree planting event. 100 volunteers for Earth week. Bessie wrapped up the education packets for students.
- Keith Pung- New TMDL requirement for *E. coli*. A lot of the water bodies have been classified as impaired by *E. coli*. Had a source that showed up that may have come from a trailer park or some sort of sanitary overflow that had an effect on the results of the study. May redo study this year or next year to say that Western is not the one contributing to the *E. coli* issue.
- Jean Talanda- Trying to sort through new permit requirements. Little guidance on sampling and testing procedures.
- Marguerite Davenport- Blue oval is an electric battery manufacturing facility currently being built. In February of 2023 they announced that Marshall was their location they were going to build. Campus is now 2000 acres. Was determined that stormwater would be managed offsite in two stormwater basins. Land where basins are will continue to be owned by MAEDA. Plan is to have it be a special assessment district. Fees are distributed amongst contributors and fee amounts are based on volumes contributed. Second site plan so far. Looking at bioretention areas in the parking lot. Infiltrates up to a

2-year storm. Anything above a 2-year storm can result in overflow. Still in negotiations. No information on nutrient issues, currently working with consultant to determine limits. Will be a pretreatment facility.

- KRWC has been vying for more infrastructure to limit discharge into the river with limited success.
- Andrew Olfier- looking to get 2 aeration tanks installed by April 2025
- Jerry Staggs- Just finished college clean up days. FFA community service day coming up.
- Craig Maynard- Once the Kanoe the Kazoo event dates are determined will there be a flier to print off to hang up.
 - Yes
- Ryan Desimone- New disc filter tertiary process going online soon. Should reduce TSS in turn reducing bound phosphorus.
- Malissa Miller- Had a cleanup with National Honor Society Students and the Earth Coalition Group. Cleaned up around 15 yards of material. April 20th partnering up and hosting a huge clean up with over 400 volunteers. More Kanoe the Kazoo events coming up. Kalamazoo staff interested in helping City of Battle Creek with Children's Water Festival event. Our lab currently has an instrument that can measure Total Coliform, *E. coli*, and Fecal Coliform quantitatively (TECTA). Currently approved for drinking water, working on surface water. Use it as a preliminary test for operations to determine if chemical adjustments need to be made. Working with EGLE to determine if this test will be an option for surface water testing on *E. coli*.
- Jim Greis- Have been collecting M-89 river samples. Should see lab reports in the first week of May.

Other Business/Announcements

None

Meeting adjourned at 12:07 PM

Attendees: Please review attendee list

D. McLaughlin, KRWC
B. Talsma, Allegan Conservation District
R. Desimone, City of Kalamazoo
J. Talanda, City of Kalamazoo
M. Miller, City of Kalamazoo
M. Adkins, City of Kalamazoo
P. Hoch-Melluish, City of Battle Creek
C. Maynard, JBS Plainwell
K. Pung, Western Michigan University
C. Haas, Village of Springport
B. Pond, City of Plainwell
B. Talsma, Allegan Conservation District
D. Underwood, Gun Lake Area Sewer and Water Authority
J. Bossard, AM Todd
A. Egnatuk, City of Marshall
A. Richardson, City of Kalamazoo
A. Olfier, WestRock
J. Staggs, City of Olivet
M. Griffith, City of Charlotte
J. Greis, City of Allegan
K. Phillips, City of Albion
M. Davenport, City of Marshall

**Lake Allegan/Kalamazoo River Watershed
Phosphorus TMDL Point Source/Implementation
Committee Joint Meeting**



**July 18, 2024
10:00 AM – 12:00 PM**

LOCATION: IN-PERSON
**Kalamazoo Water Reclamation Plant
1415 N. Harrison St., Kalamazoo, MI**

Virtual Option
Connecting via MS Teams:
[**Join the meeting now**](#)
Meeting ID: 293 930 561 217
Passcode: sz56bJ

Meeting Agenda

Call to order	Bessie Ploeg for Patty Hoch-Melluish
Introductions	All
Approval of Agenda	Bessie Ploeg for Patty Hoch-Melluish
Approval of April 18, 2024 meeting minutes	Bessie Ploeg for Patty Hoch-Melluish
Point Source Portion	
1. EGLE Updates 2. Financial Report 3. M-89 Sampling/Analysis Update	Janelle Hohm Doug McLaughlin Doug McLaughlin
Implementation Committee Portion	
1. Land Protection Efforts in the Upper Kalamazoo 2. Kanoe the Kazoo 2024 3. KRWC Michigan Environmental Justice Impact grant proposal 4. TMDL activity updates from all signatories	Jared Harmon, Mid-Michigan Land Conservancy Doug McLaughlin Doug McLaughlin All
Other Business/Announcements	All
Adjourn	

**Lake Allegan/Kalamazoo River Watershed
Phosphorus TMDL Point Source/Implementation
Committee Joint Meeting MINUTES**



**Thursday July 18, 2024
10:00 AM – 12:00 PM**

LOCATION: City of Kalamazoo & Microsoft Teams Meeting

Meeting Agenda

Call to order (09:56 AM) Bessie Stears

Introductions All

Approval of Agenda Bessie Stears
Motion - Susie Drust Second - Ryan Desimone Motion passed.
Approval of April 18, 2024, meeting minutes Bessie Stears
Motion - Kent Phillips Second - Bessie Stears Approved

1. EGLE Updates Janelle Holm
 - Working with Brian and Nathan from Allegan Conservation District on wrapping up watershed management plan and have an implementation grant that is starting for agricultural practices. Also working on Swan Lake project figuring out where all of the nutrients are coming from that are causing blue-green algae blooms. The Gun River project is funded by the 319 grant from the EPA, Swan Lake project is funded by Watershed Council Support Grant,
 - Received word on who received 319 grant funding this year. Augusta Creek Headwaters Conservation Project has been awarded funding and were let know. There will be a press release.
 - Data collection has begun on the Swan Lake project. Working on isolation sources and problems areas.
2. Financial Update Doug McLaughlin
 - Rolled over \$1638 from 2023. Issued invoices to all signatories and starting to receive checks back.
3. M-89 Sampling Doug McLaughlin
 - Weekly sampling being carried out by the Allegan Wastewater facility and includes a QA/QC program. Samples are being sent to Trace Analytical. Had one sample that was substantially higher than any other samples we have seen, closer to 1.5 mg/L versus the typical 0.5-1.0 mg/L.
 - Jim Greis: sampling has been going well, Trace just picked up the samples from the last 4 weeks.
4. Mid-Michigan Land Conservancy Jared Harmon
 - Cover seven counties in Mid-Michigan. Primary work is protecting private land conservation easements. 2078 acres of land currently under protection on private property, around 524 acres of land are open to the public. Educating public about the importance of forests to watersheds and drinking water.
 - Hoping to close on an easement for 80 acres in the south branch of the Kalamazoo River that contains high quality habitat. Conservation easements transfer development rights to an outside entity to continue to protect the land even after those landowners are gone.
 - Want to focus on protecting land in Hillsdale, Jackson and Eaton Counties and make sure landowners are using responsible conservation practices and make sure they have the funds to do so.
 - Have rotated out different breeds and species of cattle based on the resource demand of the animals and availability of those resources on the land. Have a forest management plan and are removing invasive species, namely buckthorn. Using cattle and goats to knock down brush and invasives. Want ground cover to remain around three inches to prevent parasites, weed growth, and erosion from bare soil.

- Really want to get the invasives out because they prevent ground cover from growing so when it rains all of the water run right off into the river instead of soaking into the ground. Buckthorn also has higher nitrogen content than most natives.
- Only 2% of seeds make it to a goats stomach and of those only 10-11% of the seeds are viable reducing transfer of seeds from place to place.
- MAEAP verified in agriculture and habitat. Want to assure people who donate their land that they are being protected and managed not just sitting there unused and allowing invasives to take over.
- Doug question: How can we share your point of view from multiple perspectives to others and get them to see the broader goal?
 - Answer: Talking to people more. At the Land Conservancy we try to pull everything together and we are trying to do more outreach and need more partnerships to get this information out there.

5. Kanoe the Kazoo

Doug McLaughlin

- Six Kanoe the Kazoo events that were scheduled for this season
 - First was in the headwater in the south branch. Had around 25 people.
 - Second was July 13th in the City of Battle Creek. Had to do some maintenance to widen stretch before paddlers went out. Water level rose a lot after storms. Had to cancel event. Had received around \$3,000 in grant money to involve a clean up in this event so plan to reschedule after water goes back down. Originally had around 80 people signed up for this event, hope to have 40 sign up for the next.
 - Next scheduled paddle is August 3rd. Planning on doing Comstock Merrill Park to Mayor's Riverfront Park. Not marketed as a cleanup but always provide supplies if someone does want to.
 - August 17th second annual Kanoe the Kazoo anniversary event. Around 100 people attended last year so putting on the event again.
 - July 27th paddle and ride with the Kalamazoo Nature Center.
 - September 14th another paddle with the City of Kalamazoo.
- Efforts to put a grant proposal together in response to EGLE's Michigan Environmental Justice Impact Grant request for proposals. Submitted July 15th. Working with three groups with three different sessions for each group. One indoor learning session and two different outdoor learning sessions (paddles). The City of Kalamazoo, Kalamazoo River Watershed Council, and kayak vendors are involved. The grant would expand the program to include Otsego, Plainwell, Allegan, Battle Creek, Albion, and Marshall areas. Asked for maximum funding of \$500,000. Decisions should be made September sometime.
 - Question: would there ever be an option to charge for the Kanoe the Kazoo events? Volunteers tend to be repeats that care a lot about the community so they might be willing to contribute.
 - Sending out a questionnaire would probably be the best option before just switching over.
 - Could ask for sponsors for underserved populations also
 - Verburg Park has kayak rentals. KRWC is working with the city to provide more information to the community.

6. General Updates

All

- Ryan Desimone- May we had a total phosphorous loading of 34 lbs a day on average, June 37lbs a day and so far in July we are averaging about 47 lbs a day.
- Susie Drust- In May the City of Kalamazoo held public services week. On May 22nd we had our wastewater evening and around 40 people from the community came out to take a tour and learn about treating wastewater and what we test for.
- Danielle Zoellner-Have some new people on the team helping to advertise the conservation stewardship program through the USDA. Big part of this is talking to land owners about conservation practices in their forests. Working to put together a small forest health outreach event with the idea of getting people enrolled in the program. Dates should be released soon.
- Brian Talsma (Allegan Conservation District) - Planning a carp derby for next year. Just a fun way to get some carp out of the watershed.

- Doug question: Any ideas of getting some support or sponsorship from Georgia Pacific who is also working on carp removal to continue to get the community involved?
 - This had come up in the meeting and plan to reach out.
- Bessie Stears- have been visiting the farmer's market. Krazy for the Kazoo coming up in October. Wrapping up; the photo contest, need more submissions from youth so please encourage them to submit photos.

Other Business/Announcements

Doug McLaughlin- If you have any information of any of your communities river fests, send an email with the information on the event. Would like to collect what's going on in these individual events as a way to elevate how each community is bringing people in to these events.

Meeting adjourned at 11:25 PM

Attendees: Please review attendee list

D. McLaughlin, KRW
R. Desimone, City of Kalamazoo
M. Miller, City of Kalamazoo
M. Adkins, City of Kalamazoo
C. Freeman, City of Kalamazoo
S. Drust, City of Kalamazoo
C. Haas, Village of Springport
B. Talsma, Allegan Conservation District
J. Bossard, AM Todd
A. Richardson, City of Kalamazoo
J. Greis, City of Allegan
B. Stears, City of Battle Creek
J. Holm, EGLE
B. Wheeler, City of Otsego
Danielle Zoellner, Kalamazoo Conservation District
J. Harmon, Michigan Land Conservancy
A. Pearson, Westrock
D. Granger, Brookfield Township
J. Havican, Village of Parma
D. Underwood

Lake Allegan/Kalamazoo River Watershed Phosphorus TMDL Point Source/Implementation Committee Joint Meeting



October 17, 2024
10:00 AM – 12:00 PM

LOCATION: IN-PERSON
Battle Creek Dept. of Public Works
150 S. Kendall St., Battle Creek, MI

Virtual Option

Meeting Agenda

Call to order	Patty Hoch-Melluish
Introductions	All
Approval of Agenda	Patty Hoch-Melluish
Approval of July 18, 2024 meeting minutes	Patty Hoch-Melluish
Point Source Portion	
1. EGLE Updates	Janelle Hohm
2. Financial Report	Doug McLaughlin
3. M-89 Sampling/Analysis Update	Doug McLaughlin
Implementation Committee Portion	
1. Kalamazoo River Youth Experience Project Update	Bela Ballez, KRWC
2. Kanoe the Kazoo 2024	McLaughlin/Others
3. TMDL activity updates from all signatories	All
Other Business/Announcements	All
Adjourn	

Zoom Information:

City of BC CMO is inviting you to a scheduled Zoom meeting.

Topic: TMDL Group - 10/17/2024

Time: Oct 17, 2024 09:45 AM Eastern Time (US and Canada)

Join Zoom Meeting

<https://us06web.zoom.us/j/81299085938?pwd=U88g2VfcTq3DSujJb3CKMQLkZBIBaI.1>

Meeting ID: 812 9908 5938

Passcode: 726011

One tap mobile

+16465588656,,81299085938# US (New York)

+16469313860,,81299085938# US

Dial by your location

- +1 646 558 8656 US (New York)
- +1 646 931 3860 US
- +1 301 715 8592 US (Washington DC)
- +1 305 224 1968 US
- +1 309 205 3325 US
- +1 312 626 6799 US (Chicago)
- +1 669 444 9171 US
- +1 689 278 1000 US
- +1 719 359 4580 US
- +1 720 707 2699 US (Denver)
- +1 253 205 0468 US
- +1 253 215 8782 US (Tacoma)
- +1 346 248 7799 US (Houston)
- +1 360 209 5623 US
- +1 386 347 5053 US
- +1 507 473 4847 US
- +1 564 217 2000 US

Meeting ID: 812 9908 5938

Find your local number: <https://us06web.zoom.us/u/kVFF5Pblu>

**Lake Allegan/Kalamazoo River Watershed
Phosphorus TMDL Point Source/Implementation
Committee Joint Meeting MINUTES**



**Thursday October 17, 2024
10:00 AM – 12:00 PM**

LOCATION: City of Battle Creek & Zoom Meeting

Meeting Agenda

Call to order (10:05 AM)	Patty Hoch-Melluish
Introductions	All
Approval of Agenda	Patty Hoch-Melluish
Motion - A. Egnatuk Second – B. Ploeg	Motion passed
Approval of July 18, 2024, meeting minutes	Patty Hoch-Melluish
Motion - B. Ploeg Second - A. Egnatuk	Motion passed
1. EGLE Updates	Janelle Holm
• Update on EGLE Nonpoint Source Pollution grants. Watershed Management Plan updates approved for the Gun River.	
• Augusta Creek conservation easements funded.	
• Swan Lake work in Allegan Co.	
• Grand Valley State University funding to research optical brighteners to detect <i>E. coli</i> .	
• RFP for EGLE Watershed Implementation grants will be released January 7, 2025.	
• EGLE Classroom has lending library for models and other outreach tools for educators/events. Visit: Michigan.gov/EGLEClassroom for more information.	
2. Financial Update	Doug McLaughlin
• Rolled over \$1,638.06 for 2024. Projected carry over for 2025 is \$237.44. Seven signatories have not paid dues for 2024. KRWC has sent notices for overdue payment.	
3. M-89 Sampling	Doug McLaughlin
• Weekly sampling being carried out by the Allegan Wastewater facility and includes a QA/QC program.	
• May 6, 2024 sampling had outlier high sample of TP of 1.4 mg/L and retested w/1/3 mg/L results. Investigation into the cause is continuing.	
4. Kalamazoo River Youth Experience Project	Bella Ballez, KRWC
• Bella and Doug presented on the 2024 project. They received an EGLE grant for the work and were able to host several events for Kalamazoo youth that had not had the opportunity to experience water recreation. Successful year and the KRWC hopes to expand this program into other parts of the watershed.	
• They are partnering w/KYD Network, an organization with experience in youth programming.	
5. Kanoe the Kazoo	Doug McLaughlin/Others
• A recap of the Kanoe the Kazoo season	
• B. Ploeg (Battle Creek) presented the paddle/cleanup event in Battle Creek	
• Marshall/Olivet/Charlotte event	
• Kalamazoo hosted several paddle/cleanup events	
• One remaining paddle on Oct. 27 from Ft. Custer to Galesburg	

6. General Updates All

- Jean Talanda (City of Kalamazoo) – City of Kalamazoo continues work with their MS4 group and outreach provided on ProtectYourWater.net.
- Alec Egnatuk (City of Marshall) – The Major Campus work continues. Bear Creek Farm, a property adjoining the Major Campus, is located on Bear Creek, a tributary to the Kalamazoo River. Plans are in the works for how to incorporate the property into a publicly accessible site.
- Craig Maynard (JBS Plainwell) – they are continuing providing educational materials regarding NPS pollution to their employees.
- Ryan Desimone (City of Kalamazoo) – WWTP kept effluent to ≤ 47 lbs/day during TMDL season. Microplastics permitting may be issued in the future. They continue to work w/Graphic Packaging on process changes.
- Malissa Miller (City of Kalamazoo) – Summary of their 2024 events. They are providing totes w/supplies for volunteers hosting cleanup events.

Meeting adjourned at 11:45 PM

Attendees: Please review attendee list

D. McLaughlin, KRWG
R. Desimone, City of Kalamazoo
M. Miller, City of Kalamazoo
M. Adkins, City of Kalamazoo
R. Olson, City of Kalamazoo
B. Talsma, Allegan Conservation District
J. Bossard, AM Todd
J. Greis, City of Allegan
B. Ploeg, City of Battle Creek
J. Holm, EGLE
Patty Hoch-Melluish, City of Battle Creek
D. Granger, Brookfield Township
N. Bender, AM Todd
A. Egnatuk, City of Marshall
L. Knowles, Gun Lake Sewer
C. Maynard, JBS Plainwell
J. Staggs, City of Olivet
J. Talanda, City of Kalamazoo
Bela Ballez, Kalamazoo River Watershed Council
Ryan Reinke, Calhoun Conservation District
G. Rantz, Otsego Paper
C. Abel, AM Todd

ATTACHMENT 3

LAKE ALLEGAN/KALAMAZOO RIVER TOTAL MAXIMUM DAILY LOAD TECHNICAL REPORT FOR 2024

Provided by WaterWays|SEM, L3C

Lake Allegan/Kalamazoo River Total Maximum Daily Load Technical Report for 2024

Douglas McLaughlin, Ph.D.

March 1, 2025

I. Introduction

This report presents point source (PS) and nonpoint source (NPS) total phosphorus (TP) load estimates for the calendar year 2024 that are required for the annual report to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) by the signatories of the 2021 Lake Allegan/Kalamazoo River Total Maximum Daily Load (TMDL) Cooperative Agreement (CA). In addition, the procedures used to obtain and process the PS data are described. As was the case in the previous two years, an EGLE internal reporting tool was used to compile the relevant data from discharge monitoring reports (DMRs) submitted electronically by each signatory. The resulting data files, in MS Excel® format, were provided to WaterWays SEM, L3C (WaterWays) who carried out the final processing steps needed to calculate and summarize monthly TP loads for each signatory. This approach represents the most time-efficient means to date of generating the PS data required by the CA. As in previous years, PS, NPS, and total river TP load data are presented and compared with historical values.

EGLE did not collect Lake Allegan sampling data in 2024, so no update on Lake Allegan conditions regarding concentrations of total phosphorus, chlorophyll a, dissolved oxygen, and Secchi depth is included in this report. EGLE sampling is anticipated to occur in 2025.

II. PS Total Phosphorus Load Calculation Procedures

Data required to calculate monthly PS phosphorus loads from January 2024 through December 2024 were provided by EGLE staff to WaterWays in January 2025. These data are submitted by TMDL signatories to EGLE as part of monthly Discharge Monitoring Reports (DMRs). A PS TP load summary for all 12 months of 2024 was generated and is provided here for inclusion in the TMDL Annual Report for 2024.

TMDL signatories include both intermittent and continuous dischargers with somewhat different sampling frequencies and reporting requirements. To help capture all relevant DMR data, EGLE staff provided a report of daily and monthly data for all TMDL signatories in a single Excel workbook file. The use of these data to calculate monthly PS TP loads for all TMDL signatories is further described below.

Monthly Data

Most continuous dischargers are required to report a “maximum daily average” TP load in units of lbs/day for each month. These values, one per month, are provided in the data worksheet “DMR Monthly” of the data workbook provided by EGLE. To obtain monthly TP load estimates, these values were multiplied by the number of calendar days in the corresponding month. Procedures applied to the data worksheet included the following steps:

1. Filter for “Total Phosphorus (as P)” and “Total Phosphorus”
2. Filter for “lbs/day”
3. Copy and paste the filtered data into another worksheet
4. Add month, days/month, and lbs/month P calculator columns using Excel formulas
5. Place the resulting lbs/month values for each facility into the annual PS TP load summary table

Daily Data

The daily data were used primarily to calculate monthly TP loads for wastewater storage lagoon systems (WWSL) that have intermittent discharges. Because TP is not typically measured on every day of flow discharge, the average of all available daily TP concentrations was used along with the total discharge volume for each month to calculate monthly TP loads using the following formula:

$$\text{Monthly P Load (lbs/mo)} = \text{Total Flow (MG/month)} * \text{Avg TP Conc (mg/L)} * 8.34$$

where 8.34 is a conversion factor.

Specific procedures applied to the data worksheet included:

1. Filter the “Daily” spreadsheet provided by EGLE to create a new spreadsheet with only WWSL facilities.
2. To improve pivot table formatting, use Excel formulas to create a column with the name of the month, extracted from the sample date column
3. Create a pivot table placing site name and month into the “Rows” box, parameter into the Columns box, and dragging “Results” into the “Values” box three times to create Count of Result, Sum of Result, Average of Result
4. Copy and paste the resulting pivot table into a new worksheet, and use the above formula to calculate the monthly TP load (lbs/mo) from the pivot table sum of flow and average TP concentration
5. Place the resulting lbs/month values for each facility into the annual PS TP load summary table

Unique Cases in 2024

For the Otsego Paper WWTP, which is a continuous discharger reporting daily flows and several phosphorus concentrations each week, the daily data report and calculation procedures were used to derive TP loads.

For the Allegan WTP, the monthly data report from EGLE already included monthly TP loads, so no additional calculations were necessary.

III. PS Total Phosphorus Load Results for 2024

PS TP loadings presented in Table 1 show that the PS monthly loading goals were met in all six months of the 2024 TMDL season, April through September. From April through June when the TMDL goal is 8,700 lbs/month, the total PS load was no higher than 36% of the goal (3,161 lbs in May). From July through September, the PS load did not exceed 63% of the 6,700 lbs/month goal for this period (4,228 lbs in September). The total TP load for the year is 38,174 lbs, which is similar to the load of 39,051 lbs, observed in 2023. Of the total TP load observed in 2024, 19,415 lbs occurred during the TMDL season, or roughly 51% of the total for the year. This indicates that the PS TP load distribution throughout the year was relatively even in 2024 as in 2023.

Table 2 shows that of the 23 years of reported annual PS TP loads, 2024 replaced 2023 as the third lowest behind 2022 and 2011). Figures 1a and 1b show that PS loads have consistently met TMDL goals since 2001, and that trend continued in 2024.

Table 1. Kalamazoo River/Lake Allegan TMDL Point Source Phosphorus Load Summary for 2024.

	January	February	March	April	May	June	July	August	September	October	November	December	Annual Total
ALBION WWTP	78	81	99	81	102	414	173.6	83.7	195	229	192	140	1,868
ALLEGAN WTP	11	11	16	16	31	43	43	43	43	32	18	13	319
ALLEGAN WWRF	183	45	40	60	43	130	117	73	76	43	23	23	856
BATTLE CREEK WWTP	620	616	558	570	806	420	589	1054	720	744	420	403	7,520
BROOKFIELD TWP-NARROW LK WWSL										16		19	35
CHARLOTTE WWTP	165	144	136	109	152	121	169	154	151	142	149	117	1,708
CLARENCE TWP-DUCK LK WWSL			110								413		523
CONCORD WWSL				133						156	54		343
GUN LAKE WWTP	12	8	9	9	12	18	19	19	21	25	24	28	204
HOMER WWSL				34						25	26		85
JBS PLAINWELL, INC.	233	209	212	217	220	235	248	216	232	223	243	206	2,693
KALAMAZOO WATER RECLAMATION PLANT	1364	1036	1054	1080	1054	1110	1736	1023	2580	1550	1500	961	16,048
MARSHALL WWTP	65	62	56	72	84	81	155	161	72	65	54	102	1,029
OLIVET WWSL			380	121	230						204		935
OTSEGO PAPER INC	197	174	212	214	105	107	96	40	61	456	140	165	1,967
OTSEGO WWTP	19	20	25	27	34	21	22	22	18	22	27	22	277
PARMA WWSL			198	14	59					170	85	7	533
PLAINWELL WWTP	40	36	37	63	59	66	78	47	48	28	15	3	519
WESTROCK/ROCK-TENN CO	0	0	0	0	0	0	0	0	0	0	0	0	0
SPRINGPORT WWSL			161								207		368
ADM/AM TODD	21	13	16	14	169	30	10	10	11	15	15	20	344
Monthly Total	3,008	2,456	3,319	2,833	3,161	2,796	3,455	2,944	4,228	3,940	3,810	2,227	38,174
Monthly Goal				8,700	8,700	8,700	6,700	6,700	6,700				

Table 2. Point Source Total Phosphorus Loads By Month and Year, 2001-2024 (lbs/month).

Month	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Jan	5,538	6,666	3,878	4,189	3,453	3,812	4,574	5,371	3,560	2,931	2,745	3,372	2,758	3,169	3,102	4,019	4,054	3,140	4,638	2,917	2,745	2,867	3,008	
Feb	4,179	7,114	3,497	3,832	2,733	3,108	5,311	4,702	4,044	3,142	2,693	2,488	2,555	2,615	3,164	3,092	8,784	3,579	2,690	3,008	2,423	2,441	2,456	
Mar	4,029	7,578	3,932	4,191	3,138	4,041	3,726	6,250	3,384	3,615	3,657	2,709	3,120	3,081	3,190	3,831	4,770	5,057	5,504	6,355	3,731	2,871	3,319	
Apr	4,609	4,146	6,369	4,852	4,521	4,544	3,964	5,796	5,510	4,030	3,747	4,128	2,859	3,457	3,483	4,364	4,209	3,927	4,419	4,359	5,855	4,513	4,056	2,833
May	5,768	4,776	6,086	6,053	5,238	4,382	4,695	3,260	3,071	3,452	3,059	4,482	2,629	3,826	3,922	4,637	4,249	5,173	4,065	3,882	4,340	3,360	3,083	3,161
June	4,757	4,508	5,791	5,088	4,983	4,971	7,974	4,429	4,561	4,883	2,558	5,377	3,443	5,766	4,064	3,794	4,253	3,040	4,824	3,250	4,614	2,959	2,929	2,796
July	8,021	4,681	5,560	5,541	5,363	5,575	5,773	4,636	4,177	4,132	2,503	3,348	4,739	4,829	5,087	4,533	4,112	4,464	5,898	4,143	4,778	3,779	3,665	3,455
Aug	5,554	6,033	5,291	4,502	5,454	5,522	4,282	6,221	4,002	3,960	2,831	3,521	3,468	3,831	4,279	5,567	4,876	2,971	3,131	4,181	3,198	3,846	3,406	2,944
Sept	6,393	5,677	5,575	4,356	7,274	3,609	3,418	6,758	3,893	3,029	3,043	3,334	3,688	5,026	3,316	4,495	2,973	2,755	2,998	4,073	4,761	3,229	3,785	4,228
Oct	5,128	6,859	6,147	4,680	7,893	4,594	6,133	7,172	7,346	5,190	5,121	3,586	6,958	5,245	3,388	6,706	3,868	4,341	5,500	4,958	8,907	2,744	3,196	3,940
Nov	5,562	7,703	6,420	4,754	7,582	4,774	5,948	5,758	6,448	4,410	2,407	2,446	3,584	3,046	3,195	4,449	3,820	2,697	3,406	4,213	6,594	2,573	3,440	3,810
Dec	5,889	8,873	6,806	4,855	6,494	4,809	5,594	4,833	6,106	2,914	2,498	3,227	3,609	3,094	3,608	3,068	3,668	3,557	3,199	1,771	5,236	3,002	3,310	2,227
Total	67,002	75,403	55,988	67,014	52,104	58,742	62,474	61,437	46,988	37,455	42,544	43,546	46,553	43,207	51,069	46,970	50,533	49,216	47,662	60,564	38,904	39,051	38,174	

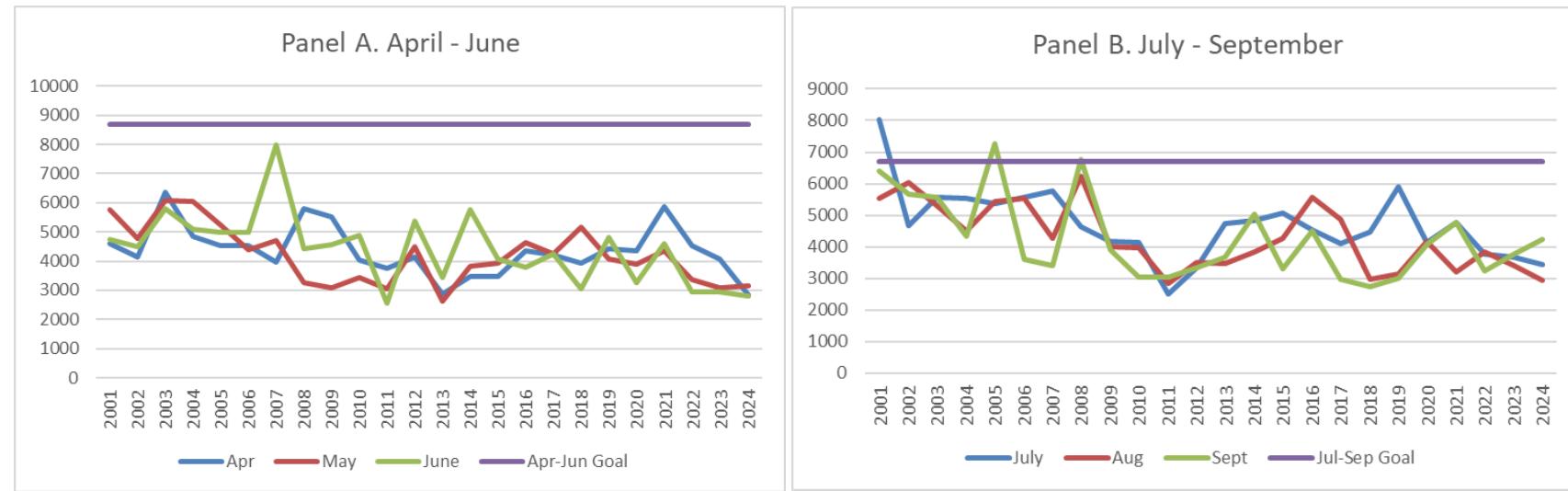


Figure 1. Total 2024 Point Source TP Loads (in lbs/month) Compared to TMDL Seasonal Goals (Panel A: April – June when goal is 8,700 lbs/month; Panel B: July – September when goal is 6,700 lbs/month).

IV. Total River TP Monthly Loading During the 2024 TMDL Season

Allegan WWTP personnel have conducted sampling, often two or three times per month at the M-89 bridge for many years to support Kalamazoo River total and NPS TP load estimation for the TMDL program. In 2024, grab samples at the M-89 bridge were collected by Allegan WWTP staff for analysis by Trace Analytical Laboratories, Inc. using the USEPA-approved method SM 4500-P E-11. A sampling and analysis plan was provided to EGLE in a letter to Mr. Ryan Baldwin dated May 29, 2024. Weekly samples are used to estimate an average TP concentration for the month, which is then multiplied by the average river flow for that month and a conversion factor to estimate the total monthly TP load entering Lake Allegan for each month of the TMDL season. Collecting weekly samples provides a more precise estimate of the monthly TP load than would be obtained using samples collected monthly. The data from 2024 are shown in Table 3 below.

Table 3. Total Phosphorus Concentrations Measured Upstream of Lake Allegan at M-89 (Grab Samples) in 2024.

Date	TP Concentration (mg/L) (Trace Labs)	Note	Field Replicate RPD (%)	Monthly Average TP Concentration (mg/L) For Load Calculation (see note for May value)
4-Apr	0.036	Data pkg 24D1910	13	0.022
11-Apr	0.01	Data pkg 24D1910		
17-Apr	0.026	Data pkg 24D1910		
25-Apr	0.014	Data pkg 24D1910		
25-Apr	0.016	Data pkg 24D1910, Field Replicate		
25-Apr	0.01	Data pkg 24D1910, Field blank, <0.010		
2-May	0.052	Data pkg 24E1517	5	0.054
6-May	1.4	Data pkg 24E1517		
6-May	1.3	Data pkg 24E1517, reanalysis of May 6		
15-May	0.054	Data pkg 24E1517		
22-May	0.058	Data pkg 24E1517		
28-May	0.048	Data pkg 24F0878		
6-Jun	0.04	Data pkg 24F0878	9	0.062
12-Jun	0.036	Data pkg 24F0878		
20-Jun	0.08	Data pkg 24F0878		
20-Jun	0.076	Data pkg 24F0878, Field replicate		
20-Jun	0.01	Data pkg 24F0878, Field blank, <0.010		
26-Jun	0.092	Data pkg 24G0891, hold time exceedance noted		
3-Jul	0.084	Data pkg 24G0891	9	0.069
9-Jul	0.056	Data pkg 24G0891		
18-Jul	0.074	Data pkg 24G0891		
25-Jul	0.06	Data pkg 24H0852		
1-Aug	0.048	Data pkg 24H0852	9	0.046
8-Aug	0.066	Data pkg 24H0852		
14-Aug	0.046	Data pkg 24H0852		
14-Aug	0.042	Data pkg 24H0852, Field replicate		
14-Aug	0.01	Data pkg 24H0852, Field blank, <0.010		
21-Aug	0.042	Data pkg 24I0600		
28-Aug	0.026	Data pkg 24I0600	0.023	0.023
5-Sep	0.034	Data pkg 24I0600		
11-Sep	0.022	Data pkg 24I0600		
16-Sep	0.024	Data pkg 24J0113		
24-Sep	0.01	Data pkg 24J0113, sample result <0.01		

Notes: field replicates and field blanks were excluded from the calculation of average TP concentration; for May, the median of all values was used to minimize the impact of the May 6 statistical outlier; the average for September

assumes that the concentration in the 9/24 sample is equal to the reporting limit; all QA/QC results were determined to be within project guidelines with the exception of a hold time exceedance noted for the sample collected on 6/26.

The sampling plan stated that 26 grab samples (1 per week) would be collected, as well as six additional samples including three field replicate samples and three field blanks (32 total samples). All planned samples were collected and analyzed. In addition, all QA/QC results were determined to be within project guidelines, including 20% relative percent difference (RPD) for field replicates. In addition, internal quality control analyses carried out by Trace show that laboratory method blanks were consistently nondetect, and laboratory control spiked samples were consistently within quality control limits. A hold time exceedance was noted on the laboratory QA/QC report for the sample collected on 6/26.

A TP result of 1.4 mg/L for the sample collected on May 6, a concentration that is roughly 24 times higher than the next highest value observed on May 22 of 0.058 mg/L and roughly 14 times higher than the next highest concentration observed in all samples (0.092 on June 26), appears to be a statistical outlier. The high measured concentration was confirmed in a retest of the same sample in which the TP concentration was determined to be 1.3 mg/L. A check of laboratory QA/QC results did not indicate any reason to exclude the result from the data set. The high observed value could result from the inadvertent capture of an unrepresentatively large amount of particulate organic material in the sample when it was collected. Including this value in the calculation of the average TP concentration in May results in an average of 0.32 mg/L which is roughly 6 times higher than the average calculated excluding this outlier, or 0.053 mg/L. The median value calculated without excluding the outlier is 0.056 mg/L, showing that the outlier has a very large impact on the calculated average. To avoid presenting TP load data that are high-biased due to this unusual but unexplained outlier, the median value of all May sample results was used to estimate the Kalamazoo River total TP load for May.

As in previous years, daily average flow data (in cubic feet per sec, cfs) were obtained for the USGS flow gage at Comstock, Michigan. To estimate river flow at M-89 where there is no USGS flow gage, monthly flow accrual factors first used in 2014 were added to the daily average flow at Comstock. The monthly accrual factors, in units of cfs, are:

- April: 609.1
- May: 487.3
- June: 450.1
- July: 372.2
- August: 328.2
- September: 368.9

To estimate river TP loads entering Lake Allegan for each month of the TMDL season, the monthly average TP concentrations shown in Table 3 were used with daily flow data to estimate a daily TP load. The total monthly TP load is then derived as the sum of all daily load estimates for a given month. This approach is consistent with that used in past years. An equivalent monthly load estimate could be obtained by multiplying the monthly average TP concentration by the total flow for the month. Consistent weekly sampling provides a more reliable estimate of the monthly average river TP concentration and

therefore monthly TP load as compared with one or two samples per month at a manageable level of effort and cost.

Weekly TP concentration data are plotted in Figure 2. Note that the high outlier of 1.4 mg/L observed on May 6 has been excluded from this graph (see previous text for additional explanation). Excluding the May 6 outlier, concentrations ranged from a low of <0.01 mg/L on September 24 to a high of 0.092 mg/L on June 26. Four of the 25 weekly samples (excluding the outlier) exceeded the 0.072 mg/L goal in 2024, and the seasonal average concentration of 0.046 mg/L, calculated with the May 6 outlier excluded) was well below the goal of 0.072 mg/L (the seasonal median is 0.047 mg/L including the outlier).

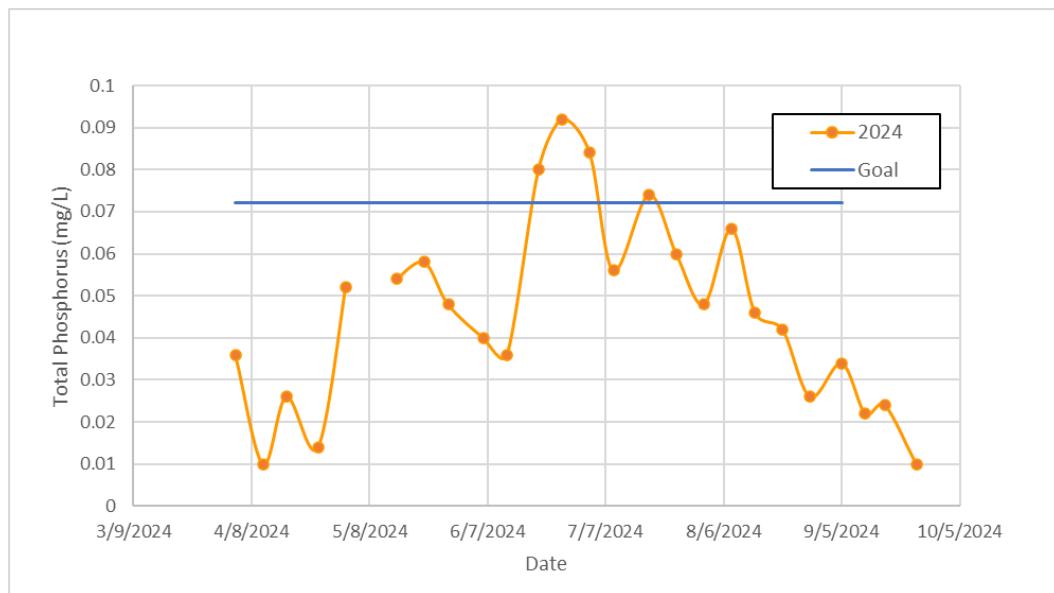


Figure 2. Total Phosphorus Concentration in Weekly Samples Collected at the M-89 Bridge in 2024. The TMDL goal for this location is 0.072 mg/L. Note: the high outlier of 1.4 mg/L observed on May 6 has been excluded from the graph (see text for further explanation).

River flow in 2023 and 2024 are shown in Figure 3. During the TMDL season, the highest flows in 2023 occurred during the first half of April. In contrast, the highest flows in 2024 occurred from late June to early August, with the peak flow occurring around mid-July. Review of daily precipitation data indicated that the higher flows were associated with higher precipitation during the mid-summer timeframe.

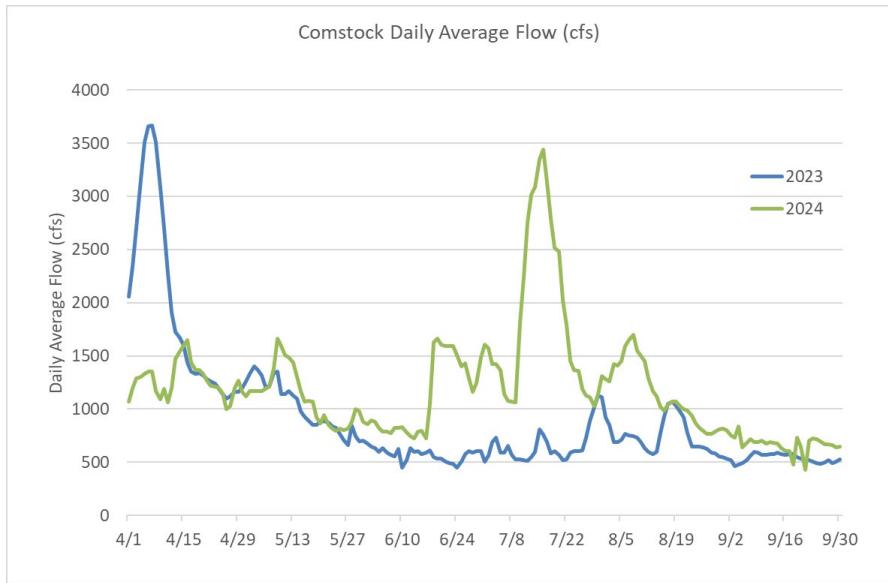


Figure 3. Daily Average River Flow Measured at USGS Comstock Gaging Station in 2023 and 2024.

Kalamazoo River TP concentrations and flow estimates at the M-89 sampling location for 2023 and 2024 are summarized in Table 3. The estimated total TP load for the 2024 TMDL season is 77,315 lbs., which is very similar to the 2023 estimate.

Table 3. Average Total Phosphorus Concentration, Daily Flow, and Total Phosphorus Loads at the M-89 Bridge by Month for 2024 and 2023 (for comparison).

	2024			2023		
	Average TP Conc (mg/L)	Average Daily Flow (cfs)*	TP Load (lbs/mo.)	Average TP Conc (mg/L)	Average Daily Flow (cfs)*	TP Load (lbs/mo.)
April	0.022	1,878	6,535	0.081	2,550	33,419
May	0.054**	1,595	14,401	0.041	1,500	10,285
June	0.062	1,553	15,581	0.038	1,022	6,325
July	0.069	2,220	25,608	0.046	1,033	7,968
August	0.046	1,471	11,311	0.060	1,069	10,726
September	0.023	1,042	3,878	0.049	905	7,239
Summary	0.046 (Avg)	1,626 (Avg)	77,315 (Total)	0.053 (Avg)	1,347 (Avg)	75,963 (Total)

* Estimated flow at M-89 bridge in Allegan based on daily data from Comstock gage with monthly flow accrual factors. **Calculated as the median of all May values – see previous text for explanation.

In contrast to 2023 when nearly 44,000 lbs. of TP was delivered to Lake Allegan in April and May, the highest 2024 monthly TP load was delivered in June and July (a total of over 41,000 lbs).

V. Nonpoint Source TP Monthly Loading During the 2024 TMDL Season

As in previous years, nonpoint source TP loading for each month of the TMDL season is defined as the difference between river TP loading measured at the M-89 bridge and PS monthly load estimates. Results for 2024 in comparison to TMDL goals are shown in Figure 4. The total TP load goal for the river at M-89 is 18,400 lbs/month for April - June and 10,700 lbs/month for July - September. As described previously, the PS load goal is 8,700 lbs/month for April - June and 6,700 lbs/month for July – September. The PS goals were met by a large margin in all months, while the seasonal total TP load goal was met or nearly met in all months except for July. Results for September were unusual in that the PS TP load (4,228 lbs/month) exceeded the calculated total river TP load (3,878 lbs/month). This resulted in a negative NPS load estimate reflecting low river flow and TP concentrations that month.

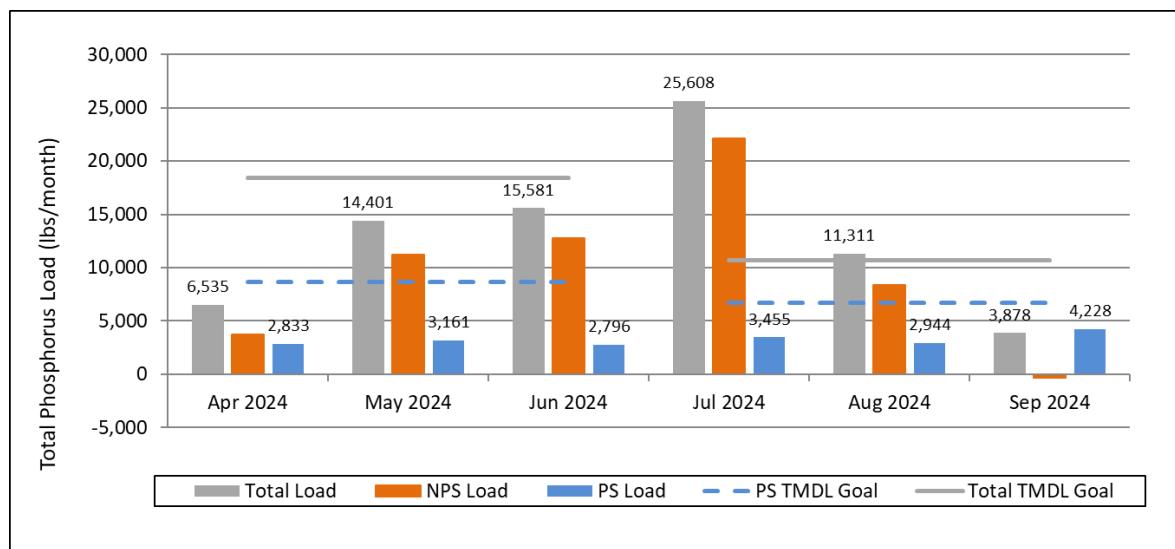


Figure 4. Total, Nonpoint Source, and Point Source Total Phosphorus Load at M-89 Bridge In 2024 By Month Compared to TMDL Goals. The total TP load goal for the river at M-89 is 18,400 lbs/month for April - June and 10,700 lbs/month for July - September. Note that due to the high outlier TP concentration result from May 6, the median of all May values was used to estimate May total and NPS loads – see previous text for additional explanation.

Figures 5 and 6 can be used to compare 2024 TP loads to previous years for both spring and summer TMDL seasons, respectively. Figure 5 shows that 2024 is the first year that all three months of the spring TMDL season met the total river TP load goal of 18,400 lbs/month. This assumes that the May 6 TP concentration result outlier is not representative of the river TP concentration for reasons described previously. Figure 6 shows that the high TP concentrations, river flows, and TP loads observed in July 2024 resulted in a substantial exceedance of the total TP load goal for the summer TMDL period, and that this exceedance could primarily be attributed to high NPS TP loads.

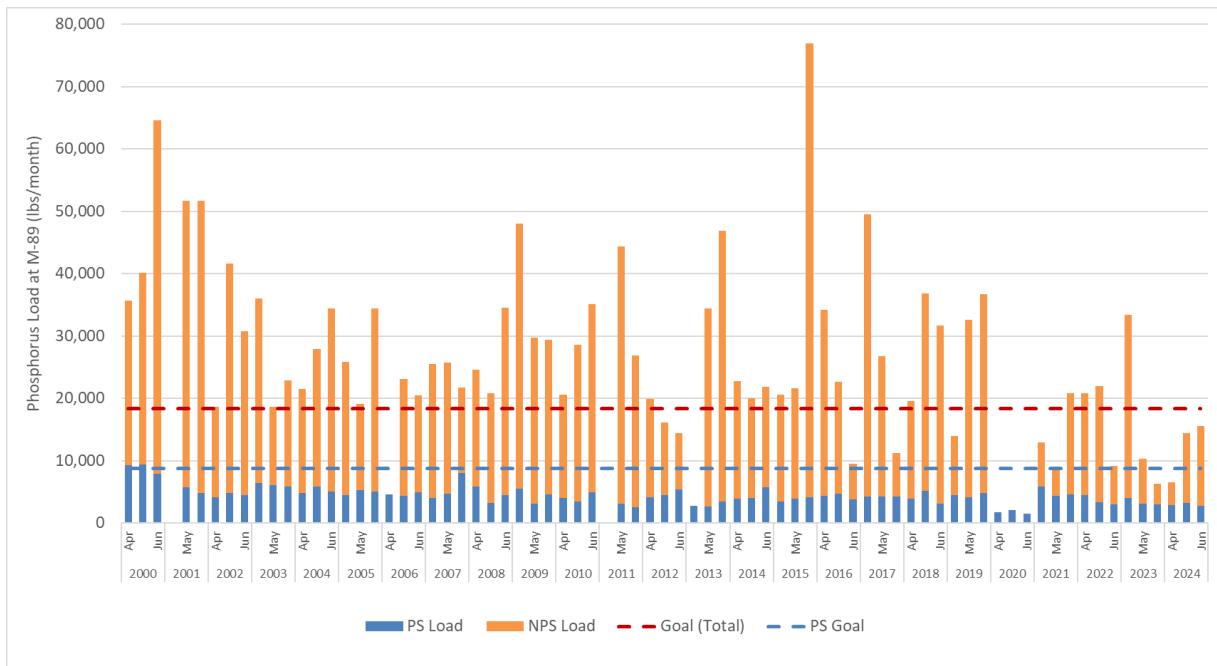


Figure 5. Nonpoint and Point Source Total Phosphorus Loads by Year, April – June. Notes: M-89 data were not collected in 2020, so no river TP load estimates are available; due to the high outlier TP concentration result from May 6, the median of all May values was used to estimate May total and NPS loads – see previous text for additional explanation.

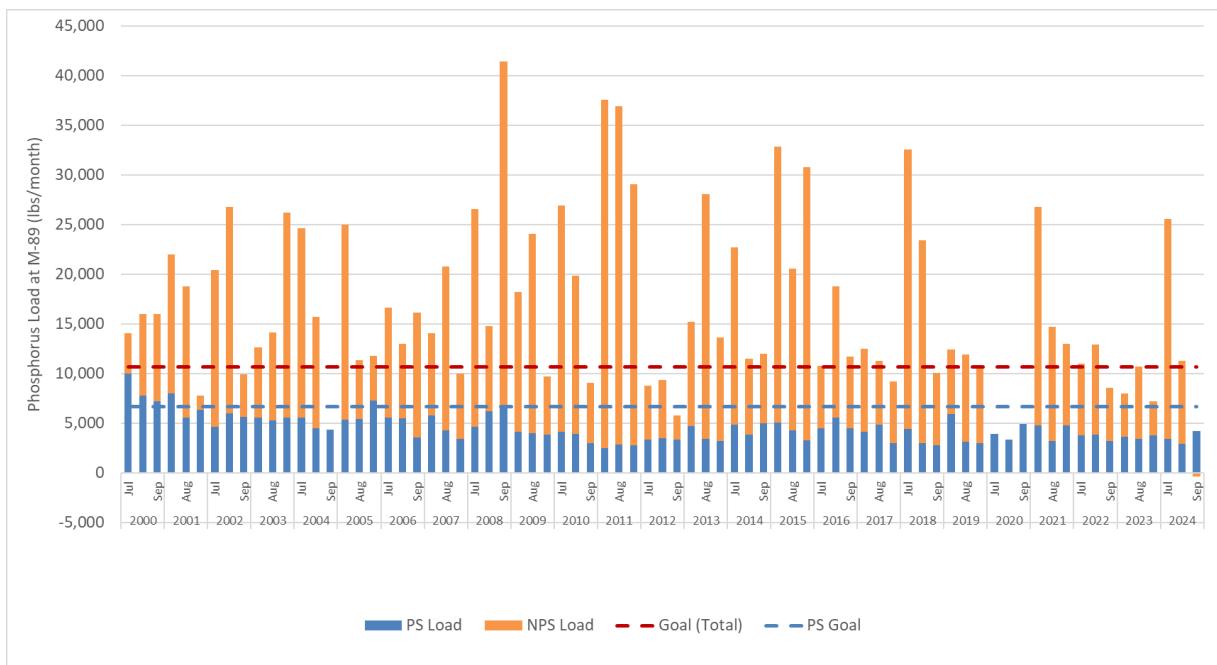


Figure 6. Nonpoint and Point Source Total Phosphorus Loads by Year, July-September. Note: M-89 data were not collected in 2020, so no river TP load estimates are available.

Kalamazoo River flow estimates at the Comstock gage (the basis for the M-89 flow estimates) obtained for the TMDL season (calculated as the average of monthly averages) in all years since 1998 are shown in Figure 7. Data indicate that the average daily river flow in 2024 of 1,190 cfs was higher than observed in 2023 and somewhat above the long-term average of 992 cfs. This result is largely influenced by the high daily average flow observed in July.

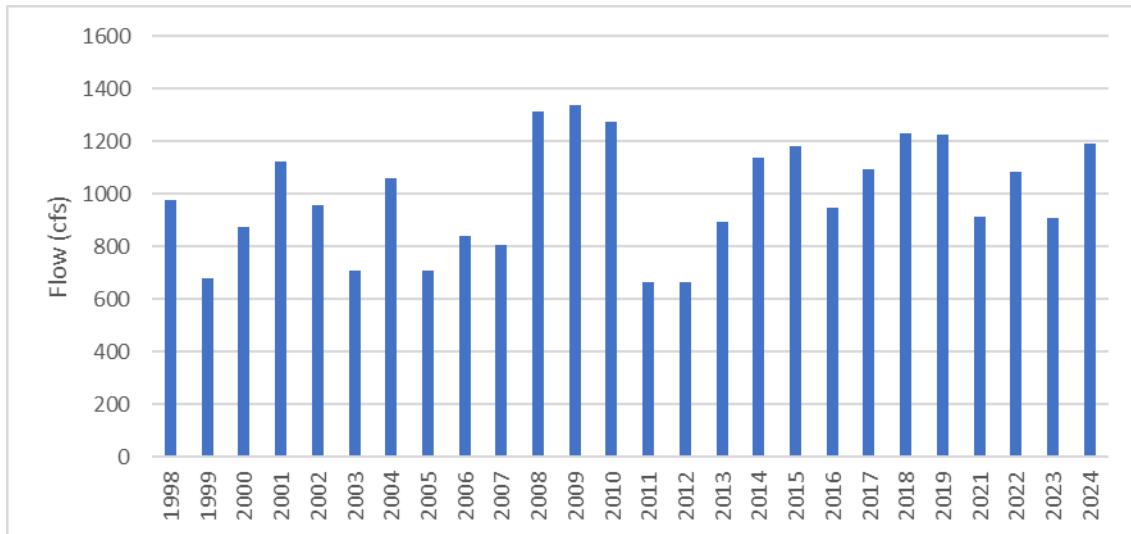


Figure 7. Average of Monthly Average Daily Flow at Comstock During the TMDL Season By Year

VI. Summary

Point source total phosphorus loads met the PS TMDL load goals in 2024. These loads have consistently met TMDL goals since 2001. Four of the 26 weekly samples collected at M-89, representing the input to Lake Allegan, exceeded the 0.072 mg/L TP concentration goal for this location in 2024, and the seasonal average concentration of 0.046 mg/L was well below the goal. The estimated total TP load for the 2024 TMDL season was 77,315 lbs., slightly higher than the 75,963 lbs. estimate for the 2023 TMDL season. The seasonal total river TP load goal was met or nearly met in all months except July, in which the highest river flow was observed and over 30% percent of the total seasonal TP load to Lake Allegan was delivered. Lake Allegan water quality condition goals for total phosphorus, chlorophyll *a*, dissolved oxygen, and Secchi depth were not assessed in 2024.

ATTACHMENT 4

LAKE ALLEGAN/KALAMAZOO RIVER PHOSPHORUS TMDL SIGNATORY REPORTS FOR 2024

SUMMARY OF SUBMITTED SIGNATORY REPORTSⁱ

This attachment contains the 2024 TMDL Signatory Reports, detailing the phosphorus reduction efforts, public outreach initiatives, and stormwater management activities undertaken by the signatories to the TMDL in the Kalamazoo River watershed. Key takeaways include:

I. Phosphorus Reduction Efforts

TMDL signatories reported compliance with phosphorus reduction targets through biological nutrient removal, chemical treatments (e.g., ferric chloride), and stormwater management measures. Regular monitoring and reporting of phosphorus levels were conducted to ensure adherence to TMDL goals.

II. Public Education and Outreach

Several signatories conducted public education campaigns, including distributing brochures, updating websites, utilizing social media, and hosting in-person events. Community engagement initiatives such as Kanoe the Kazoo, river cleanups, and workshops were organized to raise awareness. Some signatories noted challenges in increasing public participation and the effectiveness of outreach materials, discussed further below.

III. Stormwater and Pollution Prevention Initiatives

Many signatories implemented stormwater ordinances, conducted street sweeping programs, and performed catch basin cleaning to minimize pollutant runoff. Inspections and illicit discharge detection programs were carried out to prevent unauthorized wastewater discharges. Stormwater treatment facilities and green infrastructure improvements were integrated into municipal planning and management efforts.

IV. Challenges and Future Plans

Some signatories faced difficulties in identifying effective outreach methods and securing volunteers for events. One signatory noted difficulty in finding specific public education and outreach opportunities that align with their facility's operations. Another reported that very few brochures were picked up from public display areas, indicating a challenge in engaging the public through traditional informational materials. Other challenges stated by signatories included ensuring that the outreach information reached the public effectively, as well as staffing limitations, funding constraints, and time restrictions. Future strategies include expanding public education efforts, enhancing stormwater management practices, and further improving phosphorus removal efficiency.

ⁱ This document was generated using a ChatGPT analysis of reports submitted by signatories, followed by review and editing by WaterWays|SEM, L3C.

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory: A.M. Todd
2. What public education/outreach efforts did you complete in 2024? Please list.
 - Our location employees participated in adopt-a-highway by our facility.
 - Internally during Earth Week, we educate our employees on topics pertaining to sustainable living.
 - Angel Tree around the holiday season.
3. What hurdles did you encounter in completing public education/outreach projects?
 - Finding specific opportunities that fit our facility.
4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?
 - Hear about more specific needs that TMDL group members can fill for current events and new event ideas.
 - Ask members for specific items for events. Example- we need 10 volunteers at this event or we need 5 sponsors at \$2000 each.
5. What are your plans for public education/outreach for 2024?
 - We are looking into being involved in Kanoe the Kazoo.

Municipalities Only

6. Does your community have a postconstruction stormwater ordinance or resolution, which requires permanent storm water management measures (e.g. retention or detention ponds, rain gardens, swales, storm water treatment devices)? This is typically integrated into the site plan review process.

If the answer is YES, please choose the appropriate mechanism:

ORDINANCE / RESOLUTION (eg. Engineering Review by Drain Commissioner's Office)

What is working well and/or what needs improvement? Do you need assistance from one of the larger communities in order to better understand the site plan review process?

7. Do you have a plan for pollution prevention/good housekeeping for the municipally-owned properties (e.g. street sweeping, catch basin cleaning, proper disposal of catch basin clean-out, management of polluting materials at the DPW yard)? Please attach the plan, ideally in the form of a spreadsheet, and include the status for each item. For example, how often was street sweeping conducted? What is the frequency for catch basin cleaning? What procedures are followed at the DPW yard?
8. Do you have a plan for conducting dry weather screening at storm water outfalls in order to look for any improper connections or discharges to the storm sewer systems? Please attach the schedule for conducting dry weather screening, and the current status. For example, how many outfalls are scheduled to be inspected each year during dry weather? How many did your municipality inspect? Were any illicit connections or illicit discharges discovered? If so, were they eliminated?

City of Charlotte WWTP
1005 Paine Drive.
Charlotte, MI 48813

City of Charlotte

February 25, 2025

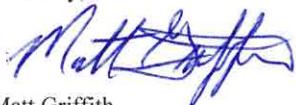
As a cooperative entity of the Kalamazoo River TMDL program, the City of Charlotte is providing the following information for our annual report as required.

The City of Charlotte continues to apply Ferric Chloride for total phosphorus removal. The City of Charlotte WWTP Operations Team oversees application rates in order to satisfy all requirements.

Matt Griffith has been representing the City of Charlotte WWTP, on the point source committee. All required meetings have been attended.

If you have any questions, or need further information, please do not hesitate to call.

Sincerely,



Matt Griffith
Superintendent of Utilities
O: 517-543-8860 C: 517-231-2324
mgriffith@charlottemi.org

.....

City of Charlotte Phosphorus Reduction Plan Storm Water Management



Facility Information

Name of facility: City of Charlotte Wastewater Treatment Plant

Facility Address: 1005 Paine Drive. Charlotte Michigan 48813

Facility Contact:

Name: Stephanie Whitney

Title: Public Works Director

Telephone: (517) 543-8858

Mailing Address: City of Charlotte
111 East Lawrence Avenue
Charlotte, MI 48813

Owner: City of Charlotte

Certified Operator: Matt D. Griffith

Environmental Coordinator: Matt D. Griffith

Permit Number: MI0020788

Receiving Waters: Battle Creek River

Emergency Contact: Matt D. Griffith, Superintendent of Utilities

Telephone: (517)543-8860 office (517) 231-2324 cell

Email: mgriffith@charlottemi.org

City of Charlotte
Phosphorus Reduction Plan
Storm Water Management

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- *Current Activities*
- *Future Plans*

City of Charlotte WWTP
1005 Paine Drive. Charlotte, MI 48813
Office: 517-543-8860
mgriffith@charlottemi.org

Introduction

This phosphorus reduction plan (PRP) covers the operations at the City of Charlotte Waste Water Treatment Plant. It has been developed as required under Part 1. Section A, paragraph h. of the Michigan National Pollutant Discharge Elimination System (NPDES) general permit for reduction of total phosphorus in the Kalamazoo/Lake Allegan watershed.

Point source (PS) facilities within the Kalamazoo River watershed have operated under a phosphorus total maximum daily loadings (TMDL). The TMDL caps the amount of pollutant loading each facility can discharge to a particular water body. In the case of Lake Allegan, PS's operate collectively under an aggregate waste load allocation. They also participate in a cooperative agreement with the State of Michigan's Department of Environment, Great Lakes & Energy (EGLE). This agreement was signed in lieu of individual PS permit holders, reduced phosphorus limits.

City of Charlotte

Phosphorus Reduction Plan

Storm Water Management

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City of Charlotte WWTP
1005 Paine Drive. Charlotte, MI 48813
Office: 517-543-8860
mgriffith@charlottemi.org

Background

The City of Charlotte has participated in the Kalamazoo River/Lake Allegan watershed TMDL since 2000. The TMDL was established to protect Lake Allegan from high nutrient levels which has resulted in violations of water quality standards. In addition to establishing the TMDL, the city is a signatory to a cooperative agreement to meet the TMDL for phosphorus. Signatories to the agreement include point source (PS) dischargers and non point source (NPS) dischargers. The signatories have agreed to participate with other PS and NPS contributors in the watershed to reduce phosphorus as necessary to meet the goals of the TMDL.

Objective

The goal of the phosphorus reduction plan (PRP) is to improve the quality of surface waters by reducing the amounts of phosphorus contained in the effluent being discharged into the Battle Creek River. Another goal is to work on some of the non point source (NPS) contributions, to also help in the reduction of phosphorus to the surface waters. This will be accomplished by continuing activities outlined in the PRP as well as other activities that will be implemented in the future.

Current Activities

REPORTING: The following tables outline the activities related to stormwater management and nutrient and sediment control that the city will implement each year according to the schedule. Progress made toward activities and outcomes described in the plan will be reported each year in the TMDL Point Source Annual Report. We will provide an update on the status of planned and completed activities in table format.

SECTIONS:

This plan covers four categories:

- 1) Public Education
- 2) Illicit Discharges
- 3) Good Housekeeping and Pollution Prevention
- 4) Post-Construction Stormwater Controls

Future Plans

- Continued enforcement of the city's regulatory mechanism to control storm water quality and quantity from new development and redevelopment.
- Locate and evaluate storm water outfalls within the city.
- Work with Eaton Conservation District and County Health Department to find and eliminate illicit dischargers.
- Continue with Public Education and Outreach.
- Train staff of Utilities Department of PRP and future activities.
- Work with USDA & Rural Development on certifying farms and encouraging BMP's for adjacent river properties.
- Continue satisfying all requirements within the City of Charlotte's Phosphorus Reduction Plan.

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory: City of Charlotte

2. What public education/outreach efforts did you complete in 2024? Please list.
 - General stormwater and TMDL education/awareness on Website
 - Stormwater Drain Stenciling
 - River Cleanup
 - Kanoe the Kazoo

3. What hurdles did you encounter in completing public education/outreach projects?
 - Lack of staff to support activities
 -

4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?
 - Supply signatories with public outreach material

5. What are your plans for public education/outreach for 2025?
 - Participate in Kanoe the Kazoo
 - Participate in the River Clean-up
 - Coordinate Adventure Science Camp in collaboration with the Eaton County Conservation District

Municipalities Only

6. Does your community have a postconstruction stormwater ordinance or resolution, which requires permanent storm water management measures (e.g. retention or detention ponds, rain gardens, swales, storm water treatment devices)? This is typically integrated into the site plan review process.

YES / NO (Please choose) - Yes

If the answer is YES, please choose the appropriate mechanism:

ORDINANCE / RESOLUTION (eg. Engineering Review by Drain Commissioner's Office)

RESOLUTION

What is working well and/or what needs improvement? Do you need assistance from one of the larger communities in order to better understand the site plan review process? Current Resolution in place is working well.

7. Do you have a plan for pollution prevention/good housekeeping for the municipally-owned properties (e.g. street sweeping, catch basin cleaning, proper disposal of catch basin clean-out, management of polluting materials at the DPW yard)? Please attach the plan, ideally in the form of a spreadsheet, and include the status for each item. For example, how often was street sweeping conducted? What is the frequency for catch basin cleaning? What procedures are followed at the DPW yard?
 - See Attached.
8. Do you have a plan for conducting dry weather screening at storm water outfalls in order to look for any improper connections or discharges to the storm sewer systems? Please attach the schedule for conducting dry weather screening, and the current status. For example, how many outfalls are scheduled to be inspected each year during dry weather? How many did your municipality inspect? Were any illicit connections or illicit discharges discovered? If so, were they eliminated? The City of Charlotte Conducts inspections of Storm Water Outfalls randomly through out the year, depending on weather conditions. We have 8 designated outfalls. No illicit connections or discharges were discovered in 2024.

1.0 PUBLIC EDUCATION

	Activity	Mechanism	Materials	Schedule	Status Report 2024
1	Educate residents about Michigan's phosphorus fertilizer ban	(1) Website (2) Brochures (at City Hall)	MDARD Brochure	Spring and fall each year, corresponding to City cleanup activities	City Website
2	Educate residents about stormwater and sediment pollution at community event(s)	(1) Kanoe the Kazoo (2) River Clean-up (3) Other events Wellness night, Science Camp	Brochures or information from TMDL committee, KRWC, and MDEQ	Minimum of one event each year starting in 2015	Handed out Information on sources of non-point source pollution
3	General stormwater and TMDL education/awareness	(1) Website	Rotating topics from KRWC and TMDL committee	Links on City Facebook -2015 (permanent),	City Website
4	Advertise activities promoting stormwater and TMDL education and awareness	(1) Website (2) Newspaper	Posters, brochures, and event details for Kanoe the Kazoo, River Clean-up, Charlotte Science Camp, etc.	Annually, following event schedules	Scheduled for 2025.
5	Participate in TMDL public education activities	Krazy for the Kazoo – River clean-up	Give non-point source pollution information to participants	Summer 2014, annually thereafter	Scheduled for first Saturday in October 2025.
6	Encourage leaf composting, good lawn care practices, and waste disposal	(1) Website (2) Signs in park	Information about City programs	Spring and Fall	Leaf and Brush drop off at DPW.

2.0 ILLICIT DISCHARGE ELIMINATION

	Activity	Mechanism	Materials	Schedule	Status Report 2024
1	Keep records of any changes to storm sewer system and/or city owned facilities	Managed by DPW	Provide records to City Hall/Fire	On-going	On – going
2	Employee training for DPW, wastewater, and associated departments	Staff training	Excal video and materials from MS4 communities (Kzoo, BC)	Starting 2015, provide training and refresher every 2 years	Initiated in 2015. On – going
3	Locate and inspect storm sewer outfalls during dry weather	Physical inspections by City employees	Inspection form	Rotating basis, all outfalls located and inspected by 2016	Current at WWTP On - going
4	Where discharge is observed, staff will determine source of illicit discharge	Obvious source – eliminate illicit discharge Source not obvious – investigate further	Consult TMDL guidance document (Battle Creek IDEP)	As necessary whenever illicit discharge is detected	On – going
5	Eliminate illicit connections to the storm sewer system	Exercise authority under Section 68-143(B) of the Sewer Use Ordinance	Consult MS4 communities on TMDL Committee, as needed	As necessary whenever illicit discharge is detected	On-going

3.0 GOOD HOUSEKEEPING AND POLLUTION PREVENTION

	Activity	Mechanism	Department	Schedule	Status Report 2024
1	Employee training to prevent stormwater related pollution (i.e., nutrients and sediment)	Excel training videos and KRWC presentation	DPW WWTP	Starting 2015, provide training and refresher every 2 years	On-Going
2	Perform street sweeping	City employees use street sweeper	DPW	April – October	Street Sweeping
3	Inspect city storm sewer catch basins/facilities	Physical inspection of retention basins, catch basins, and other facilities	DPW	Regular inspection	On-going
4	Wash vehicles in areas not connected to storm sewer or surface water	(1) Wash where drains connect to sanitary, OR (2) Grassy areas not draining to surface water	DPW WWTP Fire, Police	On-going Include in employee training session	On-going
5	Leaf and brush collection, composting option for residents	Collect residential yard debris, compost at city facility always open	DPW	Once each fall. Compost site always available for residents	On-going
6	Require proper fertilizer use to protect water quality	(1) No P-fertilizers (2) Proper rates (3) Not adjacent to water	DPW	**Currently the city does not apply fertilizers to any properties**	On-going
7	Prevent runoff from WWTP & DPW lot	Inspect for runoff	WWTP & DPW Staff	2014	On-going

8	Snow pile storage areas	Do not store snow piles adjacent to surface water or near storm drains, consider using insert where drains are located near snow piles	DPW	Currently snow is not piled near storm drains	On-going
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4.0 STORMWATER PERFORMANCE STANDARDS FOR NEW AND REDEVELOPED SITES

	Activity	Details	Schedule	Status Report 2024
1	Educate city council on the need for stormwater management at new and redeveloped sites	Get resolution added to City Council agenda Ord. Revisions	2015	Completed / In Effect
2	Discuss stormwater review service and fee with Eaton County Drain Office	Fee schedule \$400 Applies to developers	2015	Completed / In Effect
3	Stormwater resolution adopted by City Council effective for all new and redeveloped sites	Resolution requiring all new and redeveloped sites to conform to Eaton County Drain Office Stormwater Rules / Performance Standards	Before April 4, 2015	Completed / In Effect



City of Allegan
Water Utilities
269.686.1117
350 North Street
Allegan, MI 49010

February 5, 2025

2024 ALLEGAN WATER AND WASTEWATER PHOSPHORUS REDUCTION

The Allegan Water Resource Recovery Facility and Water Plant did meet all the monthly TMDL phosphorus goals for the 2024 growing season and met the annual target total. The Allegan Resource Recovery Facility underwent major renovation projects during 2010 and 2013 to provide biological nutrient removal in all the treatment basins, Alum is available as a backup for phosphorus removal. During the 2024 growing season the Resource Recovery facility operated on basins 1 and 2, these basins provide excellent biological phosphorus removal during treatment. Allegan built a new R.O. Water Plant that went online in 2011. The Water Plant has its own NPDES discharge permit for R.O. concentrate water and iron filter backwash water, the water plant was added to the TMDL in conjunction with the Allegan Resource Recovery Facility in 2011.

Allegan DPW does routine cleaning of the river front area in downtown Allegan as well as removing any trash that is noticed along the banks of the Kalamazoo River in other parts of the city. Allegan has placed a notice on its web site to have residents alert the city to any soil erosion problems they may see along the riverbanks. Staff from the Allegan Resource Recovery Facility attended all 4 of the quarterly TMDL meetings in 2024. Allegan participated with Kalamazoo River Watershed and Trace Analytical this year to collect weekly samples from the Kalamazoo River for analysis. Allegan Resource Recovery Facility has an industrial storm water permit written into its NPDES permit. This plan was approved by the DEQ in August 2014 and the treatment plant began to implement on August 18, 2014. Staff perform quarterly reviews and visual assessments of the wastewater facility; storm drains and outfall of the stormwater system. Water Utilities staff also go through quarterly training on the stormwater plan. Allegan Resource Recovery Facility received notification from the DEQ on November 4, 2013, that the Storm Water Plan submitted by August 19, 2012, as required by the TMDL agreement was acceptable and that they were to implement the plan. Allegan did begin implementing several of the storm water procedures prior to this notification; these procedures are outlined in the attached charts.

The chart below shows the phosphorus loading in pounds and target pounds for the Allegan Resource Recovery Facility and the Allegan Water Plant for the 2024 growing season months.

Month	Target Pounds	WWTP Actual Discharge Pounds	WTP Actual Discharge Pounds
April	130	59.68	10.1
May	173	43.52	17.25
June	146	130.05	20.91
July	118	109.28	21.51
August	152	68.57	21.33
September	101	65.83	20.69
Total 2024	820	476.93	111.79
Total 2023	820	427.15	93.32
Total 2022	820	496.75	46.61
Total 2021	820	476.7	78.15
Total 2020	820	325.3	75.5
Total 2019	820	475.5	54.19
Total 2018	820	404.1	34.7

Regards,

Doug Sweeris
Allegan Water Utilities Director

Allegan

Storm Water Plan

Activity Report for 2024

The following charts list the public education, illicit discharge elimination and good housekeeping measures that were taken during the 2024 year. Allegan received a notification letter on November 4, 2013, that the Storm Water Plan submitted on August 19, 2012 was approved and met the requirements specified in the 2011 TMDL agreement. Stormwater language was added to the city zoning ordinance in 2014. The City of Allegan implemented construction Storm water control measures on July 14, 2014.

Public Education

Delivery Mechanism	Location	Material Distributed	2024 progress
Storm Water pollution control on City Web site	City web site – Plans and Reports,	Links to the State Phosphorus Ban, Kalamazoo River Watershed Council and the kalamazooriver.net website.	The city web site and/or the Positively Allegan web site have links to the Kalamazooriver.net and the Allegan Conservation District web sites for additional information.
Link to State Phosphorus Ban	City web site – Plans and Reports,	Links to the State Phosphorus Ban, Kalamazoo River Watershed Council and the kalamazooriver.net website.	The city web site and/or the Positively Allegan web site have links to the Kalamazooriver.net and the Allegan Conservation District web sites for additional information.
Post local activities that promote storm water awareness and education	City web site	Information was posted about the TMDL virtual canoe event	Material for the activities in the Allegan area were posted on the City web site and the positively Allegan web site.
Education material displays at City Hall and other public facilities	City Hall, WRRF.	Use Phosphorus Free Fertilizer – Michigan Dept. of Ag. Lawns Lakes and Your Community – Alliance for the Great Lakes Biosolids Recycling- WEF posted at WWTP Practice Tips for Home and Yard	The new City Hall has a few of the handouts available.
Strom drain markers	City streets, storm drains	Storm drains and catch basins in Allegan are identified on the structure as going to the River or Storm drain. All new construction has these covers and any old structures that are replaced have the labels.	

Illicit Discharge Elimination

Action	Location/Department	Material Distributed / Procedures	Results / Annual report information
Provide a map and a list with all known city storm water catch basins and drains. Does not include storm drains and outlets from State trunk lines.	City DPW, WRRF	Handout and educational information was provided to city staff.	<p>Map of the city storm drain is on file. Map shows State trunk line storm drains, but City of Allegan does not maintain these.</p> <p>City Storm drains were mapped in GIS as part of our SAW grant.</p> <p>The DPW inspects and cleans several storm drains and catch basins throughout the city each year.</p> <p>Storm drains are monitored for possible cross connections with sanitary drains. The flow from the storm drain is observed for clarity, odor and identifiable objects that might come from a sanitary sewer cross connection.</p>

Good house Keeping and Pollution Prevention

Action	Location/Department	Material Distributed/procedures	Results / Annual report information
Distribute education / informational material to City Staff	City Hall, WTP, WRRF, DPW,	Use Phosphorus Free Fertilizer, Lawns, Lakes and Your Community brochures. Landscaping for water Quality – WWTP and Parks (DPW), Practical Tips for Home and Yard to Improve Water Quality – WWTP	Materials are available for DPW, Water Utilities, City Hall and Police staff
Provide storm water and illicit discharge training and notification procedures for possible illicit discharge.	City DPW, WRRF, WTP	Handout training to staff members by DPW supervisor and WRRF supervisor on how to and what to look for in storm water discharge to identify a possible sanitary sewer cross connection.	Training materials are provided to DPW and Water Utilities staff
Perform routine street sweeping, curb and gutter cleaning, storm water catch basin cleaning.	City DPW staff		All city streets are swept at least once in the spring and once in the fall. Downtown streets are swept on a weekly schedule. Additional streets are swept based on observations. Curbs and gutters are cleaned at the same time with the street sweeper. Catch basin grates are cleaned as needed during large rain events. Catch basins are assessed during rain events for flow and then latter cleaned by City Vactor truck.

Collect leaf and brush from curb side.	City DPW Staff		City of Allegan provides brush pickup throughout the city during spring and fall months. During the months of October and November Allegan provides weekly curb side leaf pickup. All compost material is delivered to a local tree nursery.
Wash vehicles in areas that do not drain to surface water – drain to sanitary sewer or grass areas.	DPW, Police, WRRF, WTP.	Places to wash vehicles – car wash, garage with floor drain to sanitary sewer, grassy yard that does not drain directly to river or storm catch basin.	DPW – inside barn, floor drains go to sanitary sewer. WRRF - in garage or septage truck unloading area, drains go to sanitary sewer. WTP – Garage, drains go to sanitary sewer or driveway, runoff goes to green areas. Police – Local car wash
Store materials in areas with no discharge to surface water	DPW, WRRF, WTP	Materials include sand, dirt, stone, pavement millings, salt, and process chemicals.	DPW – Salt is stored under cover, other dirt, sand, and stone are stored in containment areas with no drains. WRRF – All process chemicals are indoors; generator fuel tank is double walled. WTP – All process chemicals are indoors; generator fuel tank is double walled.
Use appropriate fertilizer on city grass, plantings. Soil test if using phosphorus fertilizer on grass or plantings.	DPW, WRRF, WTP, Police, all city buildings and parks that have grass and/or plantings	Use Phosphorus Free Fertilizer, Lawns, Lakes and Your Community brochures were distributed.	Allegan has gone to phosphorus free fertilizers for lawn use except new turf areas were allowed by law. Flower gardens and planting use a "Miracle Grow" type fertilizer.
Remove grass clippings from hard surfaces after mowing	DWP, WRRF, WTP, hired mowing crews	Sweep, blow grass clippings from hard paved surface back onto grass after mowing / trimming.	To the best of the mowers ability grass clippings are kept on the grass area by either directional mowing, sweeping and/or blower grass clippings after mowing is completed.
New City Stage and Riverfront Plaza	Riverfront area	Newly constructed riverfront plaza, construct to be environmentally friendly.	Designed to capture storm water in landscaping beds (rain gardens) throughout the plaza area.

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory: City of Allegan

2. What public education/outreach efforts did you complete in 2023? Please list.

Brochures and handouts for phosphorus free fertilizer, water conservation, fish advisories, available at City Hall and the Water Resource Recovery Facility. Links to the Rivershed council on city website.

3. What hurdles did you encounter in completing public education/outreach projects?

Very few brochures are picked up from public areas of display.

4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach? Workshops in different areas along the river.

Promotions at current events communities already have. Create a short commercial / movie about the Kalamazoo River TMDL, what it's purpose is and it's goals, for communities to put on their web site and other locations.

5. What are your plans for public education/outreach for 2025? Similar to last year.

Planning on pairing the city wellhead protection at the city Bridgefest event in June, would be nice to have information on the TMDL and Kalamazoo river available for handout as well.

Municipalities Only

6. Does your community have a postconstruction stormwater ordinance or resolution, which requires permanent storm water management measures (e.g. retention or detention ponds, rain gardens, swales, storm water treatment devices)? This is typically integrated into the site plan review process.

YES / NO (Please choose) Yes

If the answer is YES, please choose the appropriate mechanism:

ORDINANCE / RESOLUTION (eg. Engineering Review by Drain Commissioner's Office) Ordinance

What is working well and/or what needs improvement? Do you need assistance from one of the larger communities in order to better understand the site plan review process?

7. Do you have a plan for pollution prevention/good housekeeping for the municipally-owned properties (e.g. street sweeping, catch basin cleaning, proper disposal of catch basin clean-out, management of polluting materials at the DPW yard)? Please attach the plan, ideally in the form of a spreadsheet, and include the status for each item. For example, how often was street sweeping conducted? What is the frequency for catch basin cleaning? What procedures are followed at the DPW yard? Yes, see attached
8. Do you have a plan for conducting dry weather screening at storm water outfalls in order to look for any improper connections or discharges to the storm sewer systems? Please attach the schedule for conducting dry weather screening, and the current status. For example, how many outfalls are scheduled to be inspected each year during dry weather? How many did your municipality inspect? Were any illicit connections or illicit discharges discovered? If so, were they eliminated? Yes, see attached

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory: City of Battle Creek

2. What public education/outreach efforts did you complete in 2024? Please list.

- Radio advertisements highlighting non-point source pollution topics
- Department of Public Works newsletter to 17,000 households (April/October)
 - BC Works Spring/Summer 2024 & BC Works Fall/Winter 2024
- 18,000 Calhoun County Community Calendar distributed in the community w/environmental information and events
- Social media postings and website information
- Battle Creek Area Clean Water Partners photo contest in the Kalamazoo River watershed
- February 2, 2024: Kool Center in Battle Creek. Talked about Recycling. About 10 participants.
- March 21 & September 4, 2024: Polystyrene event. Recycled 1,860 lbs. and had 316 participants total.
- April 17, 2024: Rain barrel sale. Sold 44 rain barrels and 6 Composters
- April 22-28, 2024: Earth week cleanup/stewardship events. Over 193 volunteers cleaning up along Linear Path, other City-owned areas like Fell Park, and along River Rd. Found a lot of tires. Planted trees on April 20, 23, 25.
- Early May 2024: Children's Water Festival. Reached 500 local 4th-5th grade students from Pennfield, Lakeview, and Battle Creek Schools. Tote with water activities.
- May 8, 2024: Scrap Tire Collection. 1,287 tires collected. 150 participants.
- May 14, 2024: Conservation Day at Kiwanis Property. Stormwater topics. 30 plus students.
- May 15, 2024: DPW Open House. Open to the public (150 people reached). Used our prize wheel, talked about stormwater and recycling. WWTP handed out FOG scrapers, compost and educated on "no wipes in the pipes."
- May 17, 2024: Kool Center in Battle Creek. We talked about wellhead protection and stormwater. About 6 participants.
- May 28, 2024: Electronics Recycling Collection. 200 participants. Recycled 19,496 pounds.
- May 28, 2024: City of Battle Creek "Lunch & Learn" on composting. 10 attendees.
- June 12 and July 31, 2024: Farmer's Market event. Reached 60 individuals. We talked about Wellhead, Stormwater, Recycling.
- August 20, 2024: River Clean up from Emmett St Bridge off Wagner to Carlyle downtown Battle Creek. 6 participants.
- August 27, 2024: River cleanup along Linear Path. 12 participants.
- September 26, 2024: 8am-3pm Calhoun Area Career Center. CACC Military &

Public Services Careers Day. Over 100 students, high school age.
Stormwater/WWTP topics. Lots of swag giveaways

- October 5, 2024: Krazy for the Kazoo Stewardship day. Had about 130 volunteers, planted 200 trees along Jackson St, and had various groups pick up trash along many of the linear paths (50+ bags)
- Stormwater inlet markers installed 60
- Storm inlet inspections completed: 1,675
- Stormwater Outfalls inspected: 41
- Storm ponds Inspected: 32

3. What hurdles did you encounter in completing public education/outreach projects?

Staff time to coordinate and implement the events and projects.

4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed./outreach?

- Search for grant opportunities that have watershed-wide impact
- Partner w/smaller communities on events
- Share resources (educational materials, social media posts, articles, etc.)

5. What are your plans for public education/outreach for 2025?

- Similar plan as what was done in 2024.

Municipalities Only

6. Does your community have a post-construction stormwater ordinance or resolution, which requires permanent storm water management measures (e.g. retention or detention ponds, rain gardens, swales, storm water treatment devices)? This is typically integrated into the site plan review process.

- **YES** / NO (Please choose)

If the answer is YES, please choose the appropriate mechanism:

- **ORDINANCE** / RESOLUTION (eg. Engineering Review by Drain Commissioner's Office)
 - Ordinances 1047 Non-Storm Water Discharge and Ordinance 1048 Stormwater Management
- Stormwater Management Plan

What is working well and/or what needs improvement? Do you need assistance from one of the larger communities in order to better understand the site plan review process?

- All is working well.

7. Do you have a plan for pollution prevention/good housekeeping for the municipally-owned properties (e.g. street sweeping, catch basin cleaning, proper disposal of catch basin clean-out, management of polluting materials at the DPW yard)? Please attach the plan, ideally in the form of a spreadsheet, and include the status for each item. For example, how often was street sweeping conducted? What is the frequency for catch basin cleaning? What procedures are followed at the DPW yard?

- This is included in the City of Battle Creek's MS4 permit requirements. Permit number: MIG610045

8. Do you have a plan for conducting dry weather screening at storm water outfalls in order to look for any improper connections or discharges to the storm sewer systems? Please attach the schedule for conducting dry weather screening, and the current status. For example, how many outfalls are scheduled to be inspected each year during dry weather? How many did your municipality inspect? Were any illicit connections or illicit discharges discovered? If so, were they eliminated?

- See IDEP plan, attached.
- Googlemymaps created with all our stormwater outfalls color-coded by the year they were investigated or those that need to be found/confirmed.
 - <https://www.google.com/maps/d/edit?mid=1r7K4veXrkqqZPOxdbYQxDP-2GoXrT7M&usp=sharing>
 - 41 outfalls investigated in 2024 (Orange in color on map)
- 6 illicit discharge(s) eliminated
 1. 55 W Meadowlawn Ave: Leaking Van in Road
 2. 107 Apperson Rd: Swimming Pool water discharge onto

3. 111 South Hill: unknow liquid seen getting dumped into storm drain. Sent letter
4. Buckner Dr: Sheen Investigation. Natural from wetlands.
5. E Paint: Runoff from site continues... As of 2025 the property is vacated. About 98% has been cleared off site.
6. WMU Airport: Unknown substance found in storm basin. Checked outfall down the line from that basin. Nothing notable. The substance looked like really old paint ball chunks.. Emailed our Airport site manager. He has contacts within the WMU base. He said he would touch base with them.

- 2 outfall(s) currently under investigation.
 - Byron and Wagner Storm Outfall: Battle Creek River
 - Angell and Parish Storm Outfall: Kalamazoo River

City of Battle Creek
Illicit Discharge Elimination Plan
Storm Water Permit MIG610000 / Certificate of Coverage MIG610045

INTRODUCTION

The purpose of the City of Battle Creek Illicit Discharge Elimination Plan (IDEP) is to prohibit and eliminate illicit discharges and connections, including discharges of sanitary wastewater to the city of Battle Creek municipal separate storm sewer system (MS4). The separate storm sewer system includes both open and enclosed drainage systems that are owned or operated by the city of Battle Creek and discharge to a surface water of the State or to a separate storm water drainage system operated by another public agency. This IDEP also serves to fulfill the requirements of the Municipal Storm Water Permit (MIG610000) for Certificate of Coverage MIG610045.

DEFINITIONS

The following definitions will assist in understanding the intent of this IDEP

Illicit discharge means any discharge to, or seepage into, a separate storm sewer that is not composed entirely of storm water or uncontaminated groundwater, or discharges identified in Part I.A.4.b.3.a.of the Storm Water Permit. Illicit discharges include non-storm water discharges through pipes or other physical connections; the dumping of motor vehicle fluids, household hazardous wastes, domestic animal wastes, or leaf litter; the collection and intentional dumping of grass clippings or leaf litter; or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-storm water waste directly into a separate storm sewer.

Illicit Connection – A physical connection to the MS4 that 1) primarily conveys illicit discharges into the MS4, or 2) is not authorized or permitted by the local authority (where a local authority requires such authorization or permit)

Point source means a discharge point from an MS4 to the surface waters of the state, or a point where an MS4 discharges into a system operated by another entity.

LEGAL AUTHORITY

Two city codes, Chapter 1040 and 1047, prohibit sanitary connections to storm sewers and prohibit non-storm water discharges into the storm sewer system. Code gives the City authority to remove illegal connections and illicit discharges.

FINDING AND ELIMINATING ILLICIT CONNECTIONS AND DISCHARGES

Section 1: Storm Sewer System Map (Found in Appendix C)

The city's storm sewer system is a part of its geographical information system (GIS), including outfall locations. City staff determines on an as needed basis if any new outfalls have been created or discovered and need to be included in the inventory. If new outfalls are defined, coordinates are determined (GPS) and their locations mapped (GIS). In addition, new outfalls are also reported to the **Michigan Department of Environment, Great Lakes, and Energy (EGLE)** in the permit progress reports.

Section 2: Prioritizing areas for dry-weather screening

Dry-weather screening will be prioritized in the following way:

- Areas with older infrastructure
- Industrial, commercial, or mixed use areas
- Areas with a history of past illicit discharges
- Areas with a history of illegal dumping
- Areas with septic systems
- Areas with older sewer lines or with a history of sewer overflows or cross-connections
- Areas with sewer conversions or historic combined sewer systems
- Areas with poor dry-weather water quality
- Areas with water quality impacts, including waterbodies identified in a Total Maximum Daily Load
- Priority Areas applicable not identified above

The attached maps identify high priority areas within the City of Battle Creek that meet at least one of the above circumstances. These areas will be inspected at least once per permit cycle and additional investigations will occur if necessary. The identified areas were selected due to concerns with older infrastructure and being in an area with high concentration of industrial and commercial use. If, after multiple inspections, the areas demonstrate a need for more attention they will be re-selected as high priority areas in the next permit cycle. Otherwise, we will identify other areas of the jurisdiction that may meet one of the listed criteria.

Geographic location

Prioritized areas: Areas that match one or more of the prioritization categories listed above:

Maps Attached – Downtown Battle Creek & Fort Custer Industrial Park

Section 3: Performing dry-weather screening

The City of Battle Creek Illicit Discharge Elimination Program Standard Operating Procedure (SOP) details the process followed for performing dry-weather screening. The SOP can be found in Appendix B.

High priority outfalls will be screened at least once per five year permit cycle. In addition to the roughly 200 high priority outfalls, 300 outfalls will also be screened during a five year cycle. The City currently has 678 outfalls identified, but due to available resources and to ensure our compliance, we will screen at least 500 outfalls by the end of each permit cycle. Based on dry-weather screening performed in previous investigations, several outfalls within the City's system have year-round flow. The results will be used to better characterize the flow. Should the flow consistently indicate groundwater flow, monitoring of the outfalls will follow the five-year permit cycle.

Dry weather screening will be performed after at least 48 hours of any precipitation. Observations will be recorded on the field logs developed for the program. Field staff will note presence/absence of flow, deposits/stains on the discharge structure or bank, vegetation condition, structural condition, biology, such as bacterial sheens, algae and slimes, water clarity, color, odor or floatable materials. In addition, staff will also investigate undocumented connections and the integrity of the discharge structure.

If flow is observed from an MS4 discharge point, the following action will be taken:

Figure 1

Source	Action	Analysis/Sampling Required
Obvious	Eliminate illicit discharge	None
Not Obvious	Conduct field assessment	pH, ammonia, fluoride, detergents, surfactants, and temperature using field test kits

Section 4: Illicit discharge source identification

If an illicit discharge is detected and the source is not obvious, the City will conduct a further investigation within 30 days following sampling results. The City will use any of the following methods:

- Indicator parameter testing (Ammonia, fluoride, detergents and pH)
- Video testing
- Dye testing
- Smoke testing
- Drainage area investigations
- Documented visual observation or physical indicators
- Homeowner surveys and surface condition inspections for on-site sewage disposal systems

Section 5: Eliminating illicit discharges and pursuing enforcement action

Prioritization of illicit discharges

The prioritization schedule detailed below will be implemented in an effort to eliminate confirmed illicit discharges. For regular screening purposes, priority will be given to outfalls with a previous history of illicit activity and those located in close proximity to public sanitary and storm sewer.

Figure 2

Conditions-highest to lowest priority
Dry Weather Significant Illicit Discharges-untreated or partially treated human sewage
Dry Weather Significant Illicit Discharges-non sewage related, but meets 24-hr notification criteria
Dry Weather Significant Illicit Discharges-does not meet 24-hour notification criteria
Dry Weather Non-Significant Illicit Discharges
Wet Weather Illicit Discharges

Current City code prohibits sanitary connections and non-storm water to its MS4 system and gives the City authority to remove illegal connections and, if necessary, eliminate access to the system. The table below outlines the procedure for eliminating illicit discharges.

Figure 3

	<u>Discharge Type</u>	<u>Contact List</u>	<u>Response</u>	<u>Enforcement Type</u>	<u>Enforcement Action</u>	<u>Elimination Status</u>
1	Sanitary sewage from failing infrastructure	<ul style="list-style-type: none"> WWTP Lab/IPP Supervisor WWTP Superintendent 	<ul style="list-style-type: none"> Confirm source Correct problem Notify EGLE w/in 24 hours of confirmation 	Chapter 1047	<p>Violation written allowing for a period of corrective action</p>	Discharge permanently ceased, with date
2	Illicit sanitary connection	<ul style="list-style-type: none"> WWTP Lab/IPP Supervisor WWTP Superintendent 	<ul style="list-style-type: none"> Confirm source Contact owner Correct problem 	Chapter 1040	<p>Violation written allowing for a period of corrective action</p>	Discharge permanently ceased, with date recorded
3	Large quantity spill	<ul style="list-style-type: none"> WWTP Lab/IPP Supervisor WWTP Superintendent 	<ul style="list-style-type: none"> Contact first responders Control issue Clean-up problem Review environmental impacts EGLE PEAS 	<ul style="list-style-type: none"> Emergency response procedure Chapter 1047 	<p>Spill response charged to violator in accordance with Chapter 1047</p>	Discharge terminated, with date recorded
4	Soil erosion measures failing	<ul style="list-style-type: none"> County Soil Erosion & Sedimentation Control (SESC) agent Contractor, if City project City engineering staff, if City project 	<ul style="list-style-type: none"> Contact contractor, if City project Contact city engineering staff, if City project Contact SESC agent Confirm source Correct problem 	Chapter 1047	<p>Violation written allowing for a period of corrective action</p>	Discharge terminated, with date recorded
5	Illegal dumping	<ul style="list-style-type: none"> WWTP Lab/IPP Supervisor WWTP Superintendent 	<ul style="list-style-type: none"> Contact Police Department, depending on severity Contact EGLE PEAS, depending on severity 	Chapter 1047	<p>Violation written allowing for a period of corrective action</p>	Discharge terminated, with date recorded

Figure 3 Procedure

Figure 3 illustrates the response procedure for 5 types of discharge. The city may be notified of a discharge event via phone call or email (including a “contact us” widget on www.bewater.org). EGLE will be notified of the event within 24 hours. In most cases, the lab team from WWTP is

contacted within 48 hours to assess the discharge and take samples, and sample results will typically be available within two weeks. WWTP team response may include: source confirmation, remediation if/when necessary, contact responsible parties, and possibly contact EGLE and police department depending on severity. Responsible parties will receive a written violation notice from the City within 72 hours of event being reported. The responsible parties will be given two weeks to contact the City and comply. Corrective action may vary depending on severity of discharge.

This format will also be used to track the identification and the progress toward eliminating illicit discharges.

Figure 4
CITY OF BATTLE CREEK
ILLICIT DISCHARGE SOURCE IDENTIFICATION, TRACKING, AND ELIMINATION LOG

Outfall ID	Date	Suspected discharge	Method to determine source	Was source identified?	If source was not identified, what are the next steps?	Was source eliminated?	Enforcement action?	Comments	Initials

TRAINING STAFF

Training will be given to existing staff who are involved in illicit discharge-related activities or who have field positions with the potential for witnessing illicit discharges and connections on a once per five year cycle. New staff will be trained within the first year of hire.

Training Topics:

- The definition of illicit discharges and connections
- Techniques for finding illicit discharges, including field screening/observation, source identification/investigation, and recognizing illicit discharges and connections
- Procedures for reporting, responding to, and eliminating an illicit discharge or connection and the proper enforcement response.
- Methods for eliminating illicit discharges and the proper enforcement response
- Techniques for sampling, analyzing, and recording information
- Recognition of naturally occurring phenomena and their sources (bacteria sheens, slimes, and films; bryozoans, pollen, blue-green algae, green algae, tannins, and foams)

Training Procedure:

- For regular, full time, applicable employees:

- Training sessions will be scheduled from date of permit issuance to April, once a year for every year of the permit.
- Staff will be required to attend at least one training per permit cycle, but additional trainings will be encouraged.
- Staff will sign up for training date that works for them.
- Trainings will be held at DPW.
- Staff will be required to sign in to verify their attendance.
- There will be a brief presentation outlining the IDEP program and what expectations are.
- Staff will watch Excal training videos
- Site specific information will be provided and there will be time for questions.
- For seasonal employees:
 - Seasonal employees will be required to view a short presentation and watch the Excal training videos.
 - They will be required to sign a form verifying that they have completed the training.

Figure 6

IDEP TRAINING SCHEDULE		
Employees	Scheduled Training	Frequency
Airport	To begin in February / March	1per 5 year permit cycle
Code Compliance	To begin in February / March	1per 5 year permit cycle
DPW GIS and Records	To begin in February / March	1per 5 year permit cycle
Engineering	To begin in February / March	1per 5 year permit cycle
Fire	To begin in February / March	1per 5 year permit cycle
Fleet	To begin in February / March	1per 5 year permit cycle
Inspections	To begin in February / March	1per 5 year permit cycle
Parks and Recreation	To begin in February / March	1per 5 year permit cycle
Police	To begin in February / March	1per 5 year permit cycle
Sewer	To begin in February / March	1per 5 year permit cycle
Streets	To begin in February / March	1per 5 year permit cycle
Transit	To begin in February / March	1per 5 year permit cycle
Wastewater	To begin in February / March	1per 5 year permit cycle
Water	To begin in February / March	1per 5 year permit cycle
Seasonal	At time of hire	Annual
Contractors	At time of hire / and local pollution control specifications and standards for bid specifications	As needed and before contract work is performed.

ILLICIT DISCHARGE ELIMINATION PROGRAM EFFECTIVENESS

The Illicit Discharge Elimination Program will be evaluated by using the following:

- High priority city outfalls will be screened once per five year cycle. 300 additional outfalls will be screened following the high priority inspections once per five year cycle. Progress reports will include information on screening activities, such as the number visited. In

addition, reports will include an assessment of the screening activities to determine if the appropriate number of outfalls was visited per reporting period.

- The number of illicit discharges/connections identified versus the number eliminated will be reported in progress reports. Also, difficulties in identifying and correcting illicit discharges/connections will be contained in reports.
- Progress reports will contain information on any complaints by the public regarding illicit discharges. Citizen complaints will be compared with dry weather screening.
- The annual monitoring of continuously flowing outfalls will be included in progress reports.

PROGRESS REPORTING

The City will document actions taken to eliminate illicit discharges and connections. Progress reports will summarize the total estimated volume and pollutant load eliminated for the main pollutants of concern, and the locations of the discharges into both the City's MS4 and the receiving water.

RECORD KEEPING

The City will keep records of:

- IDEP investigations and field logs
- Records of actions taken to eliminate illicit discharges
- Records of total estimated volume and pollutant loads eliminated
- Employee training records

Appendix A
CITY OF BATTLE CREEK
ILLICIT DISCHARGE ELIMINATION PROGRAM
STANDARD OPERATING PROCEDURE

INTRODUCTION

The purpose of the City of Battle Creek Illicit Discharge Elimination Plan (IDEP) is to prohibit and eliminate illicit discharges and connections, including discharges of sanitary wastewater to the city of Battle Creek municipal separate storm sewer system (MS4). The separate storm sewer system includes both open and enclosed drainage systems that are owned or operated by the city of Battle Creek and discharge to a surface water of the State or to a separate storm water drainage system operated by another public agency.

The IDEP Standard Operating Procedure (SOP) is intended to assist field personnel in the proper procedures to investigate and eliminate illicit discharges to the City's MS4 system.

EQUIPMENT LIST:

Sample Pole	Sample Collection Vessel
Thermometer, Methyl Red	pH Strips, 0 – 14 range (<i>Verify expiration date</i>)
Surfactant: CHEMets Kit: K-9400, Range: 0-3 ppm, MDL: 0.125 ppm / Method: Methylene Blue	Ammonia: CHEMets Kit: K-1419, Range 0-2, and 0-20 ppm, Method: SALICYLATE
CHEMets Refill: R-9400 (<i>Verify expiration date</i>)	CHEMets Refill: R-1401 (<i>Verify expiration date</i>)
Protective, disposable gloves	Safety glasses
Manhole cover removal device	Global Positioning System Unit
Waste container for test kit materials	MS4 sheet maps
Investigation sheets and clipboard	Pen and pencil
Digital camera	

ANNUAL FLOWING OUTFALL MONITORING:

Several outfalls are known to have flow into the MS4 system year-round. The source of the discharge can be groundwater flow or cooling water discharge. These outfalls will be sampled annually in 2010 and in 2011 to determine if potential illicit discharges are also detected in the flow. The monitoring frequency of these outfalls will be assessed and possibly altered based on the results of this screening. The outfalls can be found on the Annual IDEP Monitoring form as an attachment f the SOP. These samples will be taken by the Wastewater Treatment Plant laboratory staff. The samples will be analyzed for temperature, pH, surfactants, ammonia, and total phosphorus. All parameters, except total phosphorus, will be analyzed in the field.

DRY WEATHER SCREENING:

Dry weather screening should be conducted at a minimum of 48 hours after any precipitation. The priority for screening should be in this order:

- Areas with older infrastructure
- Industrial, commercial, or mixed use areas

- Areas with a history of past illicit discharges
- Areas with a history of illegal dumping
- Areas with septic systems
- Areas with older sewer lines or with a history of sewer overflows or cross-connections
- Areas with sewer conversions or historic combined sewer systems
- Areas with poor dry-weather water quality
- Areas with water quality impacts, including waterbodies identified in a Total Maximum Daily Load
- Priority Areas applicable not identified above

The downtown areas of the Kalamazoo River and the Battle Creek River have a predominance of aging infrastructure. Those areas should be the first priority when beginning the IDEP investigations. The MS4 sheet maps can be used to locate outfalls.

Procedure:

(A minimum of two employees should investigate outfalls for safety reasons.)

1. Once outfalls are prioritized, assemble all needed equipment.
2. Locate outfalls to be investigated during a field investigation. *Note: Some outfalls may be difficult to get to. Use caution when trying to reach them.* Once the outfalls have been found, observe if they have dry weather flow. Field staff will note presence/absence of flow, deposits/stains on the discharge structure or bank, vegetation condition, structural condition, biology, such as bacterial sheens, algae and slimes, water clarity, color, odor or floatable materials. In addition, staff will also investigate undocumented connections and the integrity of the discharge structure.
3. Record observations on the IDEP Investigation Form as shown below:

Sheet #		Water Clarity	Observation	Circle One	Comments
Outfall ID #			Odor ?	Y / N	
Date Visited			Suds ?	Y / N	
GPS?	Yes / No		Oil Sheen ?	Y / N	
Dry Weather Flow?	Yes / No		Floatables?	Y / N	
Picture?	Yes / No		Bacti Sheens?	Y / N	
Sample?	Yes / No		Algae?	Y / N	
Parameter Value			Slimes?	Y / N	
Temperature (°C)			Staining of banks ?	Y / N	
pH (S.U.)			Unusual veg. ?	Y / N	
Surfactants (mg/L)			Color?	Y / N	
Ammonia (mg/L)			Structure Integrity	Y / N	
Detergents (mg/L)			Clarity	Y / N	
Initials	Follow Up?				
	Y / N				

4. Many outfalls will need to have GPS coordinates taken. Those outfalls will be identified on the MS4 sheets. Record on the form if the coordinate was taken.
5. Use the digital camera for any outfalls not previously photographed or if unusual conditions exist.

Dry Weather Flow Present:

1. If flow from the outfall is obvious, such as from sanitary sewage, immediately call the Wastewater Treatment Plant to report the illicit discharge.
2. If flow from the outfall is not obvious, obtain a sample and analyze it for temperature, pH, surfactants, ammonia, fluoride, detergents, and temperature using field test kits. Wear disposable gloves and safety glasses while collecting and analyzing the sample. Place the used ammonia and surfactant ampules in the sealed bucket and return it to the Wastewater Treatment Plant for proper disposal.
3. If the surfactant and ammonia levels are at or below the detection limit, groundwater or exempted non-storm water may be the source of the dry weather flow. Note results on the IDEP Investigation Form.
4. If the surfactant level is higher than the detection limit, sewage or wash water may be present. If the ammonia level is higher than the detection limit, sewage, wash water, or industrial discharge may be present. Note results on the IDEP Investigation Form and inform the Wastewater Treatment Plant that a potential illicit discharge exists for follow-up investigation.
5. Wash all reusable sample containers at the Wastewater Treatment Plant laboratory to make sure they are ready for the next field investigation.

ILLICIT DISCHARGE SOURCE IDENTIFICATION

Once an illicit discharge has been detected and the source is not obvious, the City will conduct a further investigation. The City will use one of the following methods:

- Indicator parameter testing
- Video testing
- Dye testing
- Smoke testing
- Drainage area investigations
- Documented visual observation or physical indicators
- Homeowner surveys and surface condition inspections for on-site sewage disposal systems

Tracking of identification and elimination should be recorded on the tracking log and the follow-up log.

Figure 4
CITY OF BATTLE CREEK
ILLICIT DISCHARGE SOURCE IDENTIFICATION, TRACKING, AND ELIMINATION LOG

Outfall ID	Date	Suspected discharge	Method to determine source	Was source identified?	If source was not identified, what are the next steps?	Was source eliminated?	Enforcement action?	Initials



CITY OF BATTLE CREEK IDEP FOLLOWUP INVESTIGATION REPORT

FACILITY INFORMATION

Facility Name: Outfall ID:
Facility Address: MS4 Sheet ID:

INSPECTION INFORMATION

Insp Start Date: Insp End Date:

City of Battle Creek Inspector(s):

Inspection Summary/Notes (include information on suspected source):

Action Required:

Due Date:

Was the source eliminated? Yes / No

Is Enforcement Action Required? Yes / No

Comments:

Completed by _____
Date _____

2024 TMDL Signatory Reporting

City of Kalamazoo

This information will be used for each community's annual report submission.

1. TMDL Signatory

Malissa Miller, Wastewater Division; Jean Talanda, Water Resources Division

2. What public education/outreach efforts did you complete in 2024? Please list.

- The COK sponsored a **Kanoe the Kazoo** and **Kalamazoo River clean-ups** in coordination with the Kalamazoo River Watershed Council on 4/13/24, 4/20/2024, 8/3/2024 and provided t-shirts and educational materials.
- The COK sponsored a **Kalamazoo River Youth Experience** in coordination with the Kalamazoo River Watershed Council on 6/17/24, 6/24/24, 7/30/2024, 8/6/2024.
- COK provided **10 totes with cleanup materials** to the Kalamazoo River Watershed Council to be distributed to local organizations.
- Our annual internal **NPDES stormwater training** was conducted for 78 employees on stormwater, performance standards, BMPs and low impact development (6/12/2024 and 8/21/2024).
- Performed routine, comprehensive, annual review of the **Stockbridge and Parks & Rec Facility Storm Water Pollution Prevention Plans**. Continued new employee stormwater training program upon hiring into the Public Services Department.
- The **City of Kalamazoo Spill Prevention Packet** was updated with current division contacts and redistributed in 2024.
- **TMDL Group** meeting attendance and outreach efforts.
- Participation in the regular **MS4 Community Meetings** with EGLE continued.
- In collaboration with the MS4 NPDES permittees in Kalamazoo County, the **Kalamazoo Stormwater Working Group (KSWG)** continued our multilingual educational outreach for 10 NPDES-required topics on the City's Educational website, www.ProtectYourWater.net/KSWG, YouTube, Facebook and Instagram. The 10 topics rotated monthly on the webpage as well as the websites of all participating KSWG partners.
- The COK provided many **presentations to public audiences** on water resources including topics on stormwater and groundwater protection practices, BMPs, stormwater runoff, and TMDLs. In 2024, the COK presented:
 - At booths at our Farmer's Market using the Enviroscape model, human water cycle bracelet activity, a Wheel-of-Fortune display with stormwater and wellhead protection questions, and a pick a duck Q&A game for young audience members. During the two Farmer's Market events, the presenters disseminated educational materials to 317 attendees (6/01/2024, 6/29/2024).

- At the local Girl Scout Summer Camp for 25 scouts (7/02/2024),
 - At Maple Street Middle School - 142 students,
 - At Public Services Week (5/21/2024, 5/22/2024, 5/23/2024) booths and water model presentations - 143 people,
 - At Macatawa Water Festival (7/13/2024) - 58 people,
 - With 44 Boy Scouts participating in two trail signage projects (Summer 2024),
 - At the 5,000th Lead Service Line Removal at the Edison Association (10/17/2024) - 200 participants,
 - EHAC meeting concerning the overall Water Resources Programs in Kalamazoo – 12 members,
 - For new internal Water Operation staff training on Aquifers and Aquifer Protection – 13 staff, and
 - During internal and external trainings with collaborative departments and committees - 30 people.
- The City continues its campaign with **theater ads** at the three local movie theatres showcasing twelve water resource protection 30-second videos. Ads target Kalamazoo citizens with the desired demographics for interested persons, families, and school age children.
- **Two high school video contests** with the Kalamazoo Regional Educational Service Agency (KRESA) were completed resulting in 3 new ads. The winning 30-second movie ads focusing on water resources. A monetary prize was given out to three students with winning video ads. The ads are also delivered via online streaming TV.
- **ProtectYourWater.net** has continued to rotate monthly stormwater topic pages. Our Water Resources website has been an excellent online resource for many local citizens. Our resources and activities are geared for Preschool-Kindergarten, Elementary and Middle School, as well as Teachers.
- **YouTube, Facebook/Instagram ads** are posted by the COK's marketers which promote the NPDES permit-required topics for educational outreach. These ads link to ProtectYourWater.net for more engagement by the viewers. Social media ads and promotions that interact with the COK's website ProtectYourWater.net continue to expand stormwater related issues and references such as TMDLs, specially through the KSWG group webpage.
- **Radio ads** have continued, collaborating with the City of Battle Creek for a greater area coverage. Several radio ads are promoted on up to 5 stations and on Programmable Audio (Spotify, etc.) to promote water resource messages and reference ProtectYourWater.net and BCwater.org for more information. Radio ads focus, on water resources and pollution prevention, recycling, reuse and proper disposal of poop, trash and chemicals.
- The City participates in an ongoing **chloride study with EGLE** on the local surface water bodies and creeks. The study began in the august of 2023 and includes sampling off the West Fork of Portage Creek on the City's Al Sabo Preserve.

3. What hurdles did you encounter in completing public education/outreach projects?

Fortunately, the establishment of these digital platforms have continued to help us with other in-person outreach challenges in 2024. Our hurdles continue to be lack of staffing, funding sources, and time for presentations.

4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?

- Continuing collaborative efforts with the TMDL group.
- Promote the success of the WWTP in reducing phosphorous loading to the Kalamazoo River.
- Continuing collaborative educational efforts with the MS4 KSWG group on our webpage. www.ProtectYourWater.net/Stormwater KSWG.
- Collaborating with KVCC and creating BMP videos and outreach, when available.
- Collaborating with WMU on local lakes to conduct more eutrophication and chloride studies.
- Revive active school class presentations, when available.
- Identify ways to improve attendance at educational events like the Farmer's Market.
- Continued efforts to complete and implement 3 Forest Stewardship Plans on the City's large tracks of land with creeks, in order to improve the surface water quality.

5. What are your plans for public education/outreach for 2025?

Continue ongoing efforts as noted above, especially public presentations, website/social media, radio and Spotify ad campaigns, Krazy for the Kazoo River clean-ups and Kanoe the Kazoo events. The City of Kalamazoo will be partnering with KRWC in hosting youth paddle events for the 2024 Kalamazoo River Youth Experience Outreach Program as well as in education outreach through the Forest to Michigan Faucet Program with EGLE.

Municipalities Only

6. **Does your community have a postconstruction stormwater ordinance or resolution, which requires permanent storm water management measures (e.g., retention or detention ponds, rain gardens, swales, storm water treatment devices)? This is typically integrated into the site plan review process.**

YES

If the answer is YES, please choose the appropriate mechanism:

ORDINANCE / RESOLUTION (eg. Engineering Review by Drain Commissioner's Office)

- The City already has an ordinance and performance standards in place.

What is working well and/or what needs improvement? Do you need assistance from one of the larger communities in order to better understand the site plan review process?

- The COK's ordinance and performance standards are in place and work effectively. There is no need at this time to request other assistance. However, the COK will help any other entity that needs assistance in this regard.

7. **Do you have a plan for pollution prevention/good housekeeping for the municipally-owned properties (e.g. street sweeping, catch basin cleaning, proper disposal of catch basin clean-out, management of polluting materials at the DPW yard)?**

YES. Please refer to Section 8 of the 2020-21 COK MS4 Program Progress Report and Section 9 of the 2023 MS4 Permit Application.

8. **Do you have a plan for conducting dry weather screening at storm water outfalls in order to look for any improper connections or discharges to the storm sewer systems? For example, how many outfalls are scheduled to be inspected each year during dry weather? How many did your municipality inspect? Were any illicit connections or illicit discharges discovered? If so, were they eliminated?**

YES. Please refer to Section 5 of the 2020-21 COK MS4 Program Progress Report and Section 7 of the 2023 MS4 Permit Application.



Department of Public Services

Harrison Street Facility

1415 North Harrison Street

Kalamazoo, Michigan 49007-2565

Ph. 269.337.8701

Fx. 269.337.8699

CITY OF KALAMAZOO

2024 TMDL STRATEGIES

I. Point Source Phosphorus Reduction Strategies:

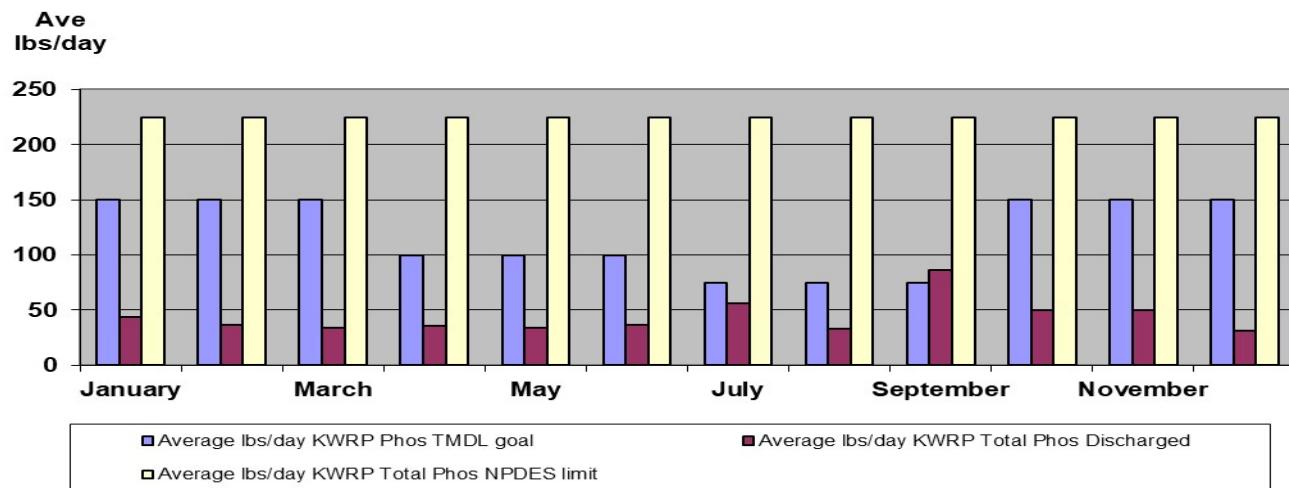
City of Kalamazoo staff attended all four of the two required TMDL joint point source/implementation committee meetings in 2024. The city paid our \$3,315 annual TMDL point source dues for maintaining the Point Source Tracking/Reporting and for non-point source reduction activities.

City staff continued to expend operational hours and chemicals treating phosphorus in 2024 at its Water Reclamation Plant located at 1415 North Harrison Street (NPDES MI0023299). They utilized appropriate dosing points for the 4,272 gallons of ferric chloride (\$10,154.53) dosed in 2024 up from 1,112 gallons in 2023 (\$2,643.22) used to reduce phosphorus during the TMDL season. The City has ongoing success operating the Biological Nutrient Removal (BNR) system which is evident in the low effluent phosphorus discharged into the Kalamazoo River by the KWRP throughout the year and during the TMDL months.

Staff continued to utilize the on-line phosphorus analyzers in primary, mixed liquor (post aeration), and tertiary. Additionally, staff utilized ammonia analyzers in the mixed liquor (post aeration) and tertiary effluent as well as BOD analyzers at the secondary influent and tertiary effluent to monitor nutrient balance and nitrification. A tertiary effluent nitrate analyzer is also utilized to monitor denitrification from the BNR system. The use of these analyzers helps to maximize treatment throughout the plant. Our industrial facilities continued the practice of calling prior to discharging their phosphorus streams and continued to spread their spent phosphoric batch discharges where feasible over extended periods when the extended period did not affect their production schedules. The practice of calling ahead of discharging and discharging over an extended period enabled City of Kalamazoo operations staff to provide better removal by maintaining an appropriate nutrient balance and determine appropriate chemical dosing schemes.

We met our April- September TMDL goal in 5 out of 6 TMDL months in 2024. The following graphs highlight our average daily and total monthly phosphorus discharges, our goals, our permit limit and our influent loading:

2024 City of Kalamazoo daily average of pounds of total phosphorus discharged as reported to the <https://mienviro.michigan.gov/ncore/external/home> website, our goals and our permit limit:



April-June 100 lb/day goal

April	36	lbs
May	34	lbs
June	37	lbs

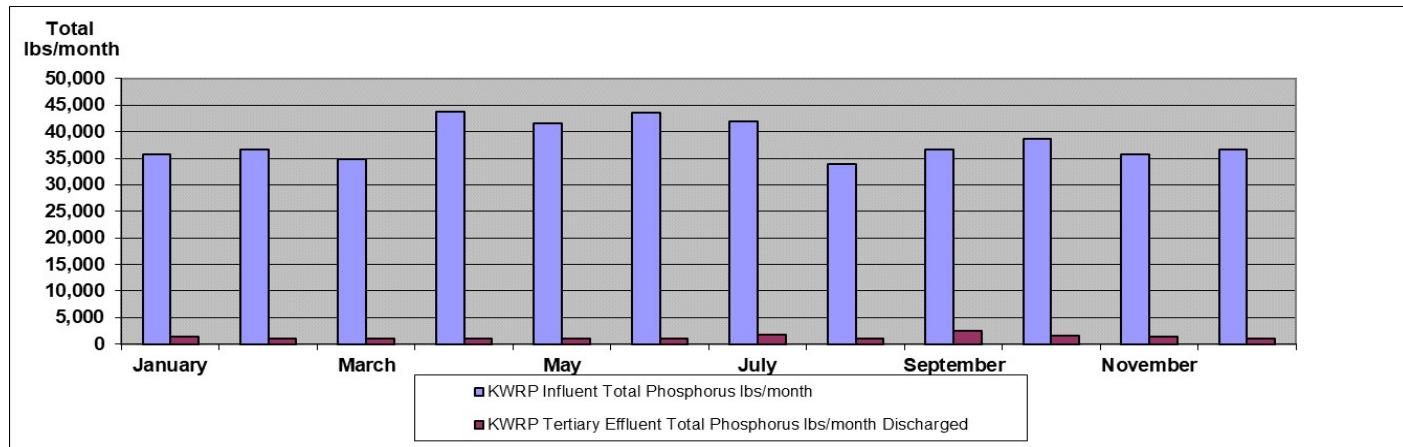
July-September 75 lb/day goal

July	56	lbs
August	33	lbs
September	86	lbs

Permit Limit per day

Jan- Dec	225	lbs
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2024 City of Kalamazoo monthly pounds of total phosphorus treated and discharged:



<u>Primary Influent</u>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Pounds-	35650	36569	34813	43770	41602	43590	41850	33976	36570	38719	35700	36580
<u>Tertiary Effluent</u>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Conc mg/l-	0.20	0.17	0.16	0.16	0.15	0.16	0.22	0.14	0.41	0.24	0.24	0.15
Total Pounds-	1364	1073	1054	1080	1054	1110	1736	1023	2580	1550	1500	961
KWRP Effluent Quarterly Monthly Average			1164			1081			1290			1337

II. Non-Point Source Phosphorus Reduction Strategies:

The City of Kalamazoo staff attended four TMDL joint point source/implementation committee meetings; maintained one board position on the Kalamazoo River Watershed. The KWRP participated/hosted three Krazy for the Kazoo / Kanoe the Kazoo events in 2024. These events were held on April 13th, April 20th, and August 3rd we had a total of 38 participants in 2024. The KWRP supported the Kalamazoo River Youth Experience. These events were held on 6/17/24, 6/24/24, 7/30/2024, and 8/6/2024. Approximately 10-15 youth participated at each event.

The City has an approved citywide MS4 stormwater permit and has spent many hours surveying the stormwater system for illicit discharges/connections and made corrections where applicable. The City requires stormwater treatment in new and redeveloped properties, as needed, through the site plan review process. City staff review site plans to ensure proper stormwater controls are implemented in the plans. Staff also encourages, through the site plan review, the installation of natural and native plantings and stormwater infiltration areas where appropriate. City staff cleaned/maintained various portions of the City's stormwater system, conducted routine street sweeping required installation and maintenance of stormwater pre-treatment systems and staff implemented good housekeeping techniques where possible to minimize impact on water quality. The City of Kalamazoo has both Stormwater and Wellhead Protection Ordinances. The City maintains a green roof on City Hall.

In 2024, there were 21 tours of the Kalamazoo Water Reclamation Plant that were conducted with a total of 278 participants. Wastewater treatment topics, nutrient removal issues including phosphorus removal and the Lake Allegan/Kalamazoo River TMDL, sustainability, operational updates and performance, and stormwater and wellhead protection issues were discussed. Staff maintained active media campaigns using theater ads, radio ads, and YouTube to educate the public on wellhead protection, groundwater, and stormwater issues. City staff also provided totes of clean up materials to volunteer groups to complete cleanup events near the Kalamazoo River and parts of the water body itself throughout the City. Paddles and cleanup efforts stretched from Comstock to Verberg Park. These cleanups resulted in about 28 cubic yards of trash being collected. These efforts are to promote stewardship of the river and its recreational use.

Groups that were engaged in public education and Water Reclamation Plant tours included Kalamazoo New Employees, Public Service Week tour attendees, Western Michigan University classes, Kalamazoo Math and Science Center students, Industrial Pretreatment Program tour group, Significant Industrial User groups, vendor, stakeholder, and citizen groups. Topics covered include wastewater treatment, plant operations, PFAS research efforts, the new secondary BNR process to help meet TMDL limits, construction of the tertiary disc filtration building slated for commissioning in Q2 2025, and industrial stormwater concerns and efforts. Additional public education outreach and outreach metrics are attached in the included 2024 TMDL Signatory Reporting Form.

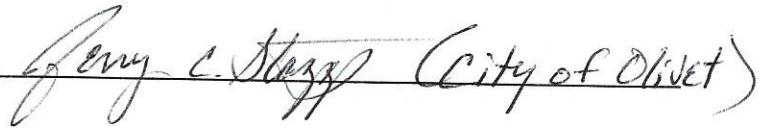
The Kalamazoo Water Reclamation Plant maintained the valves installed on its facility stormwater outfalls which are closed during non-storm events to enable our facility to contain, remove and cleanse the stormwater system of any undesirable material so that it does not enter the river prior to treatment within our facility. The KWRP only has two remaining stormwater outfalls. Cleaning of basins and basin repair is occurring as needed. Street sweeping of streets within the plant is performed as needed. The Kalamazoo Water Reclamation plant also conducted its annual stormwater system education sessions required under our NPDES permit and quarterly on-site stormwater system comprehensive inspections in 2024. The City has two active rain garden areas and a bioswale with native plants at its Harrison Street Facility (KWRP).

In 2024, City promoted the State lawn fertilizer ban in the View from the Curb pamphlet which is delivered to each household within the City and is also available on the City website. Staff continued to optimize corrosion control chemicals for its potable water system.

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory Jerry Staggs



Jerry C. Staggs (City of Olivet)

2. What public education/outreach efforts did you complete in 2024? Please list.
KNOE the KAZOO held in Battle Creek along with Marshall and Charlotte, River Clean up (twice)
3. What hurdles did you encounter in completing public education/outreach projects?

Weather

4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?
5. What are your plans for public education/outreach for 2023?

KNOE THE KAZOO, River Clean up, Tree Planting

Municipalities Only

6. Does your community have a postconstruction stormwater ordinance or resolution, which requires permanent storm water management measures (e.g. retention or detention ponds, rain gardens, swales, storm water treatment devices)? This is typically integrated into the site plan review process.

YES / NO (Please choose) NO

If the answer is YES, please choose the appropriate mechanism:

ORDINANCE / RESOLUTION (eg. Engineering Review by Drain Commissioner's Office)

What is working well and/or what needs improvement? Do you need assistance from one of the larger communities in order to better understand the site plan review process?

7. Do you have a plan for pollution prevention/good housekeeping for the municipally-owned properties (e.g. street sweeping, catch basin cleaning, proper disposal of catch basin clean-out, management of polluting materials at the DPW yard)? Please attach the plan, ideally in the form of a spreadsheet, and include the status for each item. For example, how often was street sweeping conducted? What is the frequency for catch basin cleaning? What procedures are followed at the DPW yard?
Street sweeping twice a year and as needed, catch basins as necessary, disposed of at compost
8. Do you have a plan for conducting dry weather screening at storm water outfalls in order to look for any improper connections or discharges to the storm sewer systems? Please attach the schedule for conducting dry weather screening, and the current status. For example, how many outfalls are scheduled to be inspected each year during dry weather? How many did your municipality inspect? Were any illicit connections or illicit discharges discovered? If so, were they eliminated? N/A



**117 S. Main St.
P.O. Box 367
Olivet, MI 49076**

**Phone (269) 749-4961
Fax (269) 749-2034**

2024 TMDL ANNUAL REPORT

Due to the lack of water

During the last year, the City of Olivet completed the annual street sweeping program. In 2024, we swept a total of three times and plan on continuing with this frequency. We evaluate, clean and repair our storm catch grates on a regular basis and we held our annual curbside leaf pickup from October 12th to November 30th, 2024. This annual curbside leaf pickup generates an enormous amount of leaves for our compost site. Local residents are able to use the composted material on their gardens and other various locations around the city.

The City of Olivet collaborates with the Village of Bellevue, Bellevue and Walton Townships for a weekly recycling program. This program continues to receive more users each year. The site is located in Walton Township and receives paper products, plastics, glass and metal/aluminum. The City of Olivet also accepts all types of used batteries and florescent light bulbs. Residents can drop these items off at city hall Monday thru Friday during business hours.

The City of Olivet has established many articles on its website (cityofolivet.org) regarding water awareness programs such as Wellhead Protection; Abandoned Well Management; Water Conservation Programs; Pharmaceutical Disposal and Storm Drain Protection along with other information.

The City of Olivet continues to work with the Michigan Rural Water Association and the Michigan Department of Environmental, Great Lakes and Energy to reduce the levels of phosphorus in our sewer lagoon system.

Olivet's storm water plan is current and we continue to work with the Eaton County Drain Commission and Construction Code Department on post construction activities that take place in the city.

The City of Olivet developed a new green space in the downtown core in 2015 and it continues to gain popularity from year to year.

The City of Olivet attended two TMDL point source meetings in 2024 and submitted its sewer lagoon phosphorus loading data each month to TMDL point source tracking as required.

“This institution is an equal opportunity provider and employer.”

From January 2012 to February 2014, the City of Olivet spent more than \$45,330 adding Hydrozyne to the sewer lagoons to help reduce the levels of phosphorus. This was discontinued in February 2014, we also had two of the sewer cells cleaned and sludge removed. We also treated cell #4 in the lagoons for duck weed in early summer 2019 and retreated in July 2020. We treated cell #3 in 2021. We will continue to monitor and evaluate the ponds for future issues.

In 2012, the City of Olivet adopted an Ordinance to ban the use of lawn fertilizer containing phosphorus. Each year we remind our residents about the ban of phosphorus lawn fertilizers in our April newsletter.

The City also has a clean up day that Olivet College participates in two times a year which includes picking up trash along the river and pulling weeds at our sewer ponds.

Respectfully Submitted,

Jerry Staggs
Director of Public Works
269 339-8219
117 S. Main St.
Olivet MI 49076

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory_ _City of Otsego_____
2. What public education/outreach efforts did you complete in 2024? Please list.
Put info at City Hall and on the website.
3. What hurdles did you encounter in completing public education/outreach projects?
Getting the info to get to the people.
4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?
Put together something for the website.
5. What are your plans for public education/outreach for 2025?
Keep putting the info that we have out.
Try to get some more info that is relevant to our system.
Try to get the public more involved.
Try getting a link to TMDL on our website
Getting the new QR code on our news letter

Municipalities Only

6. Does your community have a postconstruction stormwater ordinance or resolution, which requires permanent storm water management measures (e.g. retention or detention ponds, rain gardens, swales, storm water treatment devices)? This is typically integrated into the site plan review process.

YES / NO (Please choose) Yes

If the answer is YES, please choose the appropriate mechanism:

ORDINANCE / RESOLUTION (eg. Engineering Review by Drain Commissioner's Office)

Ordinance.

What is working well and/or what needs improvement? Do you need assistance from one of the larger communities in order to better understand the site plan review process?

Our street sweeping is working well. We could possibly redo some of our parking lots in the future to make them leech water. We do not need any assistance at this time.

7. Do you have a plan for pollution prevention/good housekeeping for the municipally-owned properties (e.g. street sweeping, catch basin cleaning, proper disposal of catch basin clean-out, management of polluting materials at the DPW yard)? Please attach the plan, ideally in the form of a spreadsheet, and include the status for each item. For example, how often was street sweeping conducted? What is the frequency for catch basin cleaning? What procedures are followed at the DPW yard?
We keep everything at the DPW contained and the catch basins are usually taken with the vactor company. The streets are swept monthly from spring to fall. We have good housekeeping measures that are taken at the DPW yard.
8. Do you have a plan for conducting dry weather screening at storm water outfalls in order to look for any improper connections or discharges to the storm sewer systems? Please attach the schedule for conducting dry weather screening, and the current status. For example, how many outfalls are scheduled to be inspected each year during

dry weather? How many did your municipality inspect? Were any illicit connections or illicit discharges discovered? If so, were they eliminated?

We just do walks on the riverbank looking for running water. We do checks when cleaning basins to look for discharges as well. No illicit discharges were found this year during inspections.

((JBS))

02-25-2025

TMDL Point Source Committee
ATTN: Janelle Hohm-EGLE

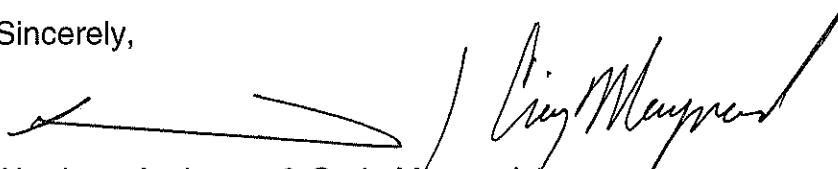
RE: JBS Plainwell, Inc.

This letter is to convey our efforts on phosphorous reduction and our assistance toward non-point source reductions.

Attached is a summary of the 2024 phosphorus contributions. Our phosphorus reduction activities included daily monitoring of our phosphorus discharges and reviewing alternate chemicals for cleaning at the facility to try and reduce phosphorus loadings. Our monthly average for the year was .87mg/L. The summer limit goal is .77 mg/L and our Summer Average was .86mg/L.

Non-point source assistance activities included general housekeeping and policing of our parking lots. Promotion and/or Participation for events that took place on the Kalamazoo River were also supported in 2024, and will continue.

Sincerely,



Abraham Anderson & Craig Maynard
JBS Plainwell, Inc.
Environmental/Wastewater

JBS Plainwell, Inc. Monthly Discharge Averages**NPDES Permit # MI0050628**

Date	mg/L INF T-Phos	MGD Flow	mg/L EFF T-Phos	lbs EFF T-Phos	% P Removal
Jan-24	45	1.047	0.87	7.6	0.98
Feb-24	45	1.046	0.88	7.7	0.98
Mar-24	44	0.988	0.86	7.1	0.98
Apr-24	40	0.931	0.93	7.2	0.98
May-24	42	1.005	0.84	7.0	0.98
Jun-24	43	1.097	0.84	7.7	0.98
Jul-24	39	1.069	0.89	7.9	0.98
Aug-24	39	1.018	0.81	6.9	0.98
Sep-24	36	1.081	0.86	7.7	0.98
Oct-24	40	1.039	0.85	7.4	0.98
Nov-24	42	1.061	0.92	8.1	0.98
Dec-24	43	0.961	0.85	6.8	0.98
Averages	42	1.028	0.87	7.43	0.98
Permit Limit			1.00		
Summer Goal			0.77		
Summer Average (April-Sept)			0.86		

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory John Beasley - General Manager
2. What public education/outreach efforts did you complete in 2024? Please list.
 - Support for clean up events.
 - Printing out schedules and posting in common areas.
 - Received some educational pamphlets from TMDL meetings to post in common areas.
3. What hurdles did you encounter in completing public education/outreach projects?
 - Finding volunteers to get involved in events scheduled for clean up.
4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?

N/A
5. What are your plans for public education/outreach for 2024?
 - Continued support for planned TMDL events
 - Adding more inserts throughout the plant to continue educating about phosphorus reduction.

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory: **City of Marshall**
2. What public education/outreach efforts did you complete in 2023? Please list.
We made a few social media posts.
Hosted MMS 6th graders on a tour at the WWTP where we talk about conservation.
Supported a Kanoe the Kazoo event led by Charlotte and Olivet.
3. What hurdles did you encounter in completing public education/outreach projects?
Nothing to speak of.
4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?
5. What are your plans for public education/outreach for 2025?

Supporting Kanoe the Kazoo, River Clean-up, and 6th grade tours.

Municipalities Only

6. Does your community have a postconstruction stormwater ordinance or resolution, which requires permanent storm water management measures (e.g. retention or detention ponds, rain gardens, swales, storm water treatment devices)? This is typically integrated into the site plan review process.

YES / NO (Please choose)

If the answer is YES, please choose the appropriate mechanism:

ORDINANCE / RESOLUTION (eg. Engineering Review by Drain Commissioner's Office)

What is working well and/or what needs improvement? Do you need assistance from one of the larger communities in order to better understand the site plan review process?

Our site plan review process runs fairly smoothly. We utilize a team of staff that includes the Zoning Administrator; Directors of Public Works and Electric Utilities; DPW, Water, and Wastewater Superintendents; and Public Safety.

7. Do you have a plan for pollution prevention/good housekeeping for the municipally-owned properties (e.g. street sweeping, catch basin cleaning, proper disposal of catch basin clean-out, management of polluting materials at the DPW yard)? Please attach the plan, ideally in the form of a spreadsheet, and include the status for each item. For example, how often was street sweeping conducted? What is the frequency for catch basin cleaning? What procedures are followed at the DPW yard?

During the previous year, the City of Marshall completed its annual street sweeping program. The DPW currently sweep our streets throughout the spring, summer and fall seasons on a weekly basis. DPW was able to dedicate approximately 325 hours to sweeping debris from the 50+ miles of road in the City. We evaluate, clean, and repair our storm catch basins on a two-year rotation. We also held our annual curbside leaf pickup from late-October to mid-December. This annual curbside leaf pickup creates an enormous amount of leaves that are taken to our compost site each year. The city residents are able to use the composted material at no cost. The City uses it on other various locations around the city.

8. Do you have a plan for conducting dry weather screening at storm water outfalls in order to look for any improper connections or discharges to the storm sewer systems? Please attach the schedule for conducting dry weather screening, and the current status. For example, how many outfalls are scheduled to be inspected each year during dry weather? How many did your municipality inspect? Were any illicit connections or illicit discharges discovered? If so, were they eliminated?

We do not currently have a plan for dry weather screening.



February 4, 2025

Attn: Janelle Hohm
Senior Environmental Quality Analyst
Water Resources Division / Kalamazoo District Office
Michigan Department of Environment, Great Lakes and Energy

To: Kalamazoo River Watershed Phosphorous TMDL Implementation Committee

From: Frank Knowles – Otsego Paper, Inc.

Subject: Annual Report of TMDL Activities for 2024 for Otsego Paper, Inc.

Activities:

January 18, 2024: Kalamazoo River/Lake Allegan Phosphorus TMDL-
Implementation Committee/Point Source Committee Meeting.

April 18, 2024: Kalamazoo River/Lake Allegan Phosphorus TMDL-
Implementation Committee/Point Source Committee Meeting.

July 17, 2024: Kalamazoo River/Lake Allegan Phosphorus TMDL-
Implementation Committee/Point Source Committee Meeting.

October 17, 2024: Kalamazoo River/Lake Allegan Phosphorus TMDL-
Implementation Committee/Point Source Committee Meeting.

Phosphorous loading data was reported each month to the Mi-Enviro website as required.

Annual fees will be paid as required.

“Kanoe the Kazoo” was advertised to mill employees. These events are used to educate the public regarding uses of the Kalamazoo River. The flyer was available in the lunchroom.

“Krazy for the Kazoo” River Clean Up & Conservation was advertised to mill employees with information available in the lunchroom.



Rain Barrel sales were also advertised in the lunchroom to mill as well.

Below is 2024 Phosphorous data reported for the Otsego Paper, Inc.

Phosphorous Loading Report for 2024

003 Outfall

Month	Concentration mg/l	Total Pounds
Apr	0.47	215.43
May	0.25	105.16
June	0.25	109.15
July	0.21	95.39
Aug	0.15	64.30
Sept	0.14	61.26

Sincerely,

Frank Knowles
Environmental Compliance Supervisor
Otsego Paper, Inc.
Email: fknowles@usg.com
Phone: 269-384-6351

cc: Eric Bock

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory Otsego Paper, Inc.

2. What public education/outreach efforts did you complete in 2024? Please list.

Placed flyers in the lunchroom for Kalamazoo River activities that were supplied by Kalamazoo TMDL and online. Promoted Kanoe the Kazoo and Krazy for the Kazoo events in the lunchroom.

3. What hurdles did you encounter in completing public education/outreach projects?

Even today, there's less public gathering due to covid. Less people tend to use the lunchroom due to a change in habits.

4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?

None at this time.

5. What are your plans for public education/outreach for 2024?

Continue to supply information regarding Kalamazoo River events throughout the year.

2025 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory _____ Smurfit WestRock, Battle Creek Mill _____

2. What public education/outreach efforts did you complete in 2024? Please list.
 - Provided annual SWPPP, SPCC, and TMDL training to Westrock employees.
 - Attended all quarterly TMDL Committee meetings (in person or virtual)
 - Installed new stormwater bunkers by our receiving department to prevent accidental contamination.
 - Zero discharge for Non-Contact Cooling Water
 - No phosphorous-containing chemicals used in our NCCW discharge system.
 - Broke ground on a multi-million-dollar project to reduce fresh water consumption and improve water quality being discharged to the City of Battle Creek WWTP

3. What hurdles did you encounter in completing public education/outreach projects?
Did not participate in public outreach projects in 2024

4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?
Continue to provide additional information, presentations, etc. regarding work being performed around the Kalamazoo River & Lake Allegan. Much progress has been made over the past decade and improvements continue.

5. What are your plans for public education/outreach for 2025?
Company representative to continue attending TMDL meetings
Continued yearly education regarding stormwater & TMDL interests

2024 TMDL Signatory Reporting

This information will be used for each signatory's annual report submission.

1. TMDL Signatory Jeshua Hansen WSP

2. What public education/outreach efforts did you complete in 2024? Please list.

Educated and instructed employees and contractors to capture stormwater coming in contact with work pad for treatment and to minimize use of phosphorous on the site.

3. What hurdles did you encounter in completing public education/outreach projects?

None

4. What ideas do you have for the TMDL group to work together to better accomplish the TMDL goals for public ed/outreach?

None

5. What are your plans for public education/outreach for 2024?

Educate and instruct employees and contractors to capture stormwater and minimize use of phosphorous should site activities occur in 2025.

Municipalities Only

6. Does your community have a postconstruction stormwater ordinance or resolution, which requires permanent storm water management measures (e.g. retention or detention ponds, rain gardens, swales, storm water treatment devices)? This is typically integrated into the site plan review process.

YES / NO (Please choose)

If the answer is YES, please choose the appropriate mechanism:

ORDINANCE / RESOLUTION (eg. Engineering Review by Drain Commissioner's Office)

What is working well and/or what needs improvement? Do you need assistance from one of the larger communities in order to better understand the site plan review process?

7. Do you have a plan for pollution prevention/good housekeeping for the municipally-owned properties (e.g. street sweeping, catch basin cleaning, proper disposal of catch basin clean-out, management of polluting materials at the DPW yard)? Please attach the plan, ideally in the form of a spreadsheet, and include the status for each item. For example, how often was street sweeping conducted? What is the frequency for catch basin cleaning? What procedures are followed at the DPW yard?
8. Do you have a plan for conducting dry weather screening at storm water outfalls in order to look for any improper connections or discharges to the storm sewer systems? Please attach the schedule for conducting dry weather screening, and the current status. For example, how many outfalls are scheduled to be inspected each year during dry weather? How many did your municipality inspect? Were any illicit connections or illicit discharges discovered? If so, were they eliminated?