GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
EXECUTIVE OFFICE

PHILLIP D. ROOS
DIRECTOR

November 26, 2024

VIA EMAIL

David Naftzger, Executive Director
Great Lakes St. Lawrence River Basin Water Resources Council
Secretary, Great Lakes St. Lawrence River Water Resources Regional Body
Conference of Great Lakes St. Lawrence Governors and Premiers
20 North Wacker Drive, Suite 2700
Chicago, Illinois 60606

Dear Dave:

SUBJECT: 2024 Water Conservation and Efficiency Program Annual Assessment
Submitted on behalf of the State of Michigan

On behalf of the State of Michigan, enclosed is the 2024 Water Conservation and Efficiency Program Annual Assessment being sent pursuant to and in satisfaction of the obligations included in Section 4.2 of the Great Lakes St. Lawrence River Basin Water Resources Compact. Please note that these reports are subject to revision and update during the Compact Council and Regional Body program review process.

If you have any questions, please do not hesitate to contact me.

Sincerely,

James Clift
Deputy Director

Enclosure
cc: Peter Johnson, Conference of the Great Lakes St. Lawrence Governors and Premiers
Phillip D. Roos, Director, EGLE
Emily Finnell, Great Lakes Senior Advisor and Strategist, EGLE
Jim Milne, EGLE

GREAT LAKES-ST. LAWRENCE RIVER BASIN WATER RESOURCES COMPACT WATER CONSERVATION AND EFFICIENCY PROGRAM ANNUAL ASSESSMENT

State of Michigan
November 26, 2024

This Water Conservation and Efficiency Program Annual Assessment fulfills Michigan's obligation under Section 4.2.2 of the Great Lakes-St. Lawrence River Basin Water Resources Compact (Compact).

LEAD AGENCY AND OFFICE CONTACTS

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Water Use Program is the lead agency responsible for Michigan's water conservation and efficiency program.

Compact Contact: James Clift, Deputy Director, Executive Office; 517-284-6871, CliftJ@Michigan.gov.

Program Contact: James F. Milne, Supervisor, Water Use Assessment Unit, Groundwater and Geological Services Section, Geologic Resources Management Division; 517-285-3253, MilneJ@Michigan.gov.

STATUS OF MICHIGAN'S WATER CONSERVATION AND EFFICIENCY 2024 GOALS AND OBJECTIVES

Michigan adopted water conservation and efficiency goals and objectives that are consistent with the Basin-wide goals and objectives. These goals and objectives were developed by the former Water Resources Conservation Advisory Council, a stakeholder forum of executive and legislative appointees that was established for collaborative study, evaluation, and advisement for Michigan's water management and water conservation and efficiency programs. Michigan's water conservation and efficiency goals and objectives continue to be met through the water conservation and efficiency program that was initiated with the adoption of the Compact.

The Water Use Advisory Council (WUAC), established under Part 328, Aquifer Protection, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), continues to play an integral part in Michigan's water management and water conservation and efficiency program. It provides a platform for raising water withdrawal related issues and establishes an integrated framework of roles and responsibilities for all stakeholders in managing Michigan's water resources. The WUAC collaboratively studies, evaluates, and provides advice regarding Michigan's water management, conservation, and efficiency programs. It also assists on technical issues, implementation, and monitoring overall progress of Michigan's water use program. The WUAC creates opportunities for the public, university researchers, industry professionals, advocacy groups, and other interested parties to be involved and to work directly with state agencies to set policy and shape the program's direction. This promotes better understanding and cooperation to the benefit of the program and

results in shared investment in the management and sustainability of Michigan's streams, lakes, wetlands, and groundwater.

The WUAC is charged to report biennially to the Michigan Legislature, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), the Michigan Department of Natural Resources (DNR), and the Michigan Department of Agriculture and Rural Development (MDARD). The WUAC will release its latest biennial report in December 2024. The first biennial report to the Legislature was released in December 2020 and its second biennial report in December 2022. The Council's recommendations have the potential to advance and improve data collection, modeling, research, and refine administration of the water withdrawal assessment process and Michigan's water conservation and efficiency program. They will also benefit many other state water management issues.

The WUAC's open and ongoing discussions keep agency program staff informed on the effectiveness and progress of these programs, providing valuable insight to guide Michigan's efforts to improve water conservation and efficient use of water.

In addition to the WUAC's collective work, Michigan is focused on the impacts of climate change, including building resilience to high water, reducing Michigan's carbon footprint, and addressing ageing water infrastructure. Michigan Governor Gretchen Whitmer has ordered EGLE's Office of Climate and Energy to coordinate the state's efforts to achieve carbon neutrality by 2050 through development and implementation of the MI Healthy Climate Plan, which is outlined in Executive Order 2020-182 and Directive 2020-10. The MI Healthy Climate Plan, released in April 2022, lays out a broad vision and roadmap to carbon neutrality. The Plan is meant to protect public health and the environment while also helping to develop new clean energy jobs by making Michigan fully carbon-neutral by 2050.

In March 2022, Governor Gretchen Whitmer signed the bipartisan Building Michigan Together Plan (Public Act 53), the state's largest-ever infrastructure investment at $4.7 billion, including more than $1.9 billion to be administered by EGLE over two fiscal years from the federal American Rescue Plan Act ($1.3 billion), the federal Infrastructure Investment and Jobs Act ($470 million), and the state's general fund ($130 million). As part of this plan, through the Drinking Water State Revolving Fund and the Clean Water State Revolving Fund, EGLE issued financing agreements to 72 projects for a total of $1.05 billion in low-interest loans in Fiscal Year 2024.

Efforts continue to assess Michigan's new and existing climate, energy, and water infrastructure programs and initiatives to identify opportunities to further advance Michigan's water conservation goals and objectives.

Michigan also continues to implement the Michigan Water Strategy, an all-inclusive vision and blueprint to ensure Michigan's water resources continue to support healthy ecosystems, communities, and economies for current and future generations.

WATER CONSERVATION AND EFFICIENCY PROGRAM OVERVIEW

Michigan's water conservation and efficiency program is founded on the water withdrawal assessment requirement that applies to all new or increased large quantity withdrawals (LQWs). The assessment process evaluates proposed water withdrawals relative to the environmental impact standards set for conserving and protecting the water resources of the Great Lakes Basin.[1] The likely resource impacts of a proposed withdrawal must meet the environmental impact standard and be authorized by EGLE before the withdrawal can begin.[2] If the withdrawal is likely to exceed the environmental impact standards, the applicant must reduce their withdrawal or show by site-specific data and analysis that their withdrawal's impact won't exceed the standard. LQWs are cumulatively tracked and accounted for against the environmental standard at a sub-watershed scale, ensuring that the water resources of the basin are conserved even at a small scale.[3]

Michigan's water conservation and efficiency program goes beyond the assessment process to include a comprehensive program of water use management. This program establishes an integrated framework of roles and responsibilities for private and public water users and governmental agencies in managing Michigan's water resources. Further, this framework creates opportunities for involvement by the public (e.g., local committees and volunteer efforts such as stream monitoring); universities (e.g., research and technical assistance); and other interested parties resulting in a latticework of shared investment in the sustainability of Michigan's lakes, streams, and groundwater.

In conjunction with annual water use reporting that is required for LQWs, owners are required to review water conservation measures applicable to their water use sector. Implementation of conservation measures is voluntary.[4] In sub-watersheds that are approaching the environmental impact standard, to have a withdrawal approved, an applicant must implement the water conservation measures they deem to be reasonable.[5] For applications greater than two million gallons per day (MGD) capacity, it is required that all sector or withdrawal-based conservation measures are complied with as a condition of approval.

[1] Michigan Compiled Laws (MCL) 324.32705
[2] MCL 324.32706b, 324.32706c, 324.32723
[3] MCL 324.32706e
[4] MCL 324.32707, 324.32708
[5] MCL 324.32706c, 325.1004

WATER CONSERVATION AND EFFICIENCY PROGRAM CONSISTENCY WITH REGIONAL OBJECTIVES, AND THE PROMOTION OF ENVIRONMENTALLY SOUND AND ECONOMICALLY FEASIBLE WATER CONSERVATION MEASURES

Compact's Water Conservation and Efficiency Objectives	Summary of Current Efforts
I. Guide programs toward long-term sustainable water use.	• Regulatory framework that requires resource conservation. • Adaptive programs that integrate new data, methods, and policies in response to changing environmental conditions. • Develop centralized comprehensive groundwater database to inform decision-making.
II. Adopt and implement supply and demand management to promote efficient use and conservation of water resources.	• Sub-watershed scale cumulative impact limits for withdrawals. • Notification of nearby water users and local government when limits are approached. • Restrictions on withdrawals when local impact would exceed limit or is unreasonable. • Drinking water infrastructure grants to communities involving water main work, service line replacements, plant enhancements, and other upgrades. • Administering Retired Engineers, Scientists, Technicians, Administrators, Researchers, and Teachers (RESTART) program to provide assistance to institutions, government agencies and businesses with 500 or fewer full-time employees with on-site energy and sustainability assessments.
III. Improve monitoring and standardize data reporting within water conservation and efficiency programs.	• Increased water use reporting data quality. • Continuing efforts to bring into compliance previously unreported water uses. • Outreach efforts continue with property owners, well drillers, and other interested parties to increase awareness of Part 327's requirements and increase compliance. • Continue to improve usability of new database for agricultural water users. • Continue asset management planning initiatives, including a grant program administered by EGLE to further mature local community's asset management programs.
IV. Develop science, technology, and research.	• Ongoing state/federal glacial geology mapping partnership.

	• Funded nine (9) continuous flow stream gages installed and operated by the U.S. Geological Survey (USGS). The USGS collects additional one-time stream flow measurements at another 30 locations. EGLE collects one-time stream flow measurements at another 34 locations. A total of 73 different locations have stream flow measurements collected. • Increased use of site-specific data and regional withdrawal impact models. • Funded research study to identify innovations and technological advancements in water conservation and efficiency best management practices for business and industry sectors. • Dedicated funding source for research and innovation through the Michigan Great Lakes Protection Fund (MGLPF).
V. Develop education programs and information sharing for all water users.	• Additional water use data made available online. • Water use data published in media outlets. • Integrated assessments provide on-site, direct assistance services to help businesses and communities to meet their sustainability goals. • Began implementation of pilot program to build capacity to deliver existing education programs and trainings on water efficiency for the agricultural sector including animal industries. • Annual agriculture irrigation practices workshops. • Generally Accepted Agricultural and Management Practices for irrigation water use continue to be reviewed and updated on a yearly basis. This assures the most up-to-date standards are in place for agricultural water use at Michigan's farms. • Michigan Water School available as online modules to educate and train local appointed and elected officials on water management. • EGLE continues the interagency work group to fund development of statewide collaborative Great Lakes education and outreach strategies and programming on water stewardship. • Hosted annual Great Lakes Freshwater week to celebrate water resources, raise awareness of the wellness benefits of water and encourage Michigan residents to experience water, become educated about water resources, take action to

	become water stewards, and promote water workforce development. • Partnered with the U.S. Environmental Protection Agency's (EPA) WaterSense Program and hosted a Fix a Leak week. • Obtained Great Lakes Restoration Initiative (GLRI) funding for Phase 3 of the From Students to Stewards Initiative. This phase will provide a funding opportunity for student-led, community-based water stewardship projects that address local issues, develop and share a comprehensive freshwater education program database, and provide funding to cover field trip expenses for hands-on water-based learning experiences.

I. Guide programs toward long-term sustainable water use.

Michigan continues to guide programs toward long-term water sustainability through the implementation of its water withdrawal assessment program. Michigan's LQW assessment process, environmental impact standard, and cumulative impact tracking system have effected significant changes in the planning and development of LQWs. This process has driven the integration of long-term sustainable water use concepts into water management decisions and has raised the awareness of water use and resource impact implications. The LQW assessment process is designed to be adaptive and able to respond to changing environmental conditions. Additional hydrologic data is continually being collected and combined with refined models to inform LQW assessment methods and policies to support better decision making and ensure long-term sustainable water use.

Additionally, the WUAC works collaboratively to continuously assess and improve the program based on new science, data, advancements in modeling and new technology. The WUAC created the Water Conservation and Efficiency Committee (WCEC) as a standing committee under the WUAC. The WCEC advises and makes recommendations to the WUAC on opportunities to improve and enhance Michigan's water conservation and efficiency program and support sustainable water use. The WCEC is working with state, academic, industry, and utility partners on projects and programs that advance water conservation and efficiency within Michigan's water sectors through best practices, improve public education on Great Lakes water conservation; account for and measure water and energy savings from water infrastructure improvements; and build public-private partnerships with energy utilities to promote technical assistance and residential programs.

As part of the recommendations included in the WUAC 2020 biennial report, EGLE's Office of the Great Lakes (OGL) funded a project to identify innovations and technological advancements in water conservation best practices that can benefit Michigan's water sectors. The project is ongoing, led by the Alliance for Water Efficiency, and is working on summarizing existing Michigan water sectors'

processes to review and/or change water conservation best management practices (BMPs). The project includes research on technological advancements in water sector conservation BMPs and their impacts within the business and industry sectors in other Great Lakes states and provinces and other innovative jurisdictions. This grant is co-funded by the MGLPF and funding appropriated by the Michigan Legislature to EGLE through the American Rescue Plan Act to support implementation of the 2020 WUAC recommendations.

In addition, EGLE is building more capacity to deliver existing education programs and trainings on water efficiency for the agricultural sector including animal industries. Funding appropriated by Michigan's Legislature to support implementation of the 2020 WUAC recommendations is providing support for two educators that were hired in 2024 through a contract between EGLE, MDARD, and Michigan State University (MSU) Extension. The Legislature appropriated funds to implement the 2022 WUAC recommendations in the Fiscal Year 2024 budget. EGLE management is currently identifying funding priorities to address the 2020 WUAC recommendations.

II. Adopt and implement supply and demand management to promote efficient use and conservation of water resources.

EGLE works with many water users and industry contractors on an individual basis throughout the assessment process to ensure withdrawals are implemented in an efficient manner. This assessment process incorporates both supply-side management of the water resources using a specialized database that tracks cumulative impacts of withdrawals at the sub-watershed level, and demand-side management by notifying all affected water users when withdrawal limits begin to be approached in an area. Michigan's common law reasonable use doctrine is the legal foundation underlying the assessment process and promotes the conservation and efficient use of water in its own way when conveying to water users that water is a shared, finite resource under this doctrine. Users are encouraged to conserve as a matter of routine, as opposed to conserving only when required, such as in the event of a conflict situation when supplies are limited or overtaxed. The LQW assessment process is designed to be adaptive and able to respond to changing environmental conditions.

III. Improve monitoring and standardize data reporting within water conservation and efficiency programs.

EGLE and MDARD collect annual water use reporting which includes reporting of water conservation and efficiency best practices. Some water use sectors (e.g., industry, public water supply) have better capabilities for accurate water use reporting since they meter their withdrawals and discharges. Measurement and evaluation of water conservation and water use efficiency, and changes over time, remain difficult to track from an agency perspective based on water use reporting data alone. Ongoing improvements to electronic data collection systems and databases and use of new tools are resulting in better consistency in water use data collection, and a better ability to identify trends in water use and account for

variability. EGLE compliance staff continue to work on a case-by-case basis with property owners, well drillers, consultants, and other interested parties to bring newly discovered unauthorized LQWs and other violations of Part 327 into compliance.

State and federal agencies, research institutions, and stakeholders continue to assess available groundwater data and develop strategies for effective data integration to advance coordinated water monitoring programs and improve decision making. EGLE has prioritized investments in staff and resources to improve its technology and database management. Currently, data has been collected and is frequently compartmentalized to meet the needs of narrowly defined programs. Therefore, existing data is found in many locations and formats. Typically, the data is housed by categories of surface water (quantity and quality), groundwater (water levels, aquifer properties, and quality), geologic data (stratigraphy), climate data (precipitation, temperature, and evapotranspiration).

EGLE and the Michigan Department of Technology, Management and Budget (DTMB) hired EarthSoft as its contractor to adapt its Environmental Quality Information System (EQuIS) database for EGLE's new Groundwater Data Management System. EGLE and DTMB staff are meeting on an ongoing basis with EarthSoft's EQuIS development team. This will be a multi-phase project that will take several years to complete. The initial phases will include uploading data that is already in electronic format. Hard copy data will have to be scanned and uploaded in subsequent phases. Initial phases will focus on groundwater data, but future phases will expand to include other environmental media (e.g., soils, surface water, sediment). The data management system will accept data submitted by both EGLE staff and external users (e.g., consultants, regulated parties, researchers). The EQuIS system will be linked to a Geographic Information System (GIS) environment to display data, as well as to external databases (e.g., EPA, USGS) so that EGLE can pull data directly from EQuIS for its use in reporting to federal agencies (e.g., EPA, USGS).

The WUAC's recommendation to create an Integrated Water Management Database (MIWMD) is being implemented. The purpose of the MIWMD would be to increase the effectiveness and efficiency of all water related programs in Michigan by making all these data easily accessible and in a common geospatial format. The MIWMD will eventually be incorporated into the EQuIS data management system. The MIWMD project was combined with the Michigan Hydrologic Framework (MHF) project into a single grant project that is being administered by MSU.

The MHF will facilitate the creation of models to support statewide sustainable water management of both surface water and groundwater. The MHF recognizes the critical importance of accessing a wide range of water-related data. The MHF will be linked to the EGLE Groundwater Data Management System. Michigan State University, with the USGS Upper Midwest Water Science Center as its subcontractor, is administering the MHF project.

Other efforts underway to improve data collection include the work of the Michigan Infrastructure Council and the Michigan Water Asset Management Council. Both councils were created in statute to develop and direct implementation of a statewide strategy to standardize and streamline data collection, storage, and analysis related to infrastructure.

The WUAC recommendations are consistent with Michigan's Water Strategy, which also includes a recommendation to create a coordinated strategy for groundwater data collection, including a data management system. Such data is a critical measurement and indicator of the effects of water use and the effects of water conservation and efficiency practices. The WUAC 2022 recommendations, in most cases, require Michigan's legislature to appropriate additional funding in order to be implemented.

IV. Develop science, technology, and research.

Michigan is actively developing science, technology, and research on an ongoing basis through the efforts of various projects by state, federal, and academic institutions. Michigan is funding several research projects in high water use areas to better understand the groundwater-surface water interaction. This data will be used to improve the assessment and forecasting of new water uses' impact on the resource through increased use of site-specific data and more localized regional models. Increasing and improving the quality of data is imperative to effectively promote proactive conservation and efficient use to water users before shortage issues occur. Michigan's Quality of Life Agencies (EGLE, MDARD, and the DNR) have been implementing several key research priorities from the WUAC's December 12, 2014, final report including:

Temperature Logging Sensor Studies and Research to Water Withdrawal on Fish Communities: The DNR, Fisheries Division, deploys temperature loggers to study stream temperatures and conducts fish population surveys in Michigan's lakes and streams. The DNR, through its Partnership for Ecosystem Research and Management (PERM) with MSU, supports studies to evaluate the impacts of climate and the effects of cumulative withdrawal in a stream network. The project, titled "*Improving Michigan's Water Withdrawal Assessment Tool (WWAT),*" has the following objectives: 1) Conduct downstream accounting research; and 2) Evaluate streamflow depletion effects downstream through a stream network. The research is funded by the DNR, and by the USGS through the Institute for Water Research. Michigan's legislature appropriated funding to implement the 2024 WUAC recommendations, which includes funding for downstream streamflow accounting and depletion research.

USGS Monitoring Partnerships: EGLE and the USGS have a joint funding agreement for operating stream gages and monitoring wells, as well as collecting miscellaneous stream flow measurements. Recent USGS work focused on characterizing changes in stream flow over time and associating patterns in stream flow with patterns in precipitation for select watersheds. EGLE and the USGS have

joint funding agreements for operating stream gages and monitoring wells, as well as collecting miscellaneous stream flow measurements. Michigan's Legislature appropriated additional funding to provide continued long-term funding for stream gages, miscellaneous flow measurements, and monitoring wells. USGS staff members from the Ohio-Kentucky-Indiana and the Upper Midwest Water Science Centers are developing a groundwater model for the Michindoh Aquifer (a glacial aquifer underlying portions of Michigan, Indiana, and Ohio). EGLE Remediation and Redevelopment Division, Geological Services Section, drilled five vertically nested monitoring wells at two different locations in Hillsdale County, Michigan, within the predicted zone of influence for AquaBounty's aquaculture well field in Pioneer, Ohio. The USGS installed transducers in the monitoring wells to record groundwater elevation data. EGLE's Geologic Resources Management Division (GRMD) may use additional funding sources to drill additional vertically nested monitoring wells at a third location in Michigan within AquaBounty's predicted zone of influence. That drilling would not happen until 2025.

EGLE received a grant from USGS to become a new data provider to the USGS' National Ground Water Monitoring Network (NGWMN). This is a two-year grant where EGLE will identify unimpacted monitoring wells that will be added to the NGWMN, create links between EGLE's groundwater database(s) and the NGWMN, and collect groundwater elevation data. When the EQuIS groundwater information database is developed, it will be linked to the NGWMN.

Geologic and Groundwater Research: The $3.0 million appropriation from 2022 has given the Michigan Geological Survey (MGS) the ability to hire and/or contract 15 staff and develop a comprehensive mapping program. The annual funding is used to leverage 50% matching USGS federal mapping funds and provide the staff to complete and publish the maps. The new mapping products published using the latest technological advances and tools provide improved information that communities, stakeholders, policymakers, and others can use to make decisions about resource use, management, and protection. More specifically, selected areas have been mapped in three dimensions (3D), providing detailed subsurface geology associated with MGS drilling results to assess water and other natural resources providing a new understanding of geological resources and discovery of previously unidentified groundwater resources.

In collaboration with EGLE and DNR, high-priority counties have been identified for mapping. In 2024, the MGS focused on Muskegon County, as well as additional drilling in Allegan County. The Allegan County effort has involved participating on the Allegan County Groundwater Work Group, which aims at developing a countywide source water protection program. New wells have been drilled and incorporated into the monitoring network, focusing on high-growth areas to monitor water levels, with plans to include these wells in the National Ground Water Monitoring Network (NGWMN).

The MGS is also collaborating with the DNR on a $5 million, five-year project to map sands and gravels across Michigan. These materials are valuable resources for infrastructure, construction, and other uses. The identification of sand and gravel deposits also plays a critical role in groundwater protection, as these areas often have increased permeability, which can allow contaminants to more easily reach source water aquifers. This project will help improve the understanding of Michigan's subsurface and contribute to both economic development and environmental protection.

In 2024, the high-resolution geologic maps for Allegan, Ottawa, and Kalamazoo counties were made available for public use. These maps are accessible to all citizens and come with technical reports that present additional data on groundwater gradients, depth to bedrock, water well locations, and the source of water – whether bedrock or glacial. The reports also highlight potential sand and gravel resources near surface materials. The MGS has compiled this information using well borings, drill cores, and rotosonic holes, with most drilling extending from the surface to bedrock. Monitoring wells equipped with dataloggers to measure water levels have been installed in select drill holes in Ottawa and Allegan counties to observe the groundwater system and provide the data to the NGWMN.

MGS continues to actively engage with citizens, stakeholders, and Michigan state agencies through presentations and outreach to identify areas or regions that require reliable geologic data to support natural resource management. The Muskegon County mapping project is a key focus, along with the identification of future drilling locations in Kent and Montcalm counties. Other areas of the state are being reviewed to assess the need for geologic data in support of scientific decisions.

The MGS is also collaborating with the DNR and the U.S. Forest Service to map a location on U.S. Forest Service land near Peacock, Michigan, with a focus on identifying aggregate resources. In terms of public engagement, the MGS has expanded its outreach efforts through a series of YouTube videos explaining geologic areas of interest in Michigan. These videos cover topics such as drilling operations, water resources, and introductory geology lessons specific to the state. Since launching the channel, the MGS has reached nearly 50,000 users, and it will continue to produce and release new content to inform and engage the public. User feedback is encouraged to help guide future content.

The discovery of per- and polyfluoroalkyl substances (PFAS) at various locations across Michigan has necessitated expedited geologic and aquifer mapping. The MGS was contracted by the Michigan PFAS Action Response Team (MPART) to assist with these efforts. As part of this contract, MGS has prepared geologic and aquifer mapping packages for over 30 PFAS sites and compiled well data for more than 40 sites. Additionally, MGS has worked to correct and complete digital records in Wellogic, with over one million well logs corrected or inputted as of June 2024.

The MGLPF exists as a dedicated funding program to support research to improve scientific understanding of Great Lakes issues. The fund is administered by the OGL.

V. Develop education programs and information sharing for all water users.

Michigan has several new and ongoing outreach and education programs that provide information about water conservation and efficiency and promote water stewardship principles and practices. Efforts are also ongoing to promote water stewardship through effective statewide communication strategies to improve the public's understanding of their impact on water resources and actions and behaviors that support responsible water use.

Presentations, Conferences, Webinars, and Trainings

EGLE and MDARD staff make educational presentations at meetings and various conferences as well as share information upon request, to a variety of interested parties. The WUAC and its subcommittee meetings are open to the public and provide educational opportunities and information sharing for water users and water managers about Michigan's ongoing program implementation. Meeting notes and informational materials from the WUAC proceedings are posted on an EGLE webpage.

EGLE continues to increase public awareness of water use information and access to data by publishing additional water use data online, holding public information meetings, and utilizing various media outlets. In addition, EGLE provides webinars, conferences, training, and information for businesses and industry to support enhanced water conservation and efficiency.

Outreach for Agricultural Irrigators

MSU Extension convenes meetings around the state with agricultural water users to share information about conservation practices for irrigation.

Fix a Leak Week

EGLE's Office of the Clean Water Public Advocate promotes the EPA's Fix a Leak Week each March. Fixing leaks can save money, energy, and reduce health risks for individuals and communities. During this week, EGLE encourages Michiganders to find and fix household leaks, shares educational and how-to materials, and promotes water conservation resources available to Michigan residents.

Source Water Protection and Drinking Water Conference

Building on the success of the 2023 Source Water Protection webinar series and to commemorate the 50th anniversary of the Safe Drinking Water Act, EGLE hosted the Great Lakes Drinking Water Conference in September 2024. This event aimed to showcase the achievements and challenges of the past 50 years while looking ahead to the possibilities of the next half-century. Conference participants heard presentations of case studies, research, and lessons learned in areas such as

source water protection, drinking water system operations, and the vision for the next 50 years to protect and enhance drinking water quality for future generations.

Michigan Water School
MSU Water Resources Institute, MSU Extension, and Michigan Sea Grant continue to offer the Michigan Water School now available in an online module series. This program is focused on educating local appointed and elected officials and staff about critical, relevant information needed to understand Michigan's water resources to support sound water management decisions. The program includes modules on water quantity, water quality, water finance and planning, and water policy issues. Topics covered include the Blue Economy, fiscal benefits of water management, incorporating water into local planning and placemaking, resources to help address water problems, and water policy at the federal, tribal, state, and local levels.

From Students to Stewards Initiative
In 2020, EGLE launched an initiative to integrate water literacy principles in K-12 school curriculum, in partnership with the Michigan Departments of Labor and Economic Opportunity, Education, and Natural Resources, along with numerous community partners. This effort, called the From Students to Stewards Initiative, is intended to develop a life-long culture of stewardship by integrating Great Lakes and freshwater literacy principles into standards-based school curricula through place-based, authentic-experience approaches to improve stewardship behavior and provide an engaging context to motivate school performance. This initiative teaches STEM concepts using place-based, problem-based, and project-based approaches with a focus on Great Lakes literacy principles to foster the next generation of water stewards, leaders, skilled workers, and decision makers needed to solve complex water issues in a changing world. Six Michigan school districts participated in Phase 1 of the program to integrate water literacy principles and place-based education into school curricula and their continuous improvement plans. The program includes a toolkit and roadmap that other schools can use to develop their own Great Lakes-based curriculum to cultivate the next generation of water stewards.

EGLE secured funding from the EPA GLRI to implement Phase 2 of the From Students to Stewards Initiative in the 2022 and 2023 academic years. Phase 2 supported grants to 16 schools; interaction between Phase 1 and 2 cohorts, and additional program evaluation. A total of 22 schools have participated in the program.

EGLE received additional funding from the EPA GLRI to implement Phase 3 of the From Students to Stewards Initiative in 2024 and 2025. This project will build on the success of previous work funded by GLRI. The project will extend learning beyond the classroom by providing a funding opportunity for student-led, community-based water stewardship projects that address local issues; by developing and sharing a comprehensive freshwater education program database that connects teachers, classrooms, and partners to educational programming, community resources, and water-focused career pathways; and by providing funding to cover field trip travel

expenses for hands-on Great Lakes learning experiences on and around bodies of water in Michigan.

Great Lakes Fresh Water Week
EGLE and its partners hosted the annual Great Lakes Fresh Water Week June 1-9, 2024, to celebrate Michigan's water resources, encourage Michigan residents to experience water resources, become educated about water resources, and take action to become water stewards. The event focused on the immeasurable value of water on wellness for people and nature throughout the state. EGLE hosted webinars about the importance and history of Nibi (water) and Manoomin (wild rice) in the Great Lakes region, which hold cultural and ecological significance for the Ojibwe and Anishinaabe tribes, and the links between improved mental health and access to nature and water resources and the ways Michigan is working to expand access to these resources for people of all abilities. In addition, many Michigan organizations, regional and local units of government, and other community partners hosted events to encourage water stewardship.

EGLE Classroom
Educators, youth, and families can learn about EGLE's work to protect Michigan's air, land, water, and public health and how they can participate through EGLE Classroom. Operated by EGLE's Environmental Education program, EGLE Classroom provides Michigan-based environmental curriculum, free hands-on resources to classrooms, professional development opportunities for educators, and video lessons on Michigan's environment and environmental careers. EGLE Classroom also administers the Michigan Green Schools certification program, holds an annual Earth Day poster contest, recognizes outstanding youth-led stewardship projects through the Environmental Service Award, and hosts an annual Michigan Student Sustainability Summit. To view EGLE's environmental education opportunities or to borrow a hands-on activity from the Environmental Education Lending Station, visit Michigan.gov/EGLEclassroom and follow #EGLEClassroom on social media.

Integrated Assessments for Sustainability
EGLE's Sustainability Section provides a variety of on-site, direct assistance services to help businesses and communities meet their sustainability goals. Benefits of the integrated assessments include an increase of efficiencies and cost savings, elimination/minimization of waste streams, conservation of energy and water resources, and mitigation of risks and the potential for noncompliance.

EGLE also holds a Sustainability Webinar series promoting sustainability practices targeted toward businesses and industries in the water sector. EGLE has reinstated its program formerly known as RETAP (Retired Engineer Technical Assistance Program) with a new program called Retired Engineers, Scientists, Technicians, Administrators, Researchers, and Teachers (RESTART). RESTART provides assistance to institutions, government agencies and businesses with 500 or fewer full-time employees with on-site energy and sustainability assessments.

Forest to Mi Faucet

The DNR has launched an initiative called Forest to Mi Faucet to showcase connections between forests and drinking water. The DNR Forest Stewardship Program is leading twenty partners in connecting conservation groups to municipal water utilities and educating woodland owners about the relationships between forests and drinking water. Forest to Mi Faucet will plant 80,000 trees to maintain or enhance water quality benefits in urban and rural areas.

The project builds on the federal Forests to Faucets 2.0 analysis of priority watersheds for protecting surface drinking water. The analysis, detailed in an interactive story map, identifies watersheds with potential for forest protection or restoration.

Forest to Mi Faucet has six components:

1. Help 15+ municipal water utilities implement their source water protection plans.
2. Protect forests in important watersheds through conservation easements, nature preserves, etc.
3. Manage forests better with forest certification and Master Loggers using best management practices.
4. Expand forests by planting trees in strategic urban and rural riparian zones to reduce pollution runoff. Partners have planted 61,000 trees in the first two years.
5. Ecological restoration of forests for water quality with prescribed fire and reducing invasive species.
6. Educate landowners and the public about connections between forests and their drinking water.

The goal of Forest to Mi Faucet is to build the foundation for a program to provide payment for ecosystem services where forest owners are compensated for practices that provide clean water. Forest to Mi Faucet is funded by United States Department of Agriculture, Forest Service. All partners are equal opportunity providers and employers. More information is at Michigan.gov/ForestToMiFaucet.

WATER CONSERVATION AND EFFICIENCY PROGRAM IMPLEMENTATION TIMELINE AND STATUS

All components of Michigan's water conservation and efficiency program have been implemented. The foundation of the program, the water withdrawal assessment process, has been in effect since 2009. Sector-based water conservation measures are required to be reviewed annually by all large water users. Additional state funding resources have recently been allocated to bolster program areas of need. From the beginning, it has been recognized that the program would continually adapt based on new science, data, research, advancements in modeling, and technological innovation to improve and enhance sustainable water use. Michigan has shown a strong commitment to this forward-looking approach, continuing to improve its program, and remains dedicated to the betterment of the program and to upholding the ideals of the Compact.

Michigan is advancing new policies and programs to address climate, energy, and water that will further impact both state and Compact goals. This focus on climate, energy, and water presents new opportunities to identify specific innovative opportunities to improve Michigan's water conservation and efficiency program by building connections between current and new policies and programs and technological innovations. EGLE and the WUAC WCEC are working collaboratively to identify strategies to integrate water stewardship into climate, energy, and water infrastructure policies and programs, including innovative technologies. These efforts will support the WUAC charge to identify priority recommendations for improvements to Michigan's Water Use Program and Water Conservation and Efficiency Program. In addition, state policies and offices focused on environmental justice and clean water advocacy are improving state program administration and outreach and engagement efforts to address goals of equity, diversity, and inclusion.

Appendix 1 provides a full list of the water conservation and efficiency goals and objectives of Michigan's water conservation and efficiency program.

APPENDIX 1: MICHIGAN WATER CONSERVATION AND EFFICIENCY PROGRAM

Water Conservation and Efficiency Goals and Objectives

Goals

1. Ensuring improvement of the waters and water dependent natural resources;

2. Protecting and restoring the hydrologic and ecosystem integrity of the Basin;

3. Retaining the quantity of surface water and groundwater in the Basin;

4. Ensuring sustainable use of waters of the Basin; and,

5. Promoting the efficiency of use and reducing losses and waste of water.

Objectives

1. Utilize Michigan's Water Use Program and Water Withdrawal Assessment Process to guide long-term sustainable water use.

   a. The programs will be adaptive, goal-based, accountable, and measurable.

   b. Continue to develop and implement programs openly and collaboratively, with local stakeholders, Tribes and First Nations, governments, and the public.

   c. Prepare and maintain long-term water demand forecasts.

   d. Develop long-term strategies that incorporate water conservation and efficient water use practices.

   e. Review and build upon existing planning efforts by considering practices and experiences from other jurisdictions.

2. Adopt and implement supply and demand management to promote efficient use and conservation of water resources.

   a. Maximize water use efficiency and minimize waste of water.

   b. Promote appropriate innovative technology for water reuse.

   c. Conserve and manage existing water supplies to prevent or delay the demand for and development of additional supplies.

   d. Provide incentives to encourage efficient water use and conservation.

   e. Consider water conservation and efficiency in the review of proposed new or increased uses.

   f. Promote investment in and maintenance of efficient water infrastructure.

3. Improve monitoring and standardize data reporting among State and Provincial water conservation and efficiency programs.

a. Improve the measurement and evaluation of water conservation and water use efficiency.

b. Encourage measures to monitor, account for, and minimize water loss.

c. Track and report program progress and effectiveness.

4. Develop science, technology, and research.

a. Encourage the identification and sharing of innovative management practices and state of the art technologies.

b. Encourage research, development, and implementation of water use and efficiency and water conservation technologies.

c. Seek a greater understanding of traditional knowledge and practices of Basin First Nations and Tribes.

d. Strengthen scientific understanding of the linkages between water conservation practices and ecological responses.

5. Develop education programs and information sharing for all water users.

a. Ensure equitable public access to water conservation and efficiency tools and information.

b. Inform, educate, and increase awareness regarding water use, conservation, and efficiency and the importance of water.

c. Promote the cost-saving aspect of water conservation and efficiency for both short and long-term economic sustainability.

d. Share conservation and efficiency experiences, including successes and lessons learned across the Basin.

e. Enhance and contribute to regional information sharing.

f. Encourage and increase training opportunities in collaboration with professional or other organizations to increase water conservation and efficiency practices and technological applications.

g. Ensure that conservation programs are transparent and that information is readily available.

h. Aid in the development and dissemination of sector-based best management practices and results achieved.

i. Seek opportunities for the sharing of traditional knowledge and practices of Basin First Nations and Tribes.

APPENDIX 2: LINKS TO MICHIGAN WATER CONSERVATION AND EFFICIENCY DOCUMENTS

Michigan Water Strategy

2020 Water Use Advisory Council Biennial Report to the Michigan Legislature

2022 Water Use Advisory Council Biennial Report to the Michigan Legislature