Michigan State University

Phase II NPDES Stormwater Progress Report

Covering the Period

January 1, 2023, to December 31, 2024

Submitted to the

Michigan Department of Environment, Great Lakes and Energy

April 1, 2025

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General Information and Regional Stormwater Management

This progress report is being submitted by Michigan State University (MSU) in partial fulfillment of the requirements of the Phase II Stormwater National Pollutant Discharge Elimination System (NPDES) Permit No. MI0059342. The permit allows for discharges from a municipal separate storm sewer system (MS4). The Michigan Department of Environment, Great Lakes and Energy (EGLE) requires that a progress report be submitted on the implementation status of the current permit. This progress report covers the period of January 1, 2023 through December 31, 2024.

MSU is working to meet its permit requirements by implementing campus-based stormwater management activities and collaborative activities with other communities within the Greater Lansing urbanized area. The regional and campus-based frameworks for these activities are described below.

Greater Lansing Regional Committee (GLRC)

The Greater Lansing Regional Committee (GLRC) for Stormwater Management is a guiding body comprised of participating permitted Municipal Separate Storm Sewer System (MS4) communities within the Greater Lansing Region. The committee has been established to guide the implementation of the Phase II Program for the communities within three identified urbanized watersheds: the Grand River, the Red Cedar River and the Looking Glass River watersheds.

GLRC Background

In November 1999, nine communities and three counties in the Greater Lansing Area organized to discuss the federal regulations for the Clean Water Act's Stormwater Phase II Program. The result of this organization was an agreement to pool resources on a regional basis to fulfill the requirements of the program. Initially, based on 1990 census population data, these nine communities and three counties were the only entities in the Greater Lansing Area that were designated to participate in the Phase II "Voluntary Permit Program" by the Michigan Department of Environmental Quality, now Department of Environment, Great Lakes and Energy (EGLE). Following several meetings of this group during late 1999 and early 2000, a resolution was drafted to establish the "Greater Lansing Area Regional NPDES Phase II Stormwater Regulations Committee" and representatives from each jurisdiction were named to serve on the committee.

Soon after the organization of the committee in 2000, the Tri-County Regional Planning Commission (TCRPC) began to assist the committee in providing contractual, fiduciary, and administrative support. Tetra Tech was selected to produce a permit strategy study, and later to prepare the Voluntary Grant Permit Applications for each community. Again in 2002, Tetra Tech was retained to prepare watershed management plans (WMPs) for the Grand River and Red Cedar River watershed areas and would later prepare a WMP for the Looking Glass River watershed area.

Based on the increased population data following the release of the 2000 Census, ten additional communities were designated to meet the stormwater MS4 requirements under Federal and State regulations. Ultimately, seventeen communities and the three counties agreed to participate in a regional approach until 2007, when a lawsuit determined some townships no longer required an MS4 permit. GLRC members then took formal action to establish an Associate Membership category within

Memorandum of Agreement (MOA). The MOA with GLRC member communities continues to be updated and reapproved, most recently in 2023 to align with the current permit cycle. The current MOA was adopted by GLRC members and establishes the GLRC through April 30, 2028. There are also a number of interested parties that are consistently involved with the planning activities associated with this program such as parks departments, conservation districts, utility authorities, and transportation authorities. The participating communities recognize the substantial benefits that can be derived through cooperative management of the watersheds in order to meet the MS4 permit requirements and protect area waterways.

GLRC Members

The participating MS4 entities that currently make up the GLRC are as follows:

- City of DeWitt
- City of East Lansing
- City of Grand Ledge
- City of Lansing
- City of Mason
- Delhi Charter Township
- Delta Charter Township
- DeWitt Charter Township
- Lansing Charter Township
- Meridian Charter Township
- Lansing School District
- Waverly Community Schools
- Clinton County
- Clinton County Road Commission
- Eaton County
- Ingham County
- Michigan State University

GLRC Organization

Within the GLRC, a number of committees have been established to guide various components of the MS4 program. Other committees may be established as needed throughout the course of the program. A list of the committees including a brief description of their responsibilities follows.

Current GLRC Organization

Executive Committee

The GLRC Executive Committee is comprised of a maximum of 10 voting members consisting of the Chair, Vice Chair, Secretary and Treasurer of the GLRC, one representative from each of the three counties, and the chairs of the Illicit Discharge Elimination Program (IDEP)/Post-Construction Committee, Public Education Program (PEP) Committee, and Total Maximum Daily Load (TMDL) Committee. The Executive Committee meets five times per year and the Full Committee meets twice per year.

Public Education Program (PEP) Committee
The PEP Committee guides the overall public education, participation, outreach, and involvement process. This also includes evaluation of the program and assessment of public knowledge and activities.

Illicit Discharge Elimination Program (IDEP)/Post-Construction Committee
The IDEP/Post-Construction Committee guides the organization and implementation of the Illicit Discharge Elimination Program, mapping guidelines, field-sampling protocols, and how the watershed will be monitored for progress, as well as advises on matters regarding Post-Construction measures. The Committee has reviewed and provided recommendations related to pet waste reduction techniques, septic tank maintenance issues, staff training, as well as channel protection and removal practices for total suspended solids.

Total Maximum Daily Load (TMDL) Committee
The TMDL Committee makes recommendations regarding the Grand River and Red Cedar River E. coli Total Maximum Daily Load (TMDL) requirement, as well as the phosphorus TMDL for the Maple River. The committee provides educational opportunities and updates to GLRC members to assist in the development and implementation of TMDL programs.

Watershed Partnerships and Related Efforts

Middle Grand River Organization of Watersheds (MGROW)
MGROW is a 501(c)(3) nonprofit organization established in 2011 as an umbrella group serving the people and organizations within the Middle Grand River watershed. Its mission is to protect and preserve the history and the natural resources of the Middle Grand River watershed by promoting education, conservation, restoration, and wise use of watershed resources. Local watersheds and program administrators involved with MGROW include Friends of the Looking Glass River; Friends of the Maple River; Friends of the Red Cedar River; GLRC; Clinton, Eaton, and Ingham Conservation Districts; Michigan State University Institute of Water Research (MSU-IWR); TCRPC; and Mid-Michigan Environmental Action Council (MidMEAC). These groups operate independently from one another but regularly work cooperatively to promote a healthy watershed. The GLRC Coordinator works with MGROW to identify collaborative opportunities related to education, recreation, and conservation both in daily work and as a board member of the organization. Visit mgrow.org for more information on this valuable partner.

Friends of the River Groups
The GLRC partners with a variety of groups on events and activities that promote protection and enjoyment of the Middle Grand River, Looking Glass River, Red Cedar River, and Maple River. This includes sharing posts and information about paddling events and river cleanup and maintenance opportunities with the Friends of the Looking Glass River, Friends of the Maple River, and the Red Cedar Pathway. Regular information, including the GLRC quarterly newsletter, is shared with these organizations and the GLRC Coordinator participates in their meetings. The GLRC will continue exploring further opportunities for partnering with these groups.

Red Cedar River Water Trail
In partnership with TCRPC, the GLRC Coordinator has assisted the Red Cedar Pathway in further developing the Red Cedar River Water Trail, a goal of the Middle Grand River Water Trail Development Plan. GLRC staffed a booth at the inaugural Red Cedar River Days celebration on September 30, 2023,

and again on September 8, 2024. Regular meetings have taken place with the group to provide guidance on the water trail planning effort with the goal of inspiring new watershed stewards and educational opportunities through water-based recreation.

Dam Removal Exploration Workgroup (DREW)

The GLRC Coordinator participated with a group of watershed stakeholders exploring the feasibility of removing Lansing's two dams and advising on possible green infrastructure solutions to post-removal riparian restoration. DREW successfully secured Army Corps of Engineer funds to remove the N. Lansing Dam via their Section 206 Aquatic Restoration Program, which is funding the entire dam removal up to $10 million. The federal funds will not cover the removal of contaminated sediments that might be found behind the dam, and it was noted PCBs are commonly found near that section of the river. The City of Lansing, Army Corps, and the Lansing Board of Water & Light have finalized a Feasibility Cost Share Agreement (FCSA) which they are executing while drafting a detailed project report and environmental assessment. The timeline for this project is uncertain due to recent changes in federal funding.

County Programs

To promote the proper disposal of household hazardous waste (HHW), the GLRC Coordinator works with recycling services in Clinton, Eaton, and Ingham counties to promote biannual collection events in the spring and fall. The GLRC Coordinator also works to promote spring and fall native plant and tree sales through the Clinton, Eaton, and Ingham County's Conservation Districts. All county HHW collections and native plant sales are promoted on social media, in newsletters, on event pages, and at outreach events to encourage taking personal actions to reduce stormwater pollution. In addition, the GLRC Coordinator participates in the Mid-Michigan Cooperative Invasive Species Management Area, a group consisting of the Clinton, Eaton, Ionia, and Ingham county stakeholders working to prevent the spread of invasive species to protect local ecosystems.

Capital Area Sustainability Partnership (CASP)

In 2021, a group of regional stakeholders began meeting to discuss regional sustainability and climate change planning efforts. The GLRC Coordinator, through the capacity of planner at the Tri-County Regional Planning Commission, assisted in the facilitation of these discussions now led by a group of local municipal leaders. Throughout 2023, the GLRC Coordinator participated in quarterly meetings of CASP and shared information with watershed partners. Much of the focus of CASP has been to help municipalities understand the availability of federal funding for sustainability and resiliency and how to apply for that funding.

IMPLEMENTATION COMMITTEE ACTIVITIES

Public Education Program (PEP) Committee

During this reporting period, the PEP Committee met on the following dates:

January 18, 2023
May 4, 2023
October 5, 2023
January 12, 2024
March 13, 2024

July 15, 2024
July 23, 2024

Committee Activities:
The PEP Committee has developed a variety of educational materials and implemented a number of outreach activities that are described in detail in the Public Education Plan later in this report. In addition to those activities, the committee has worked on the following:

Regional Water Quality Education Survey – The GLRC has continued to commit to utilizing the Greater Lansing Regional Water Quality Education Survey as an evaluation tool for the PEP Committee regarding all educational efforts and public participation activities. Surveys were conducted in 2006, 2012, 2018 and 2024. The surveys provide comparison data and demonstrate where we have made progress through our educational efforts as well as identify areas that need improvement. This is used to craft and evaluate the success of the BMPs within GLRC's PEP. The survey results can be found on the GLRC website at mywatersheds.org/water-quality-surveys. An RFP was developed in 2023 and a firm contracted to conduct a 2024 Survey. A virtual presentation of the results occurred on March 11, 2024, to which all GLRC members and outside partners such as EGLE, conservation districts, health departments, and environmental groups throughout the tri-county region were invited. A total of 24 people participated in the presentation. A new PEP was submitted with the 2024 permit based on the survey results.

Overall, the new survey indicated residents realize their actions at home affect the quality of water in lakes and streams where they live and are willing to help reduce water pollution. More residents have also seen advertisements, brochures, signs, and posts from the GLRC. These results indicate that the previous Public Education Plan has been effective. However, some survey results have led the GLRC to alter areas of focus. Data indicates people prefer videos as a source of information. Facebook and Instagram are also popular choices for information, and printed materials still play a role in education. The GLRC will expand the types of information it provides from articles to fact sheets and information segments tailored for social media, while expanding its use of videos. To meet information gaps discovered in the evaluation, the GLRC will provide advice to the public on how to select a watershed-friendly vendor for lawncare management, update its safe salting materials, and consider paid boosting of social media posts on household hazardous waste collection events. The GLRC will also continue a focus on green infrastructure, connection of the MS4 to area waterbodies, and proper disposal practices for grass clippings, leaf litter, and animal wastes. The proper application and disposal of pesticides, herbicides, and fertilizers has also been added as a topic of focus for upcoming activities.

GLRC Annual Report – The first GLRC Annual Report was developed in early 2012. The intent of the report is for GLRC members to share it with their boards, councils, and commissions to demonstrate the work that has been done throughout the year. TCRPC also shares the report with TCRPC Commissioners, newsletter subscribers, and on the website.

In 2023, it was decided to offer the annual report at outreach events throughout the region. A total of 144 annual reports were distributed at events, with all 500 printed copies distributed to members and partners throughout the year. In 2024, a total of 108 reports were distributed at events, and another 352 distributed to members and partners throughout the year.

GLRC Quarterly Newsletters – The GLRC began publishing quarterly newsletters in January 2010 and continues to do so. The newsletters are posted on the GLRC and TCRPC websites and are shared through an email distribution list of over 600 stakeholders. It is recommended that GLRC members share the newsletters with elected officials and appropriate boards, councils, and commissions. Efforts to increase subscribers on the website, at outreach events, and with partners led to a doubling of subscribers in 2023 but many names were corrected and weeded out when transferring to an e-edition via Constant Contact in the summer of 2024.

Edition	Date sent	Number of Recipients
Winter 2023	1/20/2023	611
Spring 2023	4/26/2023	626
Summer 2023	7/27/2023	1,202
Fall 2023	10/18/2023	1,289
Winter 2024	1/30/2024	903
Spring 2024	4/30/2024	957
Summer 2024	7/30/2024	607
Fall 2024	10/18/2024	602

IDEP Committee/Post-Construction Committee

All GLRC members are well into implementation of their individual IDEP programs. The GLRC Coordinator continues to work with regional partners on watershed protection efforts focused on pollution prevention and Illicit Discharge Elimination.

As referenced above, the GLRC developed a reporting page on the website to better advertise the contact information for reporting illicit discharges to member communities. Mywatersheds.org/report is easy to remember and promote. A Septic Smart webpage was also developed to educate residents on reducing illicit connections to the storm sewer. The primary focus of this committee has been staff training.

Committee Activities:

Since two video and two field training sessions were held in 2022, no further IDEP training was needed in 2023. In 2024, an IDEP Video and Field Training was held for all GLRC members and their staff. A total of 17 staff attended the field training and 20 attended the video training opportunities in illicit discharge detection and elimination and in stormwater pollution prevention for MS4s. An MSU Environmental Health and Safety staff member attended these events. The attendance sheets are included in the Appendices.

TMDL Committee

The TMDL Committee provides a forum for discussing TMDL implementation. Members have individual TMDL implementation plans but utilize GLRC's Quality Assurance Project Plan (QAPP) to standardize sample collection and guide field operations related to wet weather monitoring. The QAPP informs project managers and field staff of laboratory requirements and options for analysis. In the summer of 2022, the QAPP was updated and distributed to all members with new lab contact information and all procedural changes/recommendations from EGLE and US EPA.

The TMDL Committee met on the following dates in 2023:

- June 22, 2023
- October 13, 2023

The TMDL Committee did not meet in 2024, but the GLRC Coordinator and Chair of the IDEP Committee participated in ongoing multi-region IDEP/TMDL collaboration discussions four times throughout the year and reported back to the GLRC Executive and Full Committees.

Other GLRC Activities

Augmented Reality Sandbox – In 2022, the GLRC and the Eaton Conservation District (ECD) received grant funding to build an augmented reality sandbox (ARS) to use in educational programming. The ARS combines 3D visualization applications with a hands-on sandbox exhibit to teach earth science, environmental science, and geological, geographical, and hydrological concepts. The ARS allows users to create topographic models by shaping real sand, which is then augmented in real time by an elevation color map, topographic contour lines, and simulated water. The system teaches users how to read a topographic map, the meaning of contour lines, and how watersheds, catchment areas, and levees work. The Augmented Reality Sandbox is a unique and engaging instrument to help people understand the way water moves through our watersheds and how humans impact our environment. In 2022, the GLRC trained 22 teachers in how to use the new tool. In 2023, a total of 1,380 people interacted with the ARS, with 1,361 interacting with it in 2024. At the end of 2024, it was decided to donate the educational tool to the IQ Hub in St. Johns, MI, which is an interactive agricultural museum. Travel and setup of the ARS proved too difficult for the GLRC and ECD, and it was determined the ARS would impact more residents at the IQ Hub, receiving 13,535 visitors in 2024.

Good Housekeeping Training – Two video training sessions were held in 2022.

Coal Tar Seal Coat – The GLRC also tasked the Ordinance Committee with assisting area communities in the development of coal tar seal coat bans, as Polycyclic Aromatic Hydrocarbons or PAHs within are showing up in significant concentrations in runoff. So far, two of GLRC's members have passed a total coal tar seal coat ban, requiring contractors to register and certify that they are not using mixtures with PAH content greater than .1%. In 2021, GLRC developed a fact sheet on coal tar sealcoating. The educational piece outlines the cancer risk for people as the PAHs make it into their homes on shoes and pets. The Committee will continue to work to develop a resource guide to standardize the region's approach to these contaminants.

Recreation Efforts

The GLRC promotes partner efforts and recreational events through its website and social media, including events such as paddling expeditions and races and other opportunities for residents to connect to our watershed and water resources. The GLRC understands that residents will be more likely to adopt pollution prevention strategies if they use and love the resources those actions would protect.

Green Infrastructure Code Audit – The GLRC Coordinator worked with Meridian Township to audit their codes and ordinances for barriers to green infrastructure implementation. In 2020, the Committee

agreed to reconvene the GLRC Ordinance Committee to develop a GSI Ordinance Manual for area communities interested in similar audit exercises. The document will provide model ordinances and language to standardize and improve the region's landscape in a way that promotes the use of green infrastructure. The final document is almost complete, and GSI Code Audits at other GLRC members will be conducted in the future.

National Salt Symposium – In August of 2024, the GLRC sponsored the National Salt Symposium. Sponsorship allowed the GLRC to send one member from each organization to the virtual annual conference, which focused on new directions in chloride on August 6 and snow and ice management on August 7. Sponsorship also provided additional training opportunities to members in the Minnesota Pollution Control Agency's Smart Salting Program. Municipal staff were able to attend the Smart Salting Certifications for Roads, Parking Lots and Sidewalks, and for Property Managers. A total of 15 people registered for the Symposium and members were encouraged to share the Smart Salting training opportunities with staff at their municipalities.

Michigan State University Stormwater Management Program (SWMP)

Stormwater is managed on the MSU campus by a team of faculty, staff and students representing a broad cross-section of the University. Units and Departments that are playing a role in managing stormwater runoff and implementing the University's Stormwater Management Program (SWMP) include the Office of Environmental Health and Safety (EHS), Infrastructure Planning and Facilities (IPF) Planning, Design and Construction (PDC), IPF Landscape Services, IPF Power and Water, AgBioResearch, MSU Sustainability, Residential and Hospitality Services, Institute of Water Research, MSU Police, Department of Community Sustainability, Department of Biosystems and Agricultural Engineering, and Department of Horticulture.

A Stormwater Committee comprised of representatives from a subset of these units is chaired by IPF Planning Design and Construction Director John Lefevre. The committee meets monthly to oversee SWMP activities and to direct additional campus-based stormwater activities. A list of University representatives responsible for carrying out SWMP duties (including a list of Stormwater Committee members) is included in Appendix A.

Stormwater Management Program Components

The following are the required components of the SWMP:

Public Education Plan (PEP), to promote, publicize, and facilitate education for the purpose of encouraging the public to reduce the discharge of pollutants to stormwater to the maximum extent practicable.
Public Participation/Public Involvement (PPP), to share components of the SWMP and encourage participation in its review and implementation

Illicit Discharge Elimination Program (IDEP), to detect and eliminate illicit connections and discharges to the MS4.

Post Construction Stormwater Runoff for New Development and Redevelopment Projects, to address post-construction stormwater runoff from projects that disturb one acre or more, including projects less

than one acre that are part of a larger common plan of development that would disturb one acre or more.

Construction Stormwater Runoff Control, to augment Part 91 rules dealing with soil erosion, offsite sedimentation and other construction-related wastes.

Pollution Prevention and Good Housekeeping Program, to minimize pollutant runoff to the maximum extent practicable from municipal operations that discharge stormwater to the surface waters of the state.

Public Education Plan and Public Participation

The MSU Stormwater Public Education Plan (PEP) seeks to promote, publicize, and facilitate watershed education for the purpose of encouraging the public to reduce the discharge of pollutants in stormwater to the maximum extent practicable. The PEP has been developed to ensure that the targeted audiences are reached with the appropriate messages for the following topics:

1. *Promote public responsibility and stewardship in the applicant's watershed(s).*
2. *Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.*
3. *Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.*
4. *Promote preferred cleaning materials and procedures for car, pavement, and power washing.*
5. *Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.*
6. *Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.*
7. *Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous waste, travel trailer sanitary wastes, chemicals, yard wastes, and motor vehicle fluids.*
8. *Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.*
9. *Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.*
10. *Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to stormwater runoff.*

As required by the stormwater permit, the GLRC PEP Committee prioritized the public education topic areas into high, medium and low categories. Many factors were considered in this process including survey results, available resources, cost effective outreach methods, existing public knowledge levels and potential for collaborating with other programs currently underway.

High priority topics areas include:

- *Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.*

- *Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.*

- *Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.*

The following PEP activities were undertaken by the GLRC and MSU during the period January 1, 2023 - December 31, 2024. Activities in the PEP include those that are watershed-wide and thus implemented in partnership with the GLRC as well as activities planned and implemented solely on the MSU campus.

The PEP Committee sets a budget for each fiscal year to determine how funds will best be utilized to meet outreach needs and adjusts that budget as needed. In FY 2023, funds were dedicated towards three social media campaigns that included responsible septic maintenance, car washing, and pet waste management. A special focus was placed on working with car wash businesses in 2023, resulting in an educational message with car wash coupon mailed to 90,000 households in Clinton, Eaton, and Ingham counties and 41 educational yard signs distributed to local car washes. In 2023, the PEP Committee also concentrated on the Greater Lansing Regional Water Quality Education Survey, selecting a consultant who finalized the work in 2024.

In 2024, funds were dedicated towards three additional social media campaigns focused on spring cleaning and encouraging residents to recycle household hazardous waste; the harmful effects of phosphorus and nitrogen; the importance of keeping fertilizer, leaves, and grass away from storm drains that lead to our waters; and tips on how to be septic smart and protect your septic field. During the reporting period, additional PEP funds were allocated toward a reprinting of GLRC's educational brochures, Smart Salting training sessions, the annual Dog Photo Calendar Contest, and new promotional items for distribution at outreach events with GLRC's logo and website. Receipts for GLRC PEP expenditures are shown in Appendix B.

To better educate the public, the PEP Committee oversaw the development of six new educational brochures branded in GLRC colors on the following topics in 2024:

Green Infrastructure at Home
Pet Waste Management
Lawn & Garden Care
Car & Power Washing
Household Hazardous Waste
Do You Know Your Watershed?

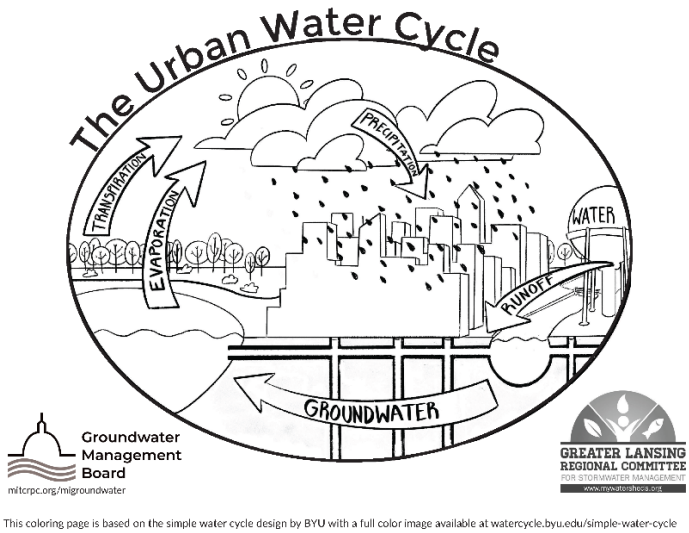
Based on the Regional Water Quality Education Survey, the new brochures were expanded to increase awareness of pollution issues and include additional topics of interest to the public. To help urge personal actions to protect water quality, a "Do Your Part" advice section for residents surrounding each brochure topic appears on the back of each new brochure.

The Green Infrastructure at Home brochure was updated to include examples as well as photos of urban green infrastructure. Statistics were updated and educational graphics added to both the Pet Waste Management and Lawn & Garden Care brochures. In the What Is a Watershed brochure, Census information was updated, steps to protect our waters are prioritized, and videos on the website are promoted.

A focus on car washing in the new brochures was expanded to include a panel on the harmful effects of power washing and using *Safer Choice* cleaning products is emphasized, as well as the benefits of using a commercial car wash. Household hazardous waste became the topic of a new brochure, which includes how to recognize when a product is hazardous, why hazardous chemicals should not be poured down a house drain, storm drain, or on the ground, how to look for non-hazardous alternatives with the *Safer Choice* label, the harmful effects of household hazardous waste, how to keep oil out of the watershed, and how our actions at home affect the Great Lakes.

The brochures can be downloaded on the website under the Resources tab on webpages for Residents, Members, and Educators and are linked above. The new brochures were promoted in the October 2024 quarterly newsletter and distribution of printed brochures at outreach events began in 2025.

To provide further education at outreach events, the GLRC developed a Be Stormwater Smart coloring page in March of 2024. An Urban Water Cycle coloring page was also created in conjunction with the Groundwater Management Board in September of 2024. New stickers were also developed to encourage youth to take pride in helping to protect our waters.



Pollution Isn't Pretty (PIP) - Funded by TCRPC's Mid-Michigan Program for Greater Sustainability, MGROW originally facilitated the use of the water resource education campaign titled: Pollution Isn't Pretty. The PIP campaign was professionally designed and has been consistently used across the region. PIP materials are now housed on the GLRC website. Partners from throughout the watershed, including the GLRC, distribute materials from this campaign with the domain pollutionisntpretty.org. GLRC members and MGROW will continue to distribute the campaign's printed materials at watershed-related events throughout the region until supplies are depleted.

The following GLRC members have placed the Pollution Isn't Pretty signs in their communities: Lansing Charter Township (3), City of East Lansing (20), Ingham County Parks (5), Clinton County Parks (2), DeWitt Charter Township (3), Meridian Charter Township (4), City of Lansing (5), City of Grand Ledge (4), and MSU (1). Several signs have also been placed on the Lansing River Trail.

Watershed Signage – With the help of local road commissions, signage was placed along roads to indicate watershed boundaries to passing vehicles, cyclists, and pedestrians. These were installed between 2005-2006 but are being maintained indefinitely.

MSU maintains a watershed sign at the Farm Lane Bridge:

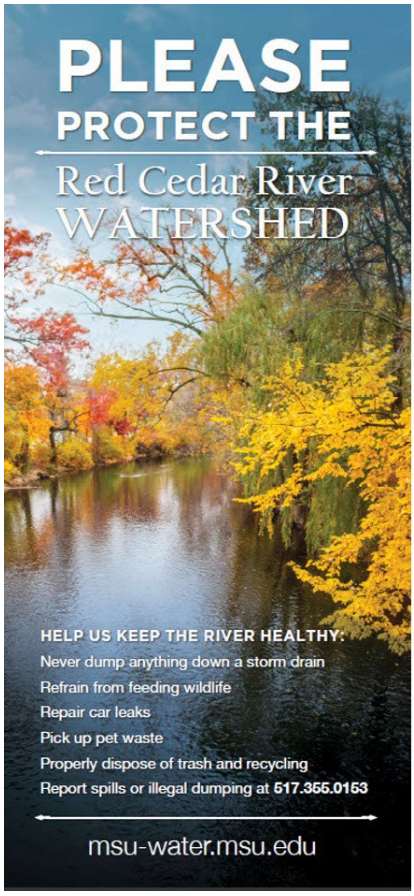
GLRC Exhibit Display – A traveling exhibit display was redesigned in 2014 to incorporate the PIP campaign and has been used extensively at local workshops, conferences, and outreach events. In 2017, a scroll style "pop up" banner was developed that could be utilized in more places, like outdoor events. When the display is not being used for a special event, it travels throughout the region to GLRC member offices. It was designed with the header "We All Live in A Watershed" to address previous survey results that indicated many residents do not know they live in a watershed. During 2023-2024, GLRC members displayed the scroll style banner in their lobbies or other public places for 3-4 weeks each year. A total of 7 communities have purchased their own scroll banners to display for longer periods. As the GLRC Coordinator brings the display to members, additional copies of GLRC publications and educational materials are replenished as needed.

Enviroscape – In late 2017, the GLRC purchased an Enviroscape watershed model, a hands-on, interactive demonstration of the sources and impacts of stormwater pollution. It is utilized at events where time and setting allow for hands-on learning. In 2023, the Enviroscape was used at four events that included the Meridian Township Winter and Spring Green Fairs, Adopt A River, and the Red Cedar River Days celebration. In 2024, the Enviroscape was used at the Party for the Planet, Adopt A River, Red Cedar River Day Celebration, and at a Lansing Christian High School presentation.

MSU Displays – The University continues to use three campus-based displays. These include a large table-top display panel, a smaller tri-fold display for use in outdoor settings and a telescoping display to use during events where space is limited. The MSU-specific displays were used at a number of events during the reporting period. These include:

- MSU Science Festival (April 2023 and April 2024)
- IPF Landscape Services Red Cedar River training (Dec. 2024)

- MSU Red Cedar River Stewardship Committee Lunch and Learn (June 2024)
- Grandparents University (June 2023 and June 2024)



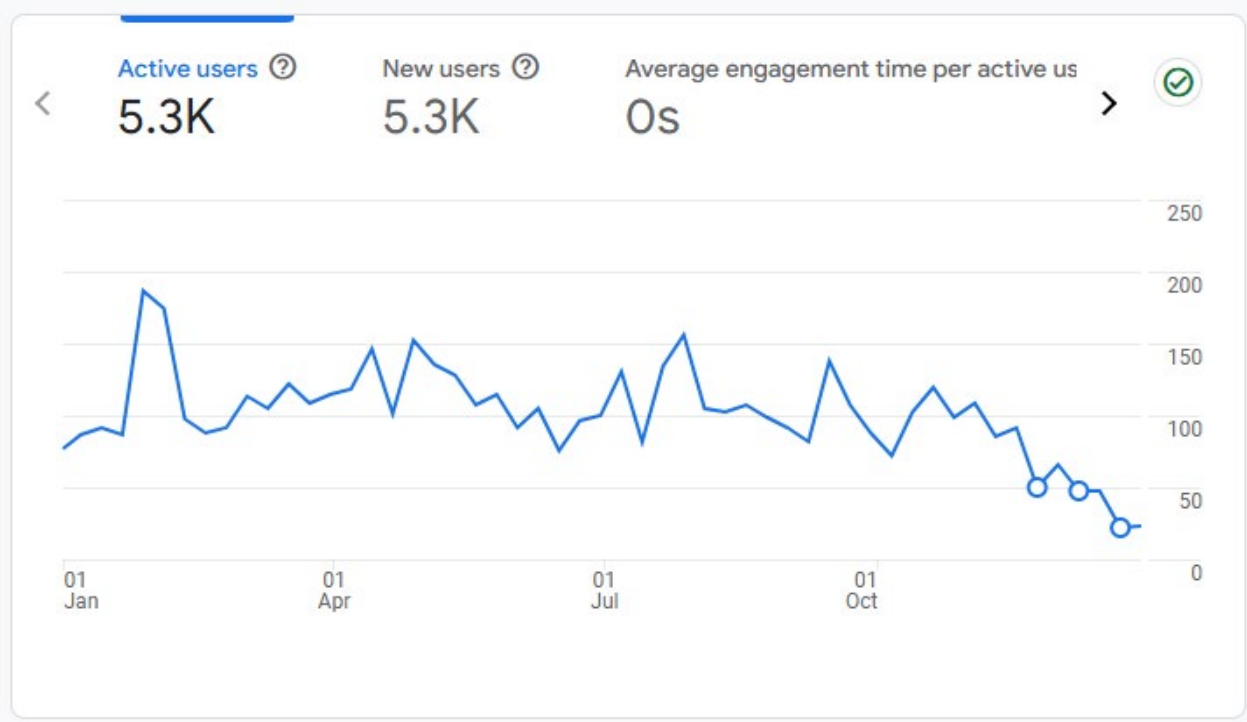
GLRC Website www.mywatersheds.org –The public website for the GLRC is regularly maintained and updated. The website includes a significant amount of information relating to watersheds, stormwater stewardship, meeting materials, GLRC reports, pollution prevention education, water stewardship and conservation events, how to plant a rain garden, links to additional resources, and more. All education outreach materials direct readers to the GLRC website for further education. The website was updated in 2020 to bring attention to the fact that "everyone lives in a watershed" after survey data indicated many residents did not realize they lived in a watershed. Many videos were also added throughout the site as data also indicated this is a preferred method of learning.

In 2022, an additional webpage was created to showcase the new Augmented Reality Sandbox and serve as a landing page to direct teachers and the public in how to use the free educational tool. All content was reviewed for accuracy in 2023 and in 2024.

The PEP Committee reviews the website stats on a regular basis. In 2023, there were over 81,000 total hits on the website, as indicated by the "ticker" at the bottom of the webpage. Google Analytics show a total of 8,270 page views and nearly 4,500 sessions from January 1 – December 31, 2023. Over 3,400 new users visited the site, with spring and fall being the most popular times of year to visit.

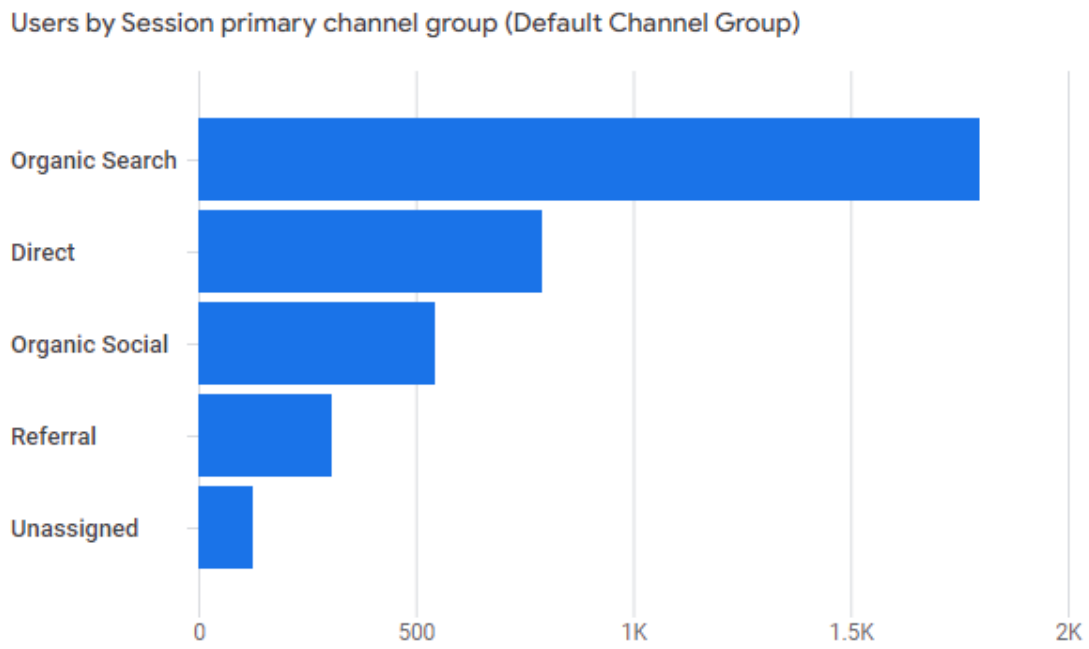
WEBSITE USERS 2023

WEBSITE USERS 2024

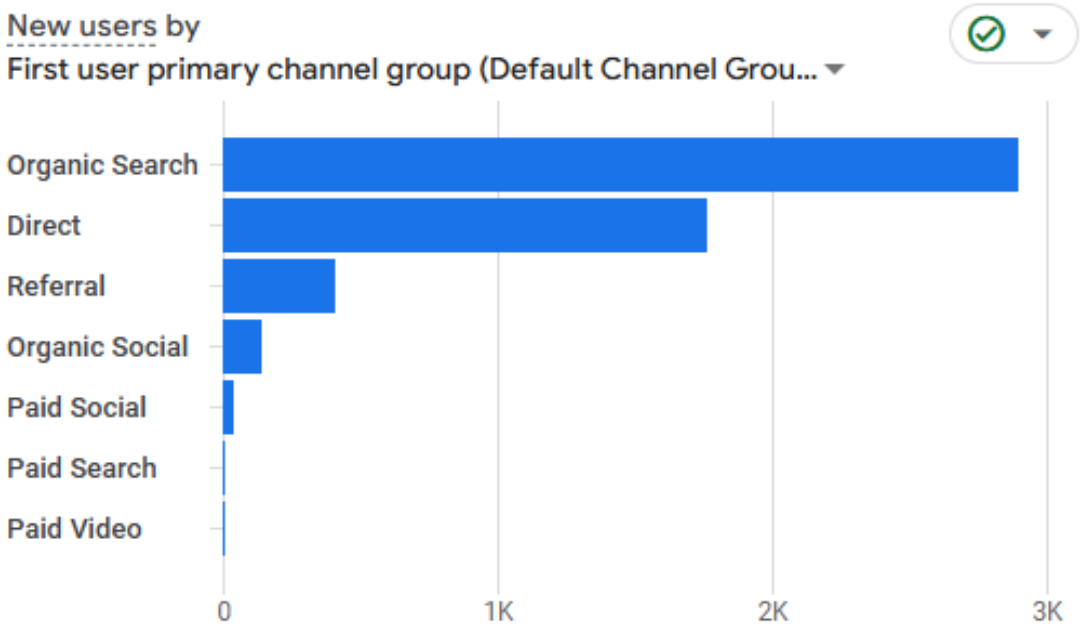


Most users arrived at the site via an organic search, indicating the website is accessible to the public.

WHERE WEBSITE USERS COME FROM 2023

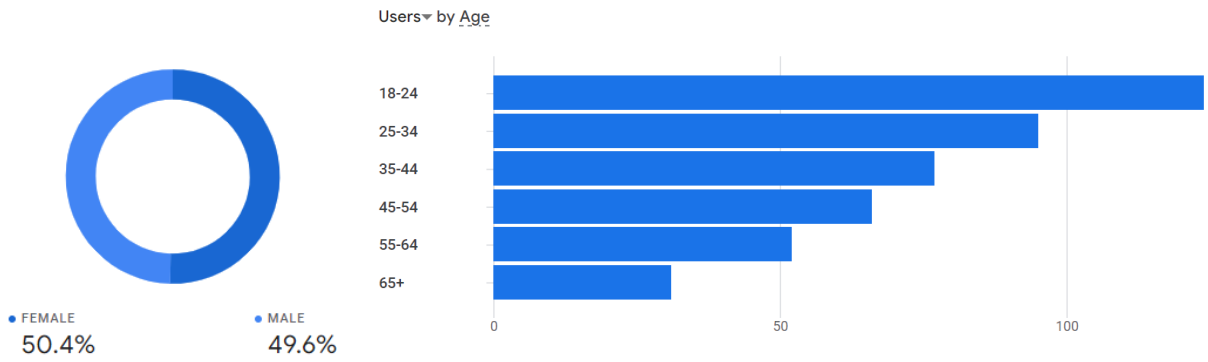


WHERE WEBSITE USERS COME FROM 2024

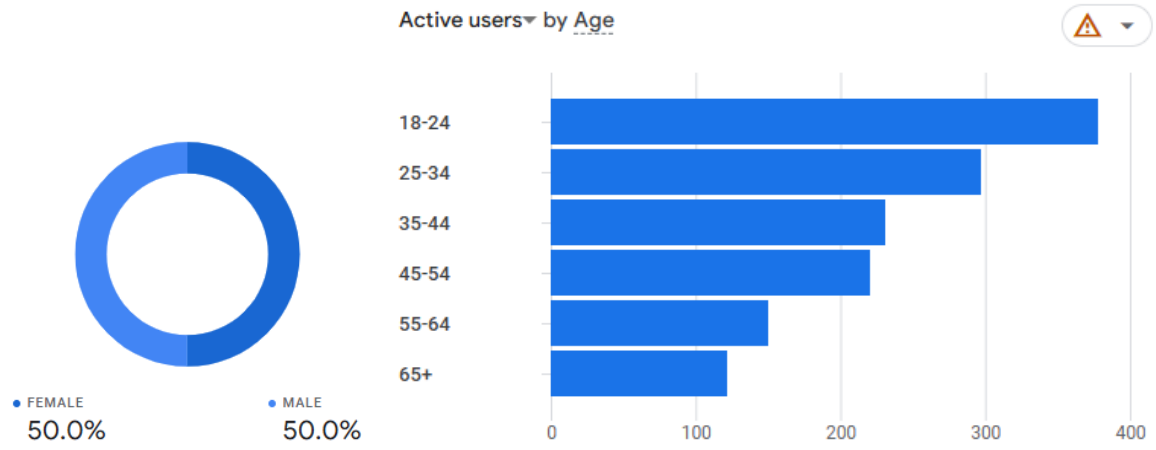


Users were equally divided between females and males, with young people aged 18-24 viewing the website more than any other age group.

2023 GENDER AND AGE



2024 GENDER AND AGE



The committee also tracks traffic to individual pages to monitor the strength of individual pages and interpret what information resonates well. GLRC's homepage was viewed over 1,900 times in 2023, with "Rain Garden 101," "Find My Watershed, "What's a Watershed" being the three most viewed pages.

TOP TEN PAGE VIEWS 2023

	Page title and screen name	Views	Users	Views per user	Average engagement time	Event count All events	Conversions All events
		8,270 100% of total	3,534 100% of total	2.34 Avg 0%	20s Avg 0%	18,993 100% of total	5,829.00 100% of total
1	Greater Lansing Regional Committee for Stormwater Management	1,907	1,034	1.84	5s	4,444	1,729.00
2	Rain Garden 101	1,242	632	1.97	38s	3,200	619.00
3	Find My Watershed	878	534	1.64	9s	2,408	771.00
4	What's a Watershed?	566	298	1.90	25s	1,315	385.00
5	The Different Types of Stormwater Sewers	343	189	1.81	22s	881	250.00
6	Pet Waste Management	333	212	1.57	1s	815	718.00
7	Meeting Agendas/Minutes	279	31	9.00	20s	471	73.00
8	Quarterly Newsletter	247	119	2.08	8s	557	146.00
9	Annual Reports	233	145	1.61	5s	536	34.00
10	About the GLRC	214	51	4.20	26s	354	107.00

In 2024, GLRC's homepage was viewed over 1,800 times, with "Rain Garden 101", "Stormwater Runoff Calculator" and "Find My Watershed" being the three most viewed pages.

TOP TEN PAGE VIEWS 2024

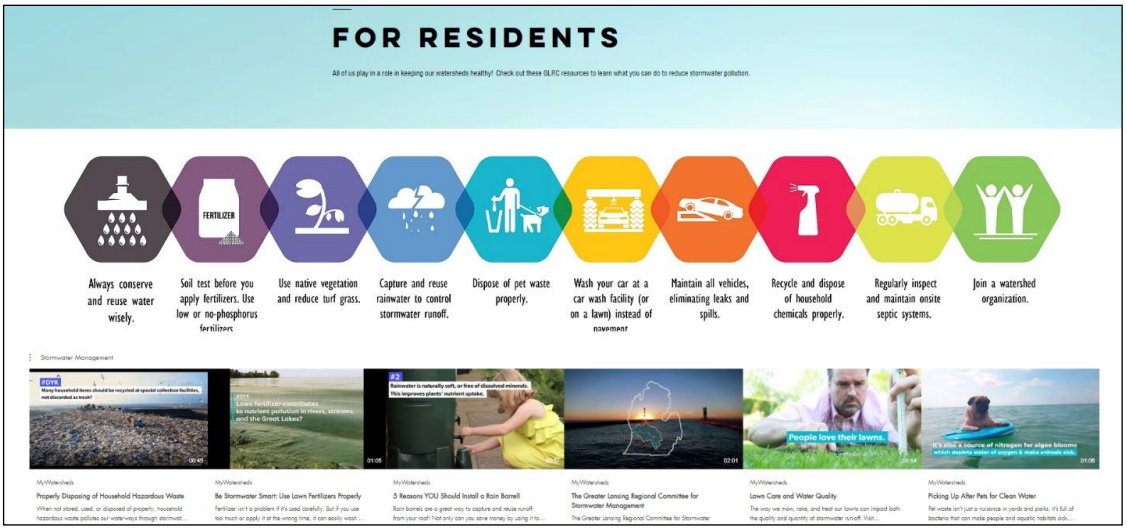
	Page path and screen class	Views	Active users	Views per active user	Average engagement time per active user	Event count All events	Key events All events
	Total	7,352 100% of total	5,282 100% of total	1.39 Avg 0%	0s Avg 0%	19,240 100% of total	19,181.00 100% of total
1	/	1,810	1,452	1.25	0s	4,910	4,899.00
2	/rain-garden-101	1,339	1,016	1.32	0s	3,617	3,605.00
3	/calculator	768	687	1.12	0s	2,179	2,170.00
4	/find-my-watershed	634	575	1.10	0s	1,810	1,805.00
5	/watersheds	315	264	1.19	0s	864	863.00
6	/quarterly-newsletter	279	151	1.85	0s	610	610.00
7	/ars	267	228	1.17	0s	741	736.00
8	/the-different-types-of-stormwater-s	262	233	1.12	0s	748	742.00
9	/events	235	89	2.64	0s	488	488.00
10	/meetingmaterials	172	31	5.55	0s	308	308.00

GLRC WEBSITE SUBPAGES

About the GLRC Webpage – This webpage introduces visitors to who and what the GLRC is, as well as our committees, members, Work Plan, Public Education plan, and Public Participation Plan. In 2023, the "About the GLRC" webpage had 65 views and in 2024 it had 80 views.

Illicit Discharges Webpage - GLRC maintains a page on reporting illicit discharges, which received 21 views in 2023. In 2024, the illicit discharges page received 22 views.

For Residents Webpage – This page was developed on the website to allow GLRC members and the public to review files for educational purposes. These files include brochures, posters, articles, seasonal tips, and other information to educate residents on stormwater pollution prevention. The webpage is updated regularly to add new materials and video content is emphasized. The "For Residents" webpage had 90 views during the 2023 and 73 views during 2024.



The "For Residents" page features the following educational flyers, which are included within quarterly newsletters. The articles are updated periodically for content and design updates. A suggested timeline for seasonal articles is also provided.

What is a Watershed?
Pet Waste and the Environment
Riparian Buffers
Storm vs. Sanitary Sewer Systems
Septic System Overview
Illicit Discharges
Adopt Your Catch Basin
Safe Fertilizer Use
Vehicle Maintenance
Wetlands: An Overview
Septic System Maintenance
Responsible Car Washing
Rain Gardens: A Homeowner's Guide

Watersheds – Under the Watersheds tab, three pages titled "What's a Watershed", "Find My Watershed", and "About My Watershed" help residents learn more about the watershed in which they live. The Watersheds tab also provides links to watershed management plans throughout the tri-county region. In 2023, a "How's My Waterway" button was added for residents to be able to check on water quality within local bodies of water. In 2023, the "Find My Watershed" webpage was the most popular with 948 views, while "What's a Watershed" had 576 views and "About My Watershed" had 96 views. In 2024, "Find My Watershed" webpage was again the most popular with 606 views, while "What's A Watershed" had 285 views, and "About My Watershed" had 140 views.

Different Types of Sewers – On the Different Types of Sewers webpage, visitors can learn the difference between sanitary and storm sewer systems, what a combined sewer overflow system is, and how a typical catch basin works. The page contains helpful diagrams and increases understanding of municipal separate storm sewer systems. In 2023, the popular webpage received 343 views and in 2024 it had 249 views.

Augmented Reality Sandbox (ARS) – This newly created webpage continued to promote use of the interactive ARS that allows users to create topographic models by shaping real sand, which is then augmented in real time by an elevation color map, topographic contour lines, and simulated water. Nearly 180 people visited the webpage in 2023 to learn more about this free educational tool and how to request it. An additional 247 people visited the webpage in 2024.

For Educators Webpage – The PEP Committee maintains a webpage on the GLRC website for educators in the region. The page serves as a resource guide for anyone interested in environmental education. State and federal environmental curriculum is highlighted as well as links to lesson plans. It includes resources and example projects that the schools can integrate into their current activities. This page is updated on a regular basis with lesson plans. During 2023, this webpage had 25 views and in 2024 it had 10 views.

For Members Webpage – The GLRC developed this webpage in 2019 to house relevant documents and information for municipalities. There is particular focus on making it easier to view and use digital PEP materials and request physical resources for outreach events. During 2023, this webpage had 43 views and in 2024 it had 26 views.

Runoff Calculator – A tool to calculate the runoff from one's own home continues to be popular on the "Runoff Calculator" webpage, educating residents on the effects of rainwater on our homes. In 2023, a total of 208 people calculated the runoff their home generates and were directed to the rain garden resources page. In 2024, this figure tripled, with 719 people visiting the "Runoff Calculator" webpage.

Be Septic Smart Webpage – The GLRC developed a septic focused webpage to house info on septic systems, time of sale programs, GLRC's septic-focused video and EPA's "Septic Smart" videos. The "Be Septic Smart" webpage received 22 views during 2023 and 67 views during 2024.

Rain Garden 101 – Our most popular webpage, Rain Garden 101, includes manuals, videos, and planting resources to help homeowners plan and install their own native plant rain garden. Residents were commonly directed to this page and its updates during this reporting cycle, which received 1,243 views in 2023 and 1,235 views in 2024.

Local Green Infrastructure Projects -- This page was added to highlight Lansing area green stormwater infrastructure projects and includes the video clip developed as part of the Greening Mid-Michigan project. It had 106 views during 2023, and 64 views in 2024.

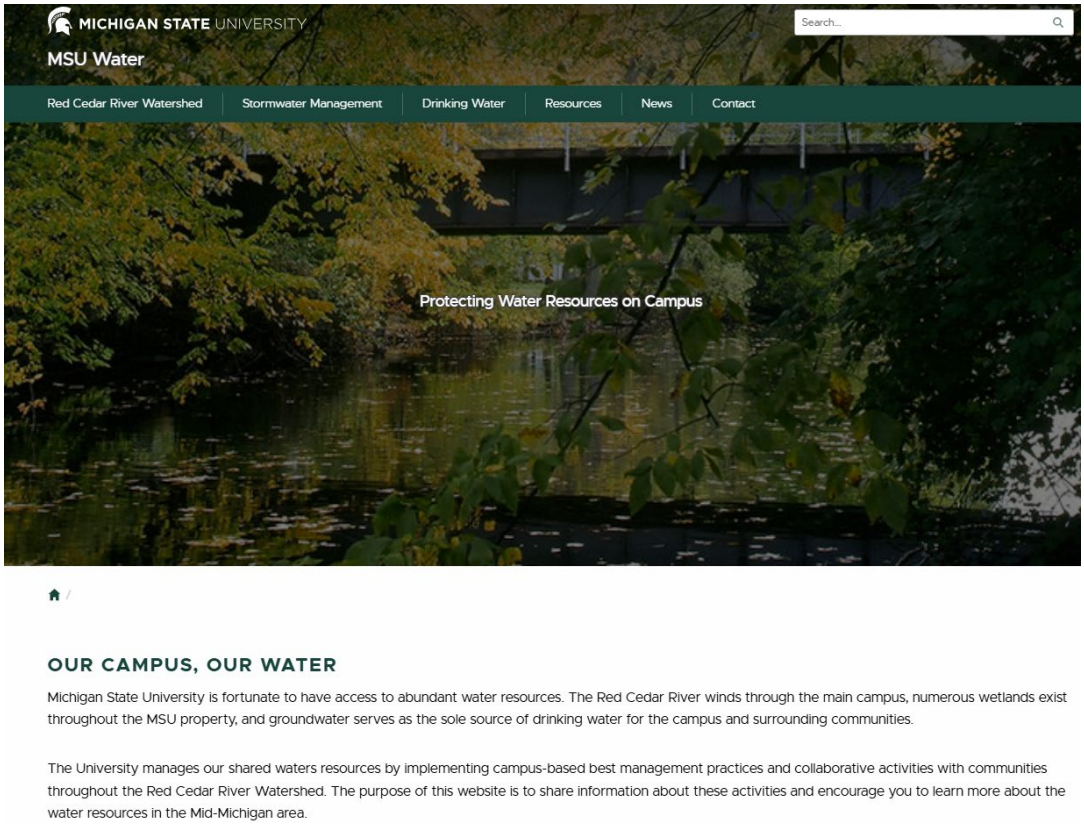
Household Hazardous Waste – Respondents to previous GLRC surveys indicated they were not utilizing household hazardous waste sites because they didn't know where they were. In response, the GLRC created a webpage dedicated to these resources. It includes links to recycling and household hazardous waste collections in the tri-county area. In 2023, sections on medication and asbestos disposal were added. In 2024, a section on the *Safer Choice* products and program was

added. This page received 118 views in 2023 and 80 views in 2024.

Events Calendar – The PEP Committee is continuously updating the GLRC calendar with applicable meetings, webinars, educational opportunities, recreation and cleanup activities, native plant sales, and household hazardous waste collection events throughout the watersheds. The "Events" page received a total of 108 views during 2023 and 161 views in 2024.

Stormwater News – The PEP Committee continues to use and promote a series of news articles. They are posted on the GLRC website so members can easily include them in their local community newspapers and newsletters. A total of 19 articles were posted on this webpage in 2023, receiving 90 views. In 2024, a total of 23 articles were posted, receiving 133 views.

MSU-WATER Website www.msu-water.msu.edu– the website includes information about the Red Cedar River, educational materials and links to the GLRC website and other stormwater-related sites. The website was redesigned in 2024 to align with the MSU College of Agriculture and Natural Resources website template. Due to the restructuring of the site and shifting to a new server, website statistics are not available for this reporting period. The website includes who to contact in case of spills https://www.canr.msu.edu/msu-water/report-spills; with questions about the University's Stormwater Management Program https://www.canr.msu.edu/msu-water/contact; and how to volunteer for activities https://www.canr.msu.edu/msu-water/you-can-play-a-role-in-protecting-campus-water-resources. No comments were received via the website during this reporting period.



GLRC Presentations – The following presentations were given by the GLRC Coordinator within the reporting period:

- February 26, 2023: Assisted in training seven teachers in watershed management and stormwater pollution prevention as part of the National Oceanic and Atmospheric Administration's Bay Watershed Education and Training (B-WET) grant.

- March 14, 2023, May 24, 2023, and June 16, 2023: Presented on major activities, accomplishments, outreach, and events of the GLRC to TCRPC's 19-member Board of Commissioners.

- April 26, 2023: Provided an overview of the GLRC and how residents can prevent stormwater pollution and protect our waters to train Clean Water Action's seven canvassers. One hundred copies of each of GLRC's six educational brochures were provided for them to distribute as needed to residents.

- September 28, 2023: Spoke with four Capital Area Humane Society Staff on responsible pet waste management, requesting distribution of 450 pet waste bag dispensers to every new dog adoption along with an educational brochure on the topic.

- Throughout 2023 and 2024, the GLRC Coordinator attended Meridian Township's weekly Wednesday Green Dialogue meetings at least once a month. Township residents interested in environmental issues meet for free-flowing discussion and presentations. The GLRC Coordinator provides regular updates on Committee activities to this group and helps connect them with regional resources.

- February 28 and July 9, 2024: Presented on major activities, accomplishments, outreach, and events of the GLRC to TCRPC's 19-member Board of Commissioners.

- March 11, 2024: Hosted a virtual and in-person presentation from the ETC Institute on the results of the Greater Lansing Regional Water Quality Education Survey to 24 attendees.

- March 28 and April 2, 2024: Partnered with Eaton Conservation District to host two workshops on stormwater management with the Augmented Reality Sandbox at the East Lansing Public Library in conjunction with the MSU Science Festival. Each workshop had many homeschool students in attendance, with 15 people attending each workshop.

- April 17, 2024: Presented on Citizen Engagement with Water Quality as a guest speaker to Meridian Township's Green Dialogue, sharing data from the recent Greater Lansing Regional Water Quality Education Survey with 14 members of the Green Team.

- December 16, 2024: Presented a stormwater seminar with guest expert in stormwater management from Delhi Township to a freshman class of 23 at Lansing Christian High School. Participants engaged in a slide show, use of the Enviroscape, and a hands-on activity matching ducks to forms of surface water pollution.

MSU Presentations – Presentations about the Red Cedar River and MSU's stormwater management activities within the reporting period include:

- Jan 2023 – Mid MEAC Land Use Lunch (30 attendees)
- Oct 2023 – MSU Extension (MSUE) Conservation Stewards Program (20 attendees)
- June 2023 and June 2024 - Grandparents University (60 attendees)
- March 2024 - CE 371 Class Presentation (120 students)
- June 2024 - MSU Red Cedar River Stewardship Committee Lunch and Learn (15 attendees)
- Nov 2024 - CE 371 Class Presentation (110 students)

Residence Hall Outreach Materials – Approximately 100 copies of a poster emphasizing personal responsibility were printed for distribution in residence halls in 2023-2024. The poster is also available on the MSU-WATER website.

MSU Student Training – MSU Sustainability shared information about stormwater practices on campus and being stewards of campus water resources at sessions for Campus Tour Guides and Resident Assistants. This included discouraging feeding of geese on campus. Resident Assistant roundtable sessions were held on the following dates:

- 8/15/23 - RA Training - 32 people
- 8/18/23 - RA Training - 37 people
- 1/4/24 - RA Training - 19 people

Pollinator Garden - A new pollinator garden was planted along the River Trail by the Sustainable Spartans Club in 2021. The garden uses many native plant species that are also commonly found in rain gardens. Pollinator Garden Days of Service were held as a follow up on the following dates:

- 4/22/23 – 39 people
- 10/14/23 – 35 people
- 4/13/24 – 40 people

Green Roofs on Campus - The Sustainable Spartans Club is advocating for adding more green roofs to campus.

Social Media Campaign Development - Students in CSUS 453 (Watershed Planning and Management) developed social media outreach materials for the Red Cedar River in Spring 2023 and Spring 2024. Those materials are being compiled for future sharing via existing social media channels.

MSU Sustainability Pledge - The MSU Sustainability Pledge promotes best practices for protecting the Red Cedar River. The pledge is promoted through New Student Orientation, RHS Eco Representatives, and at various presentations and other outreach activities. Since 2023, 683 people have agreed to "protect the Red Cedar River or other waterways by not dumping anything down a storm drain" via the MSU Sustainability Pledge.

New Student Orientation (NSO) Video – For incoming students, a sustainability video was developed. This video includes information about protecting the Red Cedar River. The video has been viewed 2,875 times.

SDG Event - A Sustainable Development Goals (SDG) event was held in March 2024. Approximately 50 students participated in the event, which included protection of the Red Cedar River among other sustainability topics.

Outdoor Green Wall - The Sustainable Spartans Club, in partnership with Infrastructure Planning and Facilities and the Office of Sustainability installed the first ever outdoor green wall along a highly trafficked pedestrian bridge between the MSU Library and Spartan Stadium in the summer of 2021. The students intended the project to demonstrate sustainable design principles to the public while enhancing the aesthetics of the bridge. That living wall was maintained throughout the 2023-2024 growing season.

W.J. Beal Botanical Garden is increasing its conservation efforts along its portion of the River Trail. This includes invasive species removal, installation of deterrents to reduce foot traffic and erosion along the riverbank (low fencing made from invasive shrubs) and increasing educational signage about these activities.

Red Cedar River Clean-Up
MSU IPF Landscape Services has committed to hosting regular river cleanup events and assisting local groups and organizations with their cleanup events. Cleanup events were held in March 2023, April 2024 and September 2024. At the September cleanup event approximately 1,000 pounds of debris was removed, including two Spin Scooters, two couches, a picnic table, car batteries, tires, barrels, construction signs, tents and more. More than 100 people participated, including 20 students from the MSU Fisheries and Wildlife Club.

MSU Sustainable Stormwater Walking Tour
Guided walking tours were conducted in July 2023 (20 attendees), Oct. 2023 (15 attendees) and June 2024 (10 attendees). In addition, in 2024 MSU hosted *Roots and Rain: A Tour of Stormwater Management Practices on the MSU Campus* for the MSU Science Festival Student Sustainability Summit (25 attendees).

MSU Riverbank Restoration
The riverbank restoration project that kicked off in 2018 along the walking and biking path adjacent to Spartan Stadium is being expanded. In 2024 grant proposals were submitted to continue riverbank restoration work.

MSU Red Cedar River Stewardship and Recreation Committee – This internal MSU committee was formed in 2024 to ensure that MSU is actively engaged in the long-term health of the Red Cedar River while providing a variety of educational, research and recreational opportunities. The group is committed to collaborating with other river organizations, offering outreach sessions, and providing a unified voice for MSU on matters concerning the river.

Temporary River Signage - One initial activity of the MSU Red Cedar River Stewardship and Recreation Committee was designing and placing temporary signs along the campus stretch of the river corridor. The signs were placed prior to home football games in Fall Semester 2024, with the goal of increasing awareness about the river, promoting personal responsibility to protect the river and sharing the contact information for reporting concerns about the river.

GLRC Fact Sheet – A fact sheet describing the Phase II program and purpose of the GLRC was created in 2017 and updated in 2022 to help community leaders quickly understand the requirements of the program and how the GLRC helps to implement them. This educational piece is distributed with annual reports, dues invoices, and to new TCRPC Commissioners to help those in leadership roles understand their municipality's responsibilities and the GLRC resources available to them.

Social Media – The GLRC joined Facebook and Twitter in December 2009. Post content is related to watershed stewardship, public involvement, and participation. Information on GLRC and partner events are also posted frequently. In 2023, 1,425 people followed GLRC on Facebook and there were 428 followers on X. Totals from 2024 are similar, with Facebook followers of 1,422 and X followers of 383. The GLRC places emphasis on the use of paid advertising through Facebook boosts to spread our messaging on required PEP topics. This tool allows the GLRC to target residents within the urban area of the tri-county region and ensure that we reach people who do not already interact with our page. The GLRC Coordinator also began posting on Instagram in 2023, attracting 73 followers with a total reach of 1,115 accounts. In 2024, 77 people followed GLRC on Instagram, reaching 1,030 accounts.

In 2023, GLRC's social media posts reached 42,375 Facebook accounts with 838 engagements on Facebook and Instagram. In 2024, GLRC's posts reached 63,706 on Facebook, with 651 engagements on Facebook and Instagram. Reach is defined as the number of Facebook and Instagram accounts that saw a post at least once and is separate from impressions, which may include multiple views of your post by the

same Facebook and Instagram accounts. Engagements are defined as the number of reactions, comments, shares, and clicks on GLRC posts.

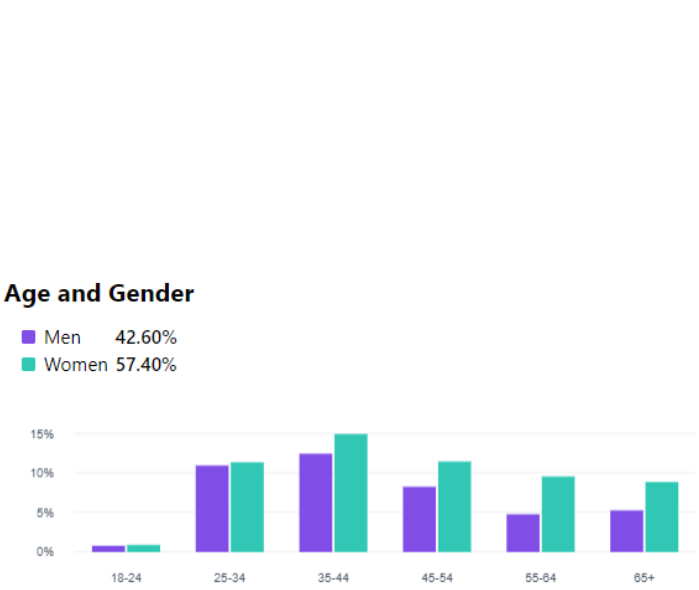
Paid posts or Facebook boosting has allowed GLRC to target all urban areas within the tri-county region. When boosting, posts can be displayed not just on Facebook, but also on Instagram, Messenger, Facebook Marketplace, and in the sidebar of Facebook. GLRC also purchased Google Ads in 2023 to promote their responsible car washing video and educational message, receiving over 118,500 impressions (an impression is the number of times GLRC posts published during the time frame were displayed on a person's screen).

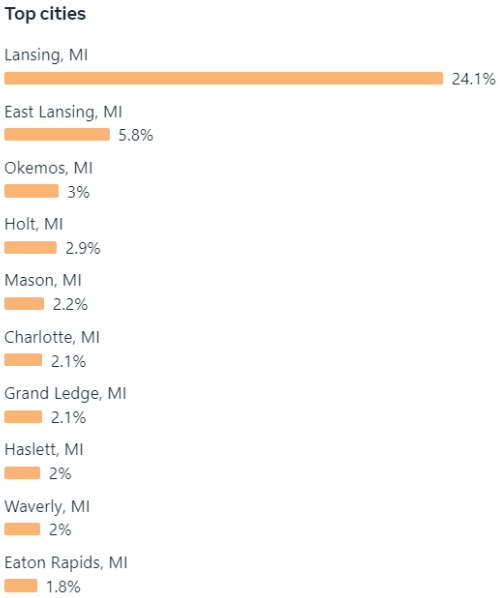
GLRC expanded its use of Google Ads in 2024, purchasing an ad to promote their rain garden video short which encourages using native plant rain gardens and rain barrels to protect the environment and reduce runoff, as well as encouraging viewers to learn more about green infrastructure solutions at mywatersheds.org. The ad received 257,837 impressions and 2,127 people watched the entire video. Google Ads was also utilized to promote the GLRC's long video on how to manage your septic system, and the harmful effects upon our waterways when it is not properly maintained. The video encourages homeowners to save money and extend the life of their septic system through proper inspections, not pouring grease and fats down the drain, only putting waste down drains, spreading out laundry and dishwashing loads, and to view the website for more information. This ad received 218,352 impressions and was viewed for at least 30 seconds by 1,854 people.

The GLRC has not advertised on Twitter during the reporting period. During 2023, total Twitter impressions were 4,808 with 121 engagements. During 2024, X impressions were 3,581 with 68 engagements (an engagement is the number of times people clicked on the images, GIFs, and videos in tweets GLRC published during the time frame). A table of all social media posts, their content, relation to PEP topics, and reach is included in Appendix C.

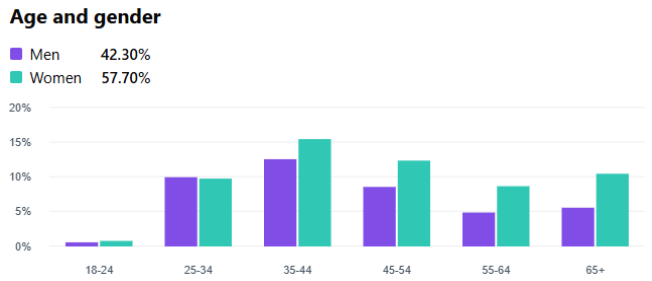
View GLRC's social media pages here: facebook.com/GLRC4stormwater/, and twitter.com/GLRC4stormwater, and instagram.com/mywatersheds/.

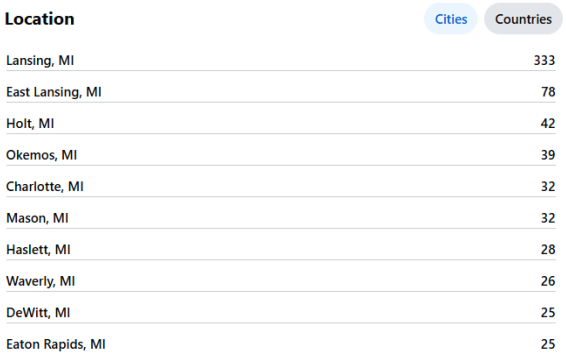
FACEBOOK DEMOGRAPHICS 2023





FACEBOOK DEMOGRAPHICS 2024

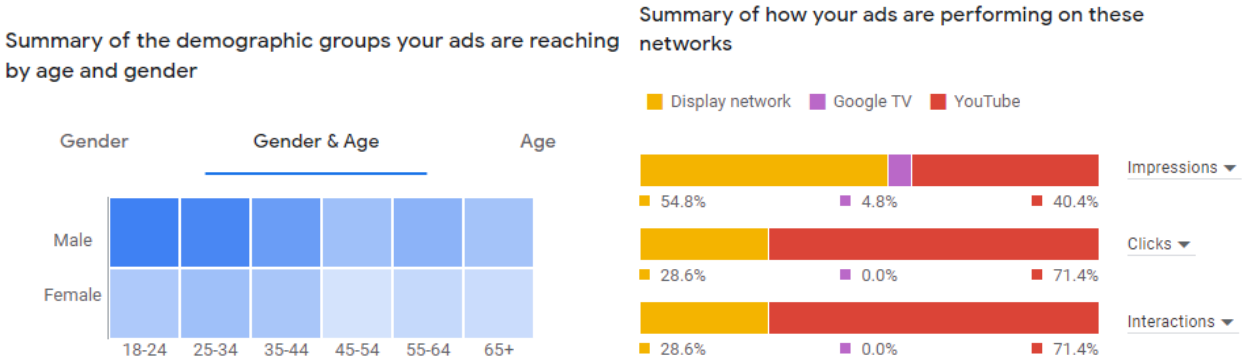




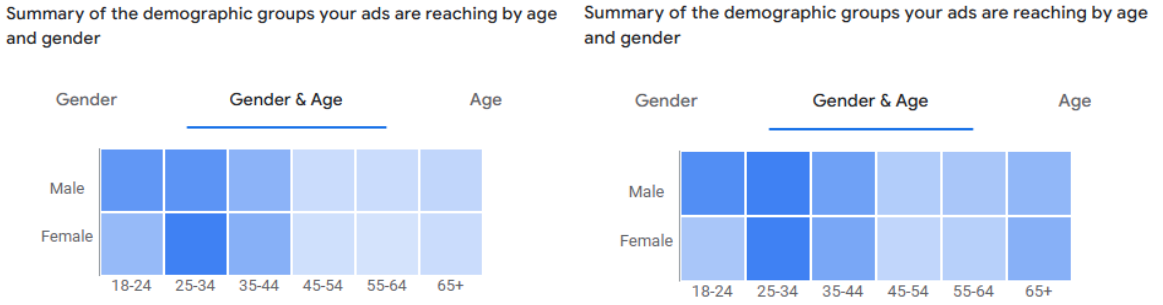
Video -- Survey results have indicated that respondents prefer learning about environmental issues through video. As such, GLRC invested in a suite of videos for inclusion on the website, Facebook, and YouTube. One video is two minutes and explains the GLRC and basic stormwater pollution prevention, other videos cover the required PEP topics. Most topics have two videos: one that is roughly 60-90 seconds and one that is under 15 seconds, as 15 seconds is the maximum length of a non-skippable ad. The GLRC pays to promote these videos on YouTube, Meta, and Google Ads.

The use of Google Ads during 2023-2024 helped expand GLRC's reach by capturing younger males aged 18-34 as one quarter of its audience. The GLRC's multimedia approach is meeting residents where they are and ensuring our outreach material has a broad reach. It also helps us diversify the places our ads display, because these ads show up throughout the Google ecosystem and on any website that uses Google Ads. View the GLRC's YouTube channel here: youtube.com/channel/UCm-2OdB67N_dSAnR5osYSFw.

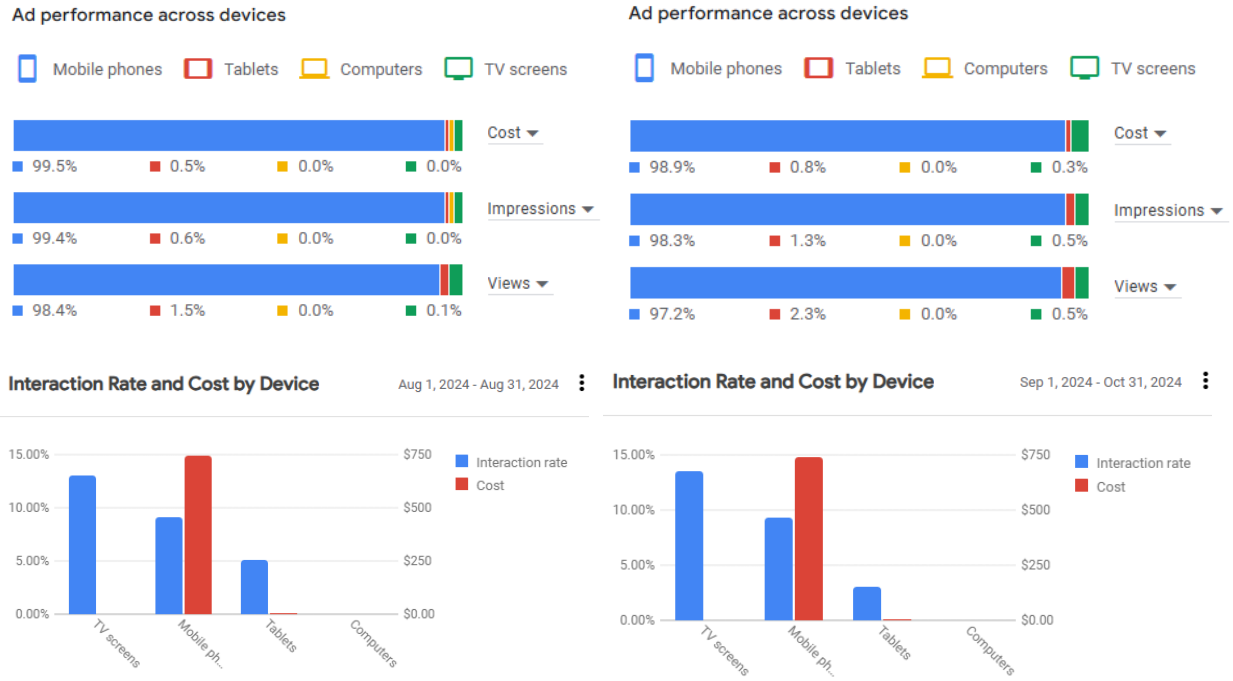
GOOGLE ADS 2023 SUMMARY



GOOGLE ADS 2024 SUMMARY AUGUST AND SEPTEMBER



GOOGLE ADS 2024 SUMMARY AUGUST AND SEPTEMBER



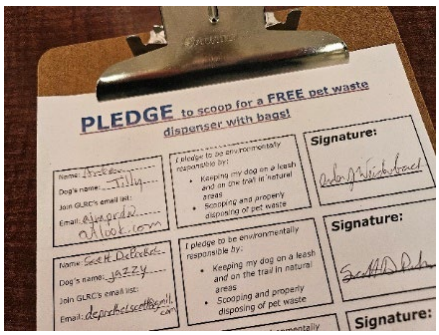
Brochures – As mentioned, the GLRC reprinted its six educational brochures during the reporting period. These brochures are distributed at events and lobbies. The GLRC Coordinator distributed 2,819 brochures at events during 2023 and 2024. A compilation of this distribution is shown in Appendix D. The following reflects distribution of brochures related to individual required PEP topics.

- Topic A: 2,819 brochures distributed
- Topic B: 2,819 brochures distributed
- Topic D: 830 brochures distributed
- Topic E: 1,950 brochures distributed
- Topic F: 2,465 brochures distributed
- Topic G: 1,552 brochures distributed
- Topic I: 840 brochures distributed

Similar information is presented digitally on the website and on social media.

Overall, 6,794 total pieces of outreach material - including MyWatersheds.org stickers, cups, water bottles, bracelets, rain garden seed cards, pet waste bag dispensers, etc. were distributed by the GLRC coordinator at events during the reporting period. An additional 1,000 pieces were purchased for use by members during their events.

Dog Calendar Contest – The annual Dog Photo Calendar Contest offered residents a chance to see their dog as a month's feature photo and win a $20 gift card to an area pet store. To enter, contestants must read about pet waste's impact on water quality and pledge to pick up after their pets. The GLRC launched the first contest in 2018 and it grew steadily through 2020 with 300 plus participants each year but declined in 2021 with 121 participants and again in 2022 with only 27 participating. It was decided to try one more time with a new format in 2023, but the contest only attracted 21 participants even with paid advertising. All participants in 2023 were added to the GLRC's newsletter mailing list to educate them on further ways to protect the watershed. Due to low participation, the contest will not be continued in a calendar format.



Rain Garden Seed Cards – In 2017, the GLRC began distributing rain garden information cards printed on paper embedded with native black-eyed Susan seeds. These provide information on the benefits of native plantings and provide residents with seeds to plant their own. They have proven very popular at events. More than 840 were distributed but only 24 were distributed during the reporting period due to low supplies. This campaign will likely be continued in the future.

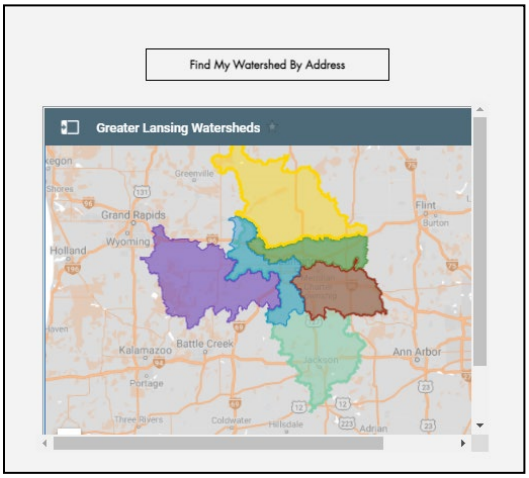
Dog Waste Bag Dispensers -- In 2017 the GLRC began distributing branded dog waste bag dispensers with the tagline "In The Bag, Not The River" to meet pet waste education requirements. To receive one at events, attendees must sign a pledge to pick up after their pets, with the option to join the e-newsletter mailing list. In 2023, a total of 542 pet waste bag dispensers were provided, which included 450 given to the Capital Area Humane Society for distribution. In 2024, a total of 117 pet waste bag dispensers were distributed at events. The GLRC will continue to offer this popular tool to encourage all residents to "pledge to scoop" at area events and plans to provide dispensers to the Humane Society every other year.

Green Infrastructure Bike Tour – A bicycle tour of area green infrastructure was developed in 2019 to provide users an interactive experience and inspire them to install green infrastructure on their own properties. The bike tour follows area bike trails and includes a printable map as well as a custom Google Map. In 2023, 77 maps were distributed at area events and in 2024, 18 were distributed.

Watershed Tattoos – The GLRC added an additional "swag" item to distribute during the permit cycle: a temporary Middle Grand River watershed tattoo. Sized to fit a hand, it creates a geographically accurate depiction of the Middle Grand River watershed overlaid the Michigan "mitten."

Color Changing Cups and Sport Water Bottles – In 2021, the GLRC designed a reusable cup and in 2022, a sport water bottle for event giveaways. As the cup changes with the temperature of the water, it engages children and both promotional items allow for discussion on how the GLRC works to protect our water. These lasting items drive residents to the website, and the cups were also utilized by participants at the GLRC seminar in 2022. In 2023, 404 cups were distributed at area events along with 200 sport water bottles. In 2024, the remaining 47 cups were distributed, along with 100 sport water bottles.

Pollution Isn't Pretty Bracelets – Stretchy bracelets with the theme "Pollution Isn't Pretty" written on them were produced during the PIP campaign in 2018. This popular item was distributed to 238 children at events during 2023 and to 132 children during 2024.



GLRC Bags – Reusable tote bags with the GLRC's name and website were designed in 2021 and distributed at area events. A total of 109 bags were given away in 2023, using the remaining supplies. In late 2023, a drawstring backpack was designed to replace the tote bags. A total of 498 drawstring backpacks were distributed from 2023-2024.

Find My Watershed Tool – In 2019, GLRC developed a Find My Watershed Tool. Users can plug in their home address and see which watershed they live in and where they live within it. It also provides information about the watershed, links to 319 plans, and contact

information for watershed organizations focused on stewardship within its boundaries. Survey results indicate that many residents do not know that they live in a watershed and this tool has made it easier for them to learn about the watershed they call home. This tool has been viewed 73,906 times since its debut.

General Outreach/Education Efforts – The GLRC Coordinator partners with several different groups, agencies, and organizations in the region. Here is a summary of general collaboration and activities related to stormwater and pollution prevention:

- March 4, 2023, and March 1, 2024 – Promoted and exhibited at the Quiet Adventures Symposium (QAS). No sponsorships were purchased, but the GLRC Coordinator interacted with 881 people at these two events. The MSU GLRC representative also attended these events.

- March 2023 – Assisted the City of Lansing in writing a Volunteer Stream Cleanup Program grant and submitted a letter of support for their two cleanup projects on behalf of GLRC.

- June 10, 2023 - The GLRC Coordinator promoted and participated in the Lansing Rivers and River Trail Cleanup along the Middle Grand and Red Cedar Rivers. Over 260 volunteers and 30 organizations participated in the community event, with 3-4 tons of trash removed.

- August 5, 2023, and August 3, 2024 - 21st and 22nd Annual Chuck Gorman Youth Day. Discussed the watershed and how to protect it while teaching 75 youth how to paddle a kayak in 2023, reaching 83 youth in 2024. An estimated 250 people attend the event, with a parent presence required at the kayaking station on Stony Creek.

- September 18, 2023 - The GLRC developed a topical on proper septic care and maintenance for Septic Smart Week in conjunction with the Groundwater Management Board, which was posted as a blog on the Tri-County Regional Planning Commission website as well as on social media platforms. Read the full article at mitcrpc.org/post/protecting-homeowners-and-our-waters-septic-systems-of-mid-michigan. The blog had 175 views in 2023 and 110 views in 2024.

- September 30, 2023, and September 8, 2024 – The Red Cedar Pathways and City of Williamston held a Red Cedar River Day Celebration which the GLRC Coordinator attended with the Enviroscape model. A total of 48 people visited the GLRC booth at the event in 2023 and 116 visited in 2024.

- December 2023 – The GLRC met with the Eaton Conservation District, Barry-Eaton District Health Department, and EGLE on development of a Watershed Council Support Grant to research areas of concern from septic systems in the Watershed Management Plan for Eaton County. A letter of support for the grant application was submitted by GLRC in 2024, and grantees should be notified in spring of 2025.

- December 2023 and 2024 – The GLRC Coordinator promoted and attended the annual MWEA Stormwater Seminar. The MSU GLRC representative also attended these events.

- April 26, 2024 – The GLRC Coordinator developed a hands-on activity for elementary students on the importance of trees for an Arbor Day celebration at Potter Park Zoo attended by children in the Lansing School District, educating 116 students. The coordinator also developed and participated

in an E. coli activity at a new Conservation Carnival celebration during Arbor Day with the Lansing Lugnuts and the Eaton Conservation District.

- December 2024 – The GLRC Coordinator develop a presentation on the history of stormwater management for a freshman science class at Lansing Christian High School. The coordinator also engaged students with the Enviroscape. The day included an expert in stormwater from a municipality, and a hands-on activity. An additional presentation at Lansing Christian is planned for spring 2025, with plans to promote the new classroom-based presentation.

- The GLRC Coordinator consistently provided notices to GLRC members regarding anything relevant to the MS4 program including seminars, training, webinars, legislative updates, etc.

Adopt A River – The GLRC display was part of the environmental fair at the Adopt A River events held in 2024. More than 500 residents participate in this event each year.

MSU Science Festival – The MSU Science Festival is an annual month-long educational event hosted by Michigan State University. The GLRC has participated in the Festival's EXPO Days, utilizing the Enviroscape Watershed model, handing out brochures, and speaking with children and families. The new Augmented Reality Sandbox (ARS) was used at the Festival in 2023, reaching 1,001 people with the interactive, educational tool. The ARS was also showcased at the 2024 Festival, reaching 451 participants.

Meridian Township Green Fairs – GLRC participated in the Winter and Summer Green Fairs at Meridian Township in 2023, bringing the Enviroscape to educate residents on the effects of stormwater pollution. A total of 201 people interacted with the GLRC booth at the Winter Fair and 153 people interacted with GLRC as the Sumer Fair. Timing did not work out in 2024, but participation in the event will continue.

Business Outreach: The GLRC has developed a variety of resources for local businesses to help educate them and staff on pollution prevention at their facilities and as part of their operations:

For Business Webpage – In 2020, a For Businesses webpage was developed to house outreach information particular to businesses and industrial facilities and flyers/posters detailing industrial BMPs. In 2023, the "businesses" page was updated to include materials from the car wash campaign on responsible car washing. The page was viewed 51 times during the reporting period.

Car Wash Campaign - GLRC has been building relationships with car washes to implement a car wash campaign. GLRC members were given a list of all known car washes in the Tri-County region (48) to verify they are all connected to the sanitary sewer system. The sign below was developed and printed for distribution to area car washes, with 41 displayed outdoors to encourage the public to use a commercial car wash.

The GLRC designed an insert in the October ValPak to educate residents on the benefits of using car washes and to encourage the use of car washes with a $2 off washes coupon. The GLRC worked with seven car washes in Clinton, Eaton, and Ingham counties to offer the coupon. The ValPak was mailed to 90,000 households throughout Greater Lansing. A total of 124 coupons were redeemed (see Appendix E).

Customer Education Collaboration – The GLRC seeks to work with area businesses to educate their customers on stormwater pollution prevention:

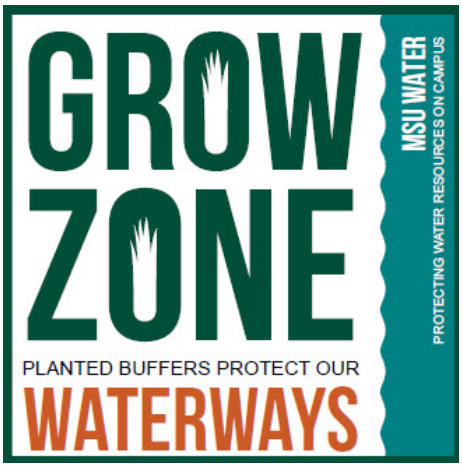
- Between 2019 and 2021, the GLRC worked with the Capital Area Humane Society (CAHS) to provide 750 dog waste bag dispensers and pet waste brochures to be included in the adoption packets for new pet owners. These materials highlight the importance of picking up pet waste while providing owners with the tools needed to start good dog ownership habits. An additional 450 pet waste bag dispensers and brochures were delivered to the CAHS in 2023.

- Throughout 2021, the GLRC worked with a group of MSU students to develop an educational campaign focused on car washes as the most environmentally friendly choice for customers versus at-home car washing. The GRLC Coordinator implemented this campaign in 2023.

- In 2023 a letter from the GLRC Coordinator was mailed to 56 high schools and middle schools in Clinton, Eaton, and Ingham counties on responsible car washing in conjunction with a car wash campaign. The letter included an educational brochure and contact information for any questions.

Campus Storm Drain Labeling – Catch basins across campus are labeled in order to bring awareness to the general public that storm drains flow to waterways of the state, and to not dump pollutants into the drains. Curb markers are checked each summer season, with approximately 300 labels replaced each year. EHS maintains records of the replacements.

Grow Zone Signs are maintained on campus to emphasize the importance of buffers for protecting waterways.



Illicit Discharge Elimination Program

The Illicit Discharge Elimination Program (IDEP) describes current and proposed Best Management Practices (BMPs) to meet the minimum control measure requirements to the Maximum Extent Practicable.

The following definitions apply to the IDEP:

- Illicit Discharge: Any discharge to, or seepage into, an MS4 that is not composed entirely of stormwater or uncontaminated groundwater except discharges pursuant to an NPDES permit.
- Illicit Connection: A physical connection to an MS4 that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

In addition to prohibiting illicit connections as part of the Plumbing Code in the University's Construction Standards, Standard Operating Procedures that prohibit illicit discharges into the University's storm sewer system are in place and are under the purview of MSU's Office of Environmental Health and Safety (EHS).

All outfalls and points of discharge for the MSU campus have been documented. That information is available in Appendix F.

IDEP Inspections and Corrective Actions

All MSU outfalls were located and screened for dry weather flow in 2022. In total, we sampled 12 outfalls that did have dry weather flow present. These outfalls were tested for pH and temperature in the field and then sent to Brighton Analytical to test for E. coli, surfactants, ammonia, fluoride, and hardness. Three samples (outfalls 20, 22, and 53) tested with high levels of E. coli only. None of the other parameters were excessive. Those same outfalls were re-sampled in the first quarter of 2023 and came back with low or no levels of E.coli. All outfalls will be re-inspected (and sampled if flow is detected) in the new permit cycle.

The MSU Environmental Health and Safety (EHS) Office responds to all concerns or questions regarding potential illicit discharges to the Red Cedar River. Calls from the public and the campus community are routed from either the MSU Police or the IPF to the Environmental Compliance Office of EHS. The Environmental Compliance Office then makes a record with the time/date of the call and the nature of the concern. As soon as practicable, a staff member physically verifies any issues. If any discharges are noted, a sample is taken and analyzed, and further investigation is undertaken to determine the source of the discharge. If no issues are verified by the MSU staff, a note will be made on the record, and the approximate location will be watched in the future to see if the issue arises again. Records of these calls and responses are maintained by the MSU EHS Department.

Illicit Discharge Concerns for this reporting period

On March 14, 2024, a report came into the PEAS hotline that an illicit discharge occurred the previous day at the Farm Lane Bridge. Follow-up investigations revealed that this was not an illicit discharge; rather, MSU Landscape Services staff were filling eel bags for soil erosion control at the bridge construction site.

EHS fielded several calls regarding large items located in the river during this reporting period. On June 14, 2024, a report of a car in the river just east of the Hagadorn Road bridge was received. The car was removed by a tow truck within two hours, and no visible sheen was seen from the vehicle being in the river. Several calls for scooters and a section of fence that had been placed in the river were also fielded, and these items were removed by IPF Landscape Services crew.

River Monitoring
MSU continues to collaborate with the Ingham County Health Department and other jurisdictions within the county on the Ingham County Surface Water Roundtable, which conducts weekly *E. coli* sampling throughout the Red Cedar River Watershed April-October. That data is available as a link from the MSU-WATER website.

IDEP Staff Training
In addition to online stormwater training that includes an illicit discharge detection component (see Good Housekeeping section), MSU EHS staff member Mary Lindsey participated in IDEP training hosted by the GLRC on July 12, 2024 (Field Training and A Grate Concern Video Training). Sign-in sheet records for these training sessions are included in Appendix G.

Evaluation of IDEP Program
The MSU Stormwater Committee reviews the Illicit Discharge Program activities annually to discuss progress toward goals and necessary changes. The committee discussed its IDEP program on the following dates: December 6, 2023, and December 4, 2024.

Post Construction Stormwater Runoff

Post-construction stormwater runoff controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from sites that undergo development or significant redevelopment. Under Michigan's MS4 stormwater permit, post-construction stormwater runoff from all new and redevelopment projects that disturb one acre or more, must meet the following stormwater discharge criteria:

- Treatment methods shall be designed on a site-specific basis to achieve discharge concentrations of total suspended solids (TSS) not to exceed 80 milligrams per liter (mg/l) resulting from up to one inch of rainfall.

- The channel protection criteria shall maintain post-development site runoff volume and peak flow rate at or below existing levels for all storms up to the 2-year, 24-hour event (2.42 inches).

Stormwater Design Standards and Off- Site Mitigation

The approach for MSU views the campus as one parcel with the Red Cedar River as its outlet. Each individual development or redevelopment project is required to evaluate a method of complying with the stormwater requirements at the site and prepare a cost estimate for construction, following the procedures in the MSU Stormwater Design Standards, which will then be submitted to the campus Stormwater Review Committee. The methodology used in the development for the design standards was vetted through EGLE staff in a series of meetings.

Projects that may alter the stormwater volume or peak-rate characteristics are tracked on a campus-wide basis and tabulated in a credit system or bank. Projects contributing to the bank will include demolition projects (e.g., buildings, parking lots, roadways) and stormwater improvement projects (e.g., porous pavement parking lots, bio-retention areas, etc.).

Recognizing that new projects located in highly developed zones of campus will have difficulty meeting the stormwater permit standards without incurring excessive costs or without resorting to impractical solutions such as stormwater pumping, the Stormwater Committee may recommend that a project use credits from the campus bank to meet its stormwater requirements under the new general permit. This decision will be made on a project by project basis after a site-specific evaluation and cost estimate has been completed. If a project applies for bank credits, the project may be charged a proportionate cost to help pay the capital costs associated with a larger, regional project that would be implemented to maintain the stormwater bank. Under the alternative approach, regional projects would have to demonstrate effectiveness of a 1.2 multiplier for all permit parameters over a site-specific solution. Larger development projects that have enough land area available for LID techniques that exceed their stormwater requirements may also contribute to the campus bank. If the offset bank has been expended and an offsite project is deemed necessary, the regional stormwater control project must be completed concurrently with the development or within one calendar year of substantial completion of the project.

Documentation of Existing System

The MSU IPF Division is responsible for maintaining the storm sewer maps and infrastructure records for the campus. All storm sewer pipes and structures have been mapped and documented in a Geographic Information System (GIS) database. The storm sewer pipes range in size from 12 inches to 84 inches and provide stormwater conveyance for approximately 2,200 acres of north campus. All storm sewer revisions completed on construction projects are recorded as the projects are completed so the GIS system stays current. A number of green stormwater infrastructure techniques have been implemented across the campus, including bioretention areas, green roofs and proprietary treatment systems.

Stormwater BMPs are tracked by MSU IPF. As required by the NPDES Stormwater Permit, the BMP and impervious summary for the reporting period is included as Appendix H of this report.

Site Specific Requirements

The Stormwater Committee is also responsible for reviewing the use of infiltration BMPs to meet the water quality treatment and channel protection standards for new development or redevelopment projects in areas of soil or groundwater contamination in a manner that does not exacerbate existing conditions. The committee meets monthly to discuss upcoming development projects, including proposed stormwater treatments options. Design review methodology discourages infiltration BMPs in areas of known soil or groundwater contamination. In these areas, alternative BMP designs are discussed and proposed.

The committee reviewed this procedure at its December 2023 and 2024 regular meetings. The committee maintains that the monthly meetings and ongoing discussions regarding these site-specific considerations are effective and appropriate.

Upcoming Activities

New BMPs that are slated to come online beyond this reporting period are included in the summary report, which is included in Appendix H.

Construction Stormwater Runoff

The Federal National Pollutant Discharge Elimination System (NPDES) Stormwater Program is part of the Clean Water Act administered by US Environmental Protection Agency. One aspect of this program addresses runoff from construction activities. Administration of the NPDES Stormwater Program in Michigan has been delegated to EGLE. These permit requirements specifically reference discharges from construction activities where the pollutants enter the MS4 owned or operated by the permittee and when the pollutants are in violation of any of the following:

- Section 9116 of Part 91 of the Michigan Act- *Sec.9116. A person who owns land on which an earth change has been made that may result in or contribute to soil erosion or sedimentation of the waters of the state shall implement and maintain soil erosion and sedimentation control measures that will effectively reduce soil erosion or sedimentation from the land on which the earth change has been made.*
- Michigan's Permit-by-Rule at R 323.2190(2)(a)- *Not directly or indirectly discharge wastes such as discarded building materials, concrete truck washout, chemicals, lubricants, fuels, liter, sanitary waste, or any other substance at the construction site into the waters of the state in violation of Part 31 of the Act or rules promulgated there under.*

Procedure to Ensure that Construction Activity One Acre or Greater in Total Earth Disturbance with the Potential to Discharge is Conducted by an Approved Authorized Public Agency

The University works with the City of East Lansing, Ingham County and Meridian Township, which are designated by EGLE as Authorized Public Agencies and Municipal Enforcing Agencies pursuant to Part 91. As such, campus development projects must obtain a Grading/Soil Erosion and Sedimentation Control permit from the City, County or Township. A number of staff members from the MSU IPF Division and AgBioResearch have successfully completed the Certified Stormwater Operator (CSWO) training and passed the CWSO/SESC Inspector exam. These individuals serve as the campus project representatives to ensure that all SESC requirements are met for new development projects.

Procedures to Ensure Adequate Allowance for Soil Erosion and Sedimentation Controls on Preliminary Site Plans, as Applicable:

The City's ordinance requirements provide for even more stringent requirements than required by EGLE, the most significant being that the minimum one-acre size limitation has been reduced to 6,000 square feet where the site is more than 500 feet from any lake, stream or drainage course or 225 square feet where the site is less than 500 feet from any lake, stream or drainage course.

As part of standard design and construction procedures on campus, staff members from IPF Planning, Design and Construction (PDC) or the AGBIORESEARCH review or prepare all Soil Erosion and Sedimentation Control Plan drawings and specifications. These documents are produced by a consultant or internally, PDC or AgBioResearch staff members begin site analysis in the Schematic Design stage or earlier. The SESC document is being produced by a consultant, they are provided with the SESC/Stormwater Discharge checklist and other information as appropriate.

The acreage of the project and proximity to surface waters determines whether the proposed construction will require a permit. If a permit is required, the site location determines the appropriate governing agency; City, County or Township. The SESC documents are reviewed by PDC or AgBioResearch staff, in cooperation with the appropriate governing agency, multiple times throughout the design process to ensure that the appropriate controls will be in place according to the specific site. Documents are put out for bid and PDC or AgBioResearch staff confirm that all necessary SESC devices and techniques are clearly located and quantifiable.

Throughout the construction process regular site visits are performed by PDC or AgBioResearch staff members, who are Certified Storm Operators.

All SESC documentation is available at IPF PDC or AgBioResearch as appropriate.

Procedures to Provide Notice When Pollutants Are Discharged from Construction Activities:

Where any pollutants are discharged from a construction activity in violation of any of the above noted statutes, to MSU's storm sewer system, the University will provide the following notifications:

- If soil, sediment or any other wastes that may adversely affect adjacent properties or public rights-of-ways, are discharged from a site, the University's CSWO assigned to that project location will notify the Authorized Public Agency within 24 hours of becoming aware of the discharge and consult with them regarding EGLE notification.
- If the University suspects that the discharge may endanger public health or the environment, the violation will be reported within 24 hours of becoming aware of the discharge. The CSWO assigned to that project location will work with the MSU Office of Environmental Health and Safety (EHS), which will ultimately report the discharge to EGLE.

Files are maintained by the City of East Lansing.

Procedures for the Receipt and Consideration of Complaints or Other Information Submitted by the Public Regarding Construction Activities Discharging Wastes to the MS4:

The University's CSWOs from the IPF and AgBioResearch inspect all permitted construction sites on a regular basis. As part of the Public Education Plan activities, individuals will be instructed to contact the IPF main dispatch number at 517-353-1760 with concerns about construction activity discharges. If a complaint is received dispatch operators will then notify the CSWO assigned to that location for immediate review. All complaints will be reviewed by no later than the next business day after receipt. Any action required by the contractor will be processed immediately.

On May 31, 2023 EGLE conducted an evaluation of the Farm Lane Bridge reconstruction site and sent a notice of deficiencies to MSU on June 16, 2023. The University corrected the deficiencies and responded to EGLE via the MI Enviro Portal on July 14, 2023. EGLE acknowledged the corrections and confirmed that MSU was back into SESC compliance on July 17, 2023.

Pollution Prevention and Good Housekeeping Program

The NPDES stormwater requirements stress the importance of developing proper pollution prevention procedures and maintaining good housekeeping practices on municipal property.

Municipal operations cover a wide variety of activities and land uses that are potential sources of stormwater pollutants. These include but are not limited to roadways; parking lots; transportation and equipment garages; fueling areas; warehouses; stockpiles of salt and other raw materials; open ditches and storm sewers; turf and landscaping for all municipal properties, including parks; and waste handling and disposal areas.

IPF Landscape Services has developed Good Housekeeping and Pollution Prevention Standard Operating Procedures. That document is included as Appendix I. In addition, operating procedures pertaining to specific requirements in the stormwater permit are included below.

High-Priority Sites

The MSU Stormwater Committee identified the following facilities as high-priority:

1) MSU Transportation Services
2) MSU Surplus Store & Recycling Center
3) Forest Akers Golf Course Maintenance Facility.

MSU maintains separate Stormwater Pollution Prevention Plans (SWPPP) for these facilities. MSU EHS conducts monthly housekeeping inspections at each of these locations, looking specifically at areas of high concern (e.g., fuel tanks, outdoor storage, etc.). In addition, EHS staff also conduct quarterly comprehensive site inspections at each location to verify that the entire site is in compliance with the SWPPP. Inspection records are available at EHS.

Medium-and Low-Priority Sites

MSU's parking lots and parking ramps have been identified by the Stormwater Committee as medium-priority facilities. For these and the remaining facilities identified as lower-priority sites, standard operating procedures as included in the GLRC "Good Housekeeping and Pollution Prevention for Municipal Activities" guide as well as procedures documented in the SWMP.

Structural Stormwater Control Operation and Maintenance Activities

Landscape Services is responsible for collecting and disposing of debris and wastes from MSU's sewer and catch basin cleaning; street sweeping and other sources of pollution that may otherwise be discharged into the separate stormwater drainage system. MSU's Office of Environmental Health and Safety (EHS) oversees compliance with Part 121 rules dealing with liquid industrial wastes, including ensuring that contractors meet all applicable requirements. The IPF Division is responsible for ensuring compliance with Part 115 solid waste disposal.

Collections for this reporting period are listed below:

- In 2023: 128 catch basins serviced, with 34,780 lbs. of debris collected. No oil separators were serviced, with 0 lbs. of water/slurry removed.
- In 2024: 220 catch basins serviced, with 160,360 lbs. of debris collected. 22 oil separators were serviced, all absorbent socks were replaced between April and October 2024.

Municipal Operations and Maintenance Activities

IPF staff members have developed a stormwater facilities inspection spreadsheet that includes various BMPs and routine inspection and maintenance tasks for each. IPF also maintains a map of BMPs, with an accompanying spreadsheet to document inspection and maintenance dates and labor hours for each BMP. The spreadsheets are housed on the IPF server.

Currently, 115 stormwater devices (23 Oil Separators, 4 Vegetative Roofs, 37 Pervious Pavement structures, 48 Detention Facilities/Native Revegetation and 3 Constructed Wetlands) are being inspected and maintained by MSU IPF Landscape Services (Certified Stormwater Operator) at a minimum of one visit per year.

The month of June (every year) has been reserved for Landscape Services staff to visit as many stormwater facilities as possible to inspect and thoroughly maintain. In 2024, Landscape staff recorded the following labor hours for each.

- Oil Separators: 46 hours
- Vegetative Roofs: 85.5 hours
- Pervious Pavement: 32.5 hours
- Detention Facilities/Native Revegetation: 302 hours
- Constructed Wetlands: 37.5 hours
- Riparian Buffer: 770.2 hours

Each device has been assigned an equipment number which is used to track costs of inspection and maintenance. A map-based mobile application, typically used on iPhones, is being used in the field to track scheduled inspection and maintenance activities such as debris removal, invasive plant eradication and mowing. This application allows the user to locate items on an interactive map that are scheduled for maintenance or inspection. Elements (Equipment) are only highlighted when they are due for an action.

MSU currently has 23 oil separators, all of which were cleaned/serviced in 2024. Absorbent socks are replaced in the spring and the fall. Inspection and maintenance records are available in the ArcGIS FieldMaps App.

Street Sweeping, Parking Lot, Sidewalk and Bridge Maintenance

Landscape Services is responsible for sweeping streets and parking lots on the MSU campus. All equipment is maintained on a fixed schedule; streets and parking lots are currently swept a minimum of two times per year. Structures are swept monthly and washed annually or as needed. Sweepings are stored in a roll-off bin and hauled to an approved landfill. No street sweepings are composted. Parking lots are swept on a regular basis following the street sweeping rotating schedule.

- In 2023, 155,660 lbs. of debris were collected from the streets and parking lots
- In 2024, 84,500 lbs. of debris were collected from the streets and parking lots
- Debris was placed in ten-yard dumpsters and hauled away to the local landfill.

Cold Weather Operations

Snow and ice removal on the Michigan State University campus is a major priority of MSU Landscape Services. Documentation for this reporting period includes:

- Over the 2023-2024 snow season 1,564 tons of salt were applied, in addition to 162,087 gallons of salt brine.
- Over the 2024-2025 snow season 2,739 tons of salt were applied, in addition to 93,510 gallons of salt brine.

Employee/Contractor Training Related to Stormwater Management Activities

MSU has an online stormwater training program in place through Ability Training Compliance (On the MSU EBS Portal). The training program includes three (3) sections: Stormwater Protection (45 min.), SPCC/PIPP Management (30 min.) and Wellhead Protection Program (30 min.). MSU-specific information is included at the end of the training videos, as well as a short quiz. The Stormwater Protection segment is mandatory for all Landscape Services staff. Farm Managers complete Stormwater Training on a regular basis. In addition, a Red Cedar River and stormwater management presentation was provided to Landscape Services staff members in December 2024.

- During this reporting period, 131 staff members completed the online stormwater training (Appendix J)
- Landscape Services hosted three all-staff / community engaging Red Cedar River clean-ups during this reporting period
- Landscape Services creates, maintains and places more than 30 community awareness step-in yard signs along the north and south Red Cedar riverbank from April-November. These graphics provide uncommon information/historical facts about our waterway.
- Landscape Services hosts Lunch and Learn opportunities annually focusing on sustainable fleet solutions embraced to ensure our hard surface rainwater runoff is as clean as possible before entering the Red Cedar River.
- Landscape Services participates and presents at GIS day each year showcasing how GIS tools are used in daily operations to track and maintain our stormwater features throughout campus and predict flood stage impacts. ArcGIS Field Maps and survey technology helps keep the MSU community aware of the storm water happenings while educating the public on our preparedness strategies.

MSU staff members leading stormwater maintenance activities are required to retain a Soil Erosion and Sediment Control Certification with the State of Michigan. A Certified Stormwater Operator regularly inspects construction sites for stormwater deficiencies and generates documentation for each inspection.

Contractor training pertaining to stormwater is required of all sub-contractor field personnel. These contractors are required to annually review and monitor the policies and practices relating to reporting of health, safety and environment, and incidents with respect to employees, facilities and operations, in

compliance with applicable laws and regulations in Michigan.

Managing Vegetated Properties

University employees who apply pesticides and fertilizers are required to possess a valid commercial applicator's license from the State of Michigan. As part of the continuing education/recertification requirements, employees are trained in proper storage, handling and use of pesticides, herbicides, and fertilizers on the MSU campus. All full-time staff receive funding to attend conferences and seminars for continuing education credits.

A new artificial turf complex called "Spartan Greens" was built on Service Road. Stone mulch is being utilized in many locations around campus. Some examples include the Business College, locations near the greenhouses, ITSB Courtyard, Breslin Center, and the Surplus Store.

South Campus Farms

All of the South Campus Farms have been verified and continue to operate under the Michigan Agricultural Environmental Assurance Program (MAEAP) through MDARD. This program promotes overall environmental protection, which includes nutrient management through an extensive Comprehensive Nutrient Management Program (CNMP).

An extensive field tiling system is managed and maintained to provide land drainage for enhanced crop production and agronomic research opportunities and utilizes buffer zones around all surface water inlets.

Grassed waterways and vegetative strips are utilized whenever feasible for stormwater conveyances.

Septic systems are maintained on a regular basis and are replaced with sanitary sewer connections whenever feasible.

Total Maximum Daily Load

Section 303(d) of the federal Clean Water Act (CWA) and the United States Environmental Protection Agency's (USEPA) Water Quality Planning and Management Regulations (Title 40 of the Code of Federal Regulations, Part 130) requires states to develop Total Maximum Daily Loads (TMDLs) for water bodies that are not meeting water quality standards. A TMDL was established by EGLE for portions of the Red Cedar River and subsequently approved by the USEPA. A TMDL establishes the allowable level of pollutants for a water body based on the relationship between pollution sources and in-stream water quality conditions. TMDLs provide a basis for determining the pollutant reductions necessary from both point and nonpoint sources to restore and maintain the quality of water resources.

The State of Michigan has officially established the limits for its *E.coli* TMDL to be a concentration-based standard as follows: "For this TMDL, the WQS of 130 *E.coli* per 100mL as a 30-day geometric mean and 300 E.coli per 100mL as a daily maximum to protect the TBC use are the target levels for the TMDL reaches for May 1 through October 31, and 1,000 E.coli per 100mL as a daily maximum year-round to protect the PBC use."

Procedure for identifying and prioritizing BMPs currently being implemented or to be implemented during the permit cycle to make progress toward achieving the pollutant load reduction requirement the TMDL

The MSU Stormwater Committee reviewed the EGLE document entitled *Total Maximum Daily Load for E. coli in Portions of the Red Cedar River and Grand River Watersheds* as well as the *Red Cedar River 319 Watershed Management Plan*, which was approved by the EGLE and USEPA in 2015, to set priorities for the *E. coli* TMDL implementation. Available monitoring data was also reviewed. The committee meets on a monthly basis, annually assesses progress in meeting TMDL requirements, and directs management strategies to address sources and causes of bacterial loading.

Monitoring conducted by the Ingham County Health Department and the 319 watershed project showed that bacteria were present during both dry and wet weather events throughout the watershed. Pollution presence during certain weather conditions can be indicative of the sources of the pollution. Based on work in the mid-Michigan area and elsewhere, dry weather sources of *E.coli* throughout the Red Cedar River Watershed may potentially be attributed to such things as leaky septic tanks, illicit connections, livestock, wildlife and regrowth of bacteria. Wet weather sources of *E.coli* are often associated with overland runoff. Source tracking in the Red Cedar 319 project showed the presence of both equine and bovine DNA in a majority of the subwatersheds analyzed.

Monitoring plan for assessing the effectiveness of the BMPs currently being implemented or to be implemented, in making progress toward achieving the TMDL pollutant load reduction requirement, including a schedule for completing the monitoring.

In addition to IDEP low-flow sampling, MSU participates in the ongoing sampling and monitoring program established by the Ingham County Health Department (ICHD) in 2004. The ICHD currently samples 10 sites along the Red Cedar River, including sites at S. Hagadorn Road; MSU Wells Hall Bridge (moved from the Farm Lane Road Bridge site since the 2024 sampling season due to Farm Lane Bridge upgrades, where new railings have made sampling infeasible); S. Harrison Road; and Kalamazoo Street. Sample results are available online.

Along with this continued in-stream weekly monitoring during the recreation season, wet-weather, end-of-pipe sampling was conducted in October 2020 and March 2024 within five subwatersheds on the MSU campus to comply with TMDL requirements. The drainage areas for outfalls 33, 37, 41, 42, 53. Those subdistricts encompass the campus academic core with continued development and expansion. In addition, subdistrict 53 includes drainage from the south campus farms area. Together, these subdistricts represent 78% of the main campus land area. For the two wet weather sampling events, no exceedences of E. coli standards were observed. A map of these areas is included as Appendix K.

Summary

The University is committed to continuing its commitment to managing campus water resources in a holistic manner. A watershed management plan was developed for the Red Cedar River Watershed, with an emphasis on *E. coli* bacteria. MSU faculty, students and staff members are working with numerous local partners in this effort. Along with those broader, watershed-wide efforts, good working relationships have developed among the members of the Greater Lansing Regional Committee for Stormwater Management (GLRC), and MSU will continue to be a full partner with these communities in the urbanized portion of the watershed as a member of this organization. In addition, the campus Red Cedar River Recreation and Stewardship Committee is committed to working with neighboring groups and organizations to promote the sound use of our shared water resources. The MSU Stormwater Committee, comprised of staff members from multiple service units and departments, continues to emphasize an integrated approach to managing stormwater on campus.