



Draft Joint Resolutions 2025-1 through 2025-8
"Clickable" Table of Contents

1. [Illinois Draft Joint Resolution 2025-1](#)
2. [Indiana Draft Joint Resolution 2025-2](#)
3. [Michigan Draft Joint Resolution 2025-3](#)
4. [Minnesota Draft Joint Resolution 2025-4](#)
5. [New York Draft Joint Resolution 2025-5](#)
6. [Ohio Draft Joint Resolution 2025-6](#)
7. [Pennsylvania Draft Joint Resolution 2025-7](#)
8. [Wisconsin Draft Joint Resolution 2025-8](#)

**Great Lakes-St. Lawrence River Water Resources Regional Body
Great Lakes-St. Lawrence River Basin Water Resources Council**

RESOLUTION NO. 2025-1

ADOPTING JOINT DECLARATION OF FINDING

For the Water Management Program Review and
Water Conservation and Efficiency Program Review
State of Illinois

I. BACKGROUND AND PURPOSE

The Compact

A. The Great Lakes-St. Lawrence River Basin Water Resources Compact (“Compact”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania, and was effective on December 8, 2008.

B. Section 3.4 of the Compact requires each Party State to submit a report to the Great Lakes-St. Lawrence River Basin Water Resources Council (“Compact Council”) and the Great Lakes-St. Lawrence River Water Resources Regional Body (“Regional Body”) on actions taken by that State to meet the provisions of the Agreement and Compact regarding that Party State’s Water management and conservation and efficiency programs.

C. Following the Compact Council’s review of such reports in cooperation with the Provinces pursuant to Section 3.4 of the Compact, the Council shall determine whether that State’s programs (1) meet or exceed the provisions of the Compact; or (2) do not meet the provisions of the Compact and, if not, recommend options to assist the jurisdiction in meeting the provisions of the Compact.

D. Section 4.2 of the Compact requires the Compact Council in cooperation with the Provinces to adopt Basin-wide conservation and efficiency objectives, which were adopted by the Compact Council on December 8, 2008. Section 4.2.2 of the Compact requires each Party State to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a Water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State’s goals and objectives.

E. While certain provisions of the Compact do not apply to the State of Illinois (see Section 4.14 of the Compact), Illinois is subject to the requirements of Section 4.2 of the Compact, entitled “Water Conservation and Efficiency Programs.”

The Agreement

F. The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“Agreement”) is by, between and among the States of Illinois, Indiana, Michigan,

Minnesota, New York, Ohio, and Wisconsin, the Commonwealth of Pennsylvania, the Province of Ontario, and the Government of Québec, and certain provisions of the Agreement began to more fully come into force on March 8, 2015.

G. Article 300 of the Agreement requires each Party State and Province to submit a report to the Regional Body on actions taken by the State or Province to meet the provisions of the Agreement regarding that State's or Province's Water management and conservation and efficiency programs.

H. Following the Regional Body's review of such reports pursuant to Article 300 of the Agreement, the Regional Body shall determine if that State or Province's programs (1) meet or exceed the provisions of the Agreement; (2) do not meet the provisions of the Agreement; or (3) would meet the provisions of the Agreement if certain modifications were made and what options may exist to assist the jurisdiction in meeting the provisions of the Agreement.

I. Article 304, Paragraph 1 of the Agreement requires the Regional Body to identify Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency programs by December 13, 2007, which were adopted by the Regional Body on December 13, 2007. Article 304, Paragraph 2 of the Agreement requires each Party State and Province to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State's or Province's goals and objectives.

J. While certain provisions of the Agreement do not apply to the State of Illinois, which is governed by the United States Supreme Court Decree in *Wisconsin, et al., v. Illinois, et al.*, Illinois is subject to the requirements of Article 300 of the Agreement, entitled "Water Management Program Review," and Article 304 of the Agreement, entitled "Water Conservation and Efficiency Program."

II. SUBMISSIONS BY STATE OF ILLINOIS

A. To the Compact Council. The Compact Council has received the State of Illinois' report on its Water management and conservation and efficiency programs under the Compact, which is attached to this Resolution as Attachment A.

B. To the Regional Body. The Regional Body has received the State of Illinois' report on its Water management and conservation and efficiency programs under the Agreement, which is attached to this Resolution as Attachment A.

III. DECLARATION OF FINDING

Upon review of the submissions of the State of Illinois, the terms of the Compact and the Agreement, the Compact Council and Regional Body find as follows:

- A. Based on the report submitted by the State of Illinois, the Water Management Program presented by the State of Illinois meets or exceeds the current requirements of the Compact and the Agreement.

Draft—For Discussion Purposes Only
November 11, 2025

- B. Based on the report submitted by the State of Illinois, the Water Conservation and Efficiency Program presented by the State of Illinois meets or exceeds the current requirements of the Compact and the Agreement.

Draft—For Discussion Purposes Only
November 11, 2025

ATTACHMENT A

Water Management and Conservation and Efficiency Programs—
Report to the Compact Council and Regional Body
Dated December 11, 2024



Five Year Review of Illinois' Water Management and Conservation and Efficiency Programs - Report to the Compact Council and Regional Body

December 11, 2024

Lead Agencies and Contact Person:

Illinois Department of Natural Resources, Office of Water Resources
Loren Wobig, Director
Loren.wobig@illinois.gov

Water Management Program Report

The construction (circa 1900) of the Chicago Area Waterway System (CAWS) resulted in the reversal of the direction of flow of the Chicago and Calumet Rivers away from Lake Michigan. This project created a diverted watershed area of around 673 square miles, leaving a very small (around 75 square miles) area in Illinois that still drains to Lake Michigan. In both the diverted watershed and the watershed that still drains to Lake Michigan in Illinois, Lake Michigan water is the predominant water supply source.

No regional organization, municipality, political subdivision, agency or instrumentality, or any other organization, association or individual desiring to use water from Lake Michigan shall divert or use any such water unless it has previously obtained from the IDNR/OWR a valid allocation permit. In addition, since January 1, 2010, the State Water Survey's water use inventory program has required all high capacity (100,000 gpd or greater) surface intakes and groundwater wells to annually report water withdrawn to the State Water Survey.

Laws and Regulations

A U.S. Supreme Court Decree [Wisconsin v. Illinois, 388 U.S. 426 (1967), as modified, 449 U.S. 48 (1980)] limits Illinois' diversion of Lake Michigan water to an annual average of 3200 cubic feet per second (cfs) or 2.1 billion gallons per day. The Illinois law regulating this diversion is the "LEVEL OF LAKE MICHIGAN ACT" (615 ILCS 50). The Department of Natural Resources, Office of Water Resources (IDNR/OWR) implements this law using its Part 3730 Rules "ALLOCATION OF WATER FROM LAKE MICHIGAN". These rules can be found at <http://www.dnr.illinois.gov/adrules/documents/17-3730.pdf>.

The Illinois State Water Survey (ISWS) operates a surface and groundwater use reporting program. The “WATER USE ACT OF 1983” (525 ILCS 45/1) as amended by Public Act 096-0222, effective January 1, 2010 requires high capacity well owners and high capacity intake owners, defined as a withdrawal in excess of 100,000 gallons per day (gpd) to participate in the State Water Survey’s Water Inventory Program.

Together these two statutes and the programs that implement them ensure that Illinois collects all the water withdrawal and diversion data needed to demonstrate compliance with the water use reporting protocols required under the Compact and Agreement (Compact Section 3.4/Agreement Article 300, and Compact Section 4.3/Agreement Article 301). In addition, the Level of Lake Michigan Act and implementing rules provide the necessary authority to establish a water conservation and efficiency program for all diverters of Lake Michigan water (Compact Sections 4.2(2), 4.2(4) and 4.2(5)/Agreement Article 304). Per Compact Section 4.14/Agreement Article 207(paragraphs 10-14), Compact Sections 4.3, 4.8, 4.9, 4.10, 4.11 and 4.13/Agreement Articles 200, 201, 206, 207 and 208 do not apply to Illinois and its’ water management program.

Allocation Process

Illinois’ Lake Michigan water allocation process consists of the following key elements:

- Applicants evaluate water supply options. Northeastern Illinois has three primary water supply sources – Lake Michigan, deep aquifer groundwater and shallow aquifer groundwater (and very limited other surface water supply). The administrative rules designate applicants who demonstrate that Lake Michigan water is the most cost-effective water supply source as a high priority.
- Evaluate water demands throughout the entire forecast period. This can include the use of a regression equation that utilizes historical water use and three primary variables – population, household size and employment. Applicants also develop their own water demand forecast. The forecast period currently extends out to the year 2050.
- Hold formal allocation hearings for all applicants. This process is administrative in nature, and a formal record is established for all applicants. The IDNR/OWR’s decision is based on the record.
- Allocation permits are based on an annual average use for a given year, along with conditions/requirements that promote efficient use of the Lake Michigan water allocated.
- This process includes provisions for adjustments in water allocations. For most public water supplies, the primary data (population and employment projections) used to develop long-term demand forecasts carries a high degree of uncertainty. The allocation program needs to be flexible to accommodate shifts in water demand as time goes on and conditions change.
- All applicants must submit annual water use audit reports to monitor compliance with allocation limits and track compliance with the Department’s standard on water loss.

Lake Michigan water allocation applicants are divided into the following categories:

- **Category IA** – Applicants whose primary water needs are residential, commercial or industrial and whose future or continued use of Lake Michigan water is the most economical source of supply.
- **Category IB** – Applicants whose primary water demands are residential, commercial and industrial and whose use of Lake Michigan water would reduce regional use of the deep aquifer.
- **Category IIA** – Applicants whose primary water demands are for the minimum flows necessary to meet navigation requirements and minimum discretionary dilution flows necessary to maintain the CAWS in a reasonably satisfactory sanitary condition.
- **Category IIB** – Applicants whose water demands are for the minimum discretionary dilution flows necessary to meet water quality standards in the CAWS.
- **Category III** – Applicants whose water demands do not fall into Categories IA, IB, IIA, or IIB. Category III applicants do not qualify for an allocation of water from Lake Michigan.

In determining priorities within Categories IA and IB, the IDNR/OWR considers the following items:

- Adequacy of supply from sources other than Lake Michigan.
- Economics of alternative supplies.
- For new applicants, priority will be given to allocations for domestic purposes.
- For new applicants, the allocation of Lake Michigan water will be made with the goal of reducing the withdrawals from the Cambrian-Ordovician Aquifer (deep aquifer).

In determining priorities within Categories IIA and IIB, the Department will consider the following items:

- A limitation of 220 cubic feet per second for discretionary dilution for water quality purposes in the CAWS.
- The need to meet navigation requirements in the CAWS.
- The minimum discretionary diversion needed to meet water quality standards in the CAWS in a reasonable satisfactory sanitary condition.

The IDNR/OWR will normally make allocations to meet the full water needs of any category as determined by the Department before any water is allocated to applicants in categories of a lower priority.

In determining the amount of water available for allocations to Categories IA, IB, IIA and IIB, the Department will consider the amount of water that must be reserved for storm water runoff, lockage and leakage and a reserve for future increases in demands and storm water runoff.

Sectors

- 1) **Public Water Supply:** All public water supplies which use Lake Michigan as their water supply are required to have a Lake Michigan water allocation permit, regardless of the amount needed (i.e. there is no minimum threshold). Currently,

there are 217 public water supply systems using Lake Michigan water as their source of supply, serving over 7 million Illinois residents. In Calendar Year 2023, public water supply systems in Illinois withdrew and diverted approximately 780 million gallons per day (mgd).

There are no public water supplies within the Lake Michigan watershed utilizing a groundwater supply. If there were, and they withdrew at least 100,000 gpd, they would be required to report this water use to the ISWS.

- 2) Self-Supply Commercial and Institutional: Like public water supply, any self-supply commercial or institutional user requires a Lake Michigan water allocation permit if they are diverting Lake Michigan water. Currently there is only one active Lake Michigan water allocation permit in this sector, with an average water use of less than 10,000 gpd. There is also a military facility that withdraws and diverts Lake Michigan water (2023 reported use was 1.768 mgd). As a federal facility which directly withdraws Lake Michigan water, they are not covered by the U.S. Supreme Court Decree and are not included as an Illinois diversion.

There was no reported self-supply commercial/institutional users within the Lake Michigan basin that withdraw groundwater.

- 3) Self-Supply Irrigation (Lake): There are no Lake Michigan water allocation permits issued for this water use sector (irrigation water use is not a diversion). The ISWS collects data from one self-supply irrigation water user using Lake Michigan water for irrigation. In 2023 they reported a use of 0 gallons/day.

Self-Supply Irrigation (Ground): The ISWS collects data from two self-supply irrigation water users using ground water from the Lake Michigan Basin for irrigation. In 2023 they reported a total use of 78,000 gallons/day.

- 4) Self-Supply Livestock: There are no self-supplied livestock facilities in the Lake Michigan watershed either utilizing groundwater or Lake Michigan water.
- 5) Self-Supply Industrial: Requires a Lake Michigan water allocation permit if they are diverting Lake Michigan water. There is only 1 permit issued in this sector. They reported a 2023 diversion of 0.535 million gallons per day (mgd).

The ISWS lists 3 industries withdrawing Lake Michigan water for cooling/consumptive use. Total withdrawal in 2023 was 33.700 mgd.

- 6) Self-Supply Thermoelectric Power Production (once through cooling): This water use sector, by definition, does not result in a diversion; hence no Lake Michigan water allocation permit is required. The ISWS data base list includes 3 power facilities that withdraw Lake Michigan water for once-through cooling. One facility is offline from the previous 2019 Program Review. Total withdrawal in 2023 was now 22.530 mgd after a large coal power plant has been decommissioned.
- 7) Self-Supply Thermoelectric Power Production (recirculated cooling): There are no self-supply thermoelectric power production facilities that utilize recirculated cooling in the Lake Michigan watershed.

- 8) Off-Stream Hydroelectric Power Production: There are no off-stream hydroelectric facilities within the Lake Michigan drainage basin in Illinois.
- 9) In-Stream Hydroelectric Power Production: There are no in-stream hydroelectric facilities within the Lake Michigan drainage basin in Illinois.
- 10)
Other: The Metropolitan Water Reclamation District of Greater Chicago has a Lake Michigan water allocation to divert Lake Michigan water to maintain navigation and water quality in the CAWS. Water is diverted into the CAWS at three lakefront locations. In 2022 a total of 179.189 mgd was withdrawn and diverted into the CAWS for these purposes. Water is also diverted into the CAWS to operate two lakefront locks. These locks are operated by the U.S. Army Corps of Engineers and thus don't have a Lake Michigan water allocation permit. However, this water is included in Illinois' allowable diversion. In 2022 the amount of Lake Michigan water diverted to operate the two lakefront locks was 158.055 mgd.

Reporting and Database

All Lake Michigan water allocation permittees are required to submit annual reports (LMO-2 Report) accounting for how Lake Michigan water is used within a public water supply system. In addition, all permittees with an intake structure on Lake Michigan or who are the first Illinois user of water diverted from Lake Michigan outside Illinois must report their water use both annually and monthly (LMO-3 Report) to the IDNR/OWR. The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) submits monthly (LMO-6) reports for Lake Michigan water they divert for maintaining the Sanitary and Ship Canal. The IDNR/OWR maintains a database which stores this information going back to 1989 and has hard copies going back to the 1970s. The IDNR/OWR produces an annual report which summarizes water use by all permittees. This is distributed to all Lake Michigan water allocation holders with an annual newsletter. All pumpage numbers provided on the LMO-2 and LMO-3 reports are metered numbers. The MWRDGC diverts water into the Sanitary and Ship Canal using sluice gates and by opening the Chicago River Controlling Works and the O'Brien Locks. Therefore, the numbers they report on their LMO-6 reports are not metered but calculated.

For many years, the ISWS has maintained a voluntary reporting program for surface and ground water use. On January 1, 2010, that program became mandatory for all surface and groundwater withdrawals averaging 100,000 gallons/day or greater. The ISWS has its information in a database.

Initiatives

The ISWS and the IDNR/OWR have also been involved with the Chicago Metropolitan Agency for Planning in their ongoing work on the "Northeastern Illinois Regional Water Supply Plan".

Water Conservation and Efficiency Program Review

A. Program Legal Basis

The U.S. Supreme Court Decree [Wisconsin v. Illinois, 449 U.S. 48 (1980)] that limits Illinois' diversion of Lake Michigan water also contains language directing Illinois to implement a water conservation program. The Level of Lake Michigan Act [615 ILCS 50] incorporates the Decree language which states that:

“all feasible means reasonably available to the State and its municipalities, political subdivisions, agencies and instrumentalities shall be employed to conserve and manage the water resources of the region and the use of water therein in accordance with the best modern scientific knowledge and engineering practice.” [615 ILCS 50/5)]

This is the operative judicial and statutory language that directs the Illinois Department of Natural Resources (Department) to develop and implement a water management and conservation program covering all permittees of Lake Michigan water.

B. Program Objectives

Illinois' first report to the Compact Council and Regional Body (dated December 8, 2009) reviewed the water conservation requirements that all domestic users of Lake Michigan water must comply with as a condition of receiving a Lake Michigan water allocation permit. In 2010, the Department developed and posted on our website Illinois' Lake Michigan Water Conservation Goals and Objectives, as required by the Compact and the Regional Agreement.

<http://www.dnr.illinois.gov/WaterResources/Pages/LakeMichiganWaterAllocation.aspx>

The Department's water conservation and efficiency program objectives are:

- Enforce the adoption of standards that require the efficient use and conservation of Lake Michigan water by the end user (homeowner, business/industry).
- Establish standards for good water system management and leakage control by the owner/operator of a water supply system.
- Ensure that Lake Michigan water diverted directly into the Chicago Waterway system for various purposes is kept to a minimum.
- Collect water use data annually; monitor changes in water use patterns. Encourage public water supply systems to evaluate the effectiveness of their conservation efforts.
- Prepare and maintain long-term water demand forecasts.
- Promote the adoption of water rate structures that encourage conservation and water efficiency.
- Encourage water suppliers to invest in water infrastructure and the use of innovative technology to improve water systems management.
- Encourage research, development and implementation of water efficient technologies. Develop linkages with organizations such as USEPA's WaterSense Program, the Alliance for Water Efficiency and others, to keep abreast of the latest conservation technologies.
- Inform, educate and increase awareness regarding water use, conservation and efficiency via newsletters and other such means of communication.
- Work with our Lake Michigan water allocation permittees and our Great Lakes basin partners to enhance information sharing.

C. Program Activity – Updated Administrative Rules

On November 18, 2014 the Department's updated Part 3730 administrative rules "ALLOCATION OF WATER FROM LAKE MICHIGAN" took effect.

The updated Lake Michigan water allocation rules will improve Illinois' water conservation and efficiency program. Here is a very brief summary of the substantive changes to the rules.

- Since 1977 the Department has had an 'Unaccounted-For-Flow' standard for all domestic Lake Michigan water supplies. This standard will be replaced with a 'Non-Revenue Water' standard, which will allow public water supplies to utilize the water audit methodology recommended by the American Water Works Association (AWWA M36 water audit methodology), and to better track the value of water loss.
- Water systems not in compliance with the non-revenue standard will be required to prepare and submit a water system improvement plan.
- Local/Municipal plumbing codes/ordinances will be updated to require that new and replacement plumbing fixtures be a labeled WaterSense product.
- The classification system has been revised so that a water applicant that utilizes deep aquifer groundwater is a higher priority use than the use of water from Lake Michigan to meet navigation requirements and minimum discretionary dilution flows necessary to maintain the CAWS in a reasonably satisfactory sanitary condition.
- Additional guidelines for lawn sprinkling have also been included, as well as recommendations for sub-metering in new multi-family building construction where practicable and feasible and setting water rates to reflect full cost pricing.

D. Program Activity – Develop Linkages with other Conservation Organizations

Over the past 5 years the Department's has developed several new partnerships with other groups/organizations to further our water conservation program efforts. These include:

- Becoming a USEPA 'WaterSense Partner' and updating our rules to require the use of 'Water Sense' labeled plumbing fixtures in our standard for water efficient plumbing fixtures.
- Working with regional organizations such as the Chicago Metropolitan Agency for Planning, the Northwest Water Planning Alliance, the Northeastern Illinois Regional Water Supply Planning Group, the Center for Neighborhood Technology and the Metropolitan Planning Council to further our outreach to communities in the areas of water supply planning, drought management, water loss control and sustainable water resource management.
- Work with the AWWA - Illinois Section to develop and hold water loss control workshops in Northeast Illinois.

E. Program Activity – Water Rate Survey

The Department recommends that Lake Michigan water providers adopt water rate structures that 1) are based on metered water use, 2) discourage excessive water use,

and 3) reflect the full cost of water, including the long-term cost to properly maintain and operate the water supply distribution system in such a manner as to keep system losses to a minimum.

Our long-term practice has been to undertake a water rate survey of all Lake Michigan water providers every 5 years. Our last water rate survey was published in 2020. Our next 5-year water rate survey will be in 2025.

F. Program Activity – Water Use and Water Loss Monitoring

Throughout the last 5 years we have continued to collect, analyze and regulate the reported water loss of all our domestic Lake Michigan water suppliers. In Water Year 2015 (October 1, 2014 – September 30, 2015) the Department modified its LMO-2 form to reflect the AWWA's Water Loss Audit Software which measures water loss in the form of Non-Revenue Water (NRW). Since Water Year (WY) 2015 the Department's regulatory threshold for NRW to Water Supplied is 12%, reducing to 10% in WY 2019. All Category IA and IB permittees that exceed the Department's NRW threshold are required to submit a Water System Improvement Plan that outlines actions the permittee plans to undertake, along with a timeframe, to reduce NRW to less than the Department's threshold. In WY 2022 about 43% of permittees had a percent NRW at or above 10%.

G. Program Activity – Control of Direct Diversion into Chicago Waterway System

The total amount of Lake Michigan water diverted into the Chicago Waterway System for discretionary diversion and navigation makeup flow was 186.29 cubic feet per second (cfs) in water year 2022. At the end of the 2022 water year, the five-year running average of these two components of direct diversion stands at 190.786, or 64.124 cfs below the combined allocation (255 cfs) for these two components of direct diversion. The Metropolitan Water Reclamation District of Greater Chicago (MWRD) holds the Lake Michigan water allocation for both discretionary diversion and navigation makeup.

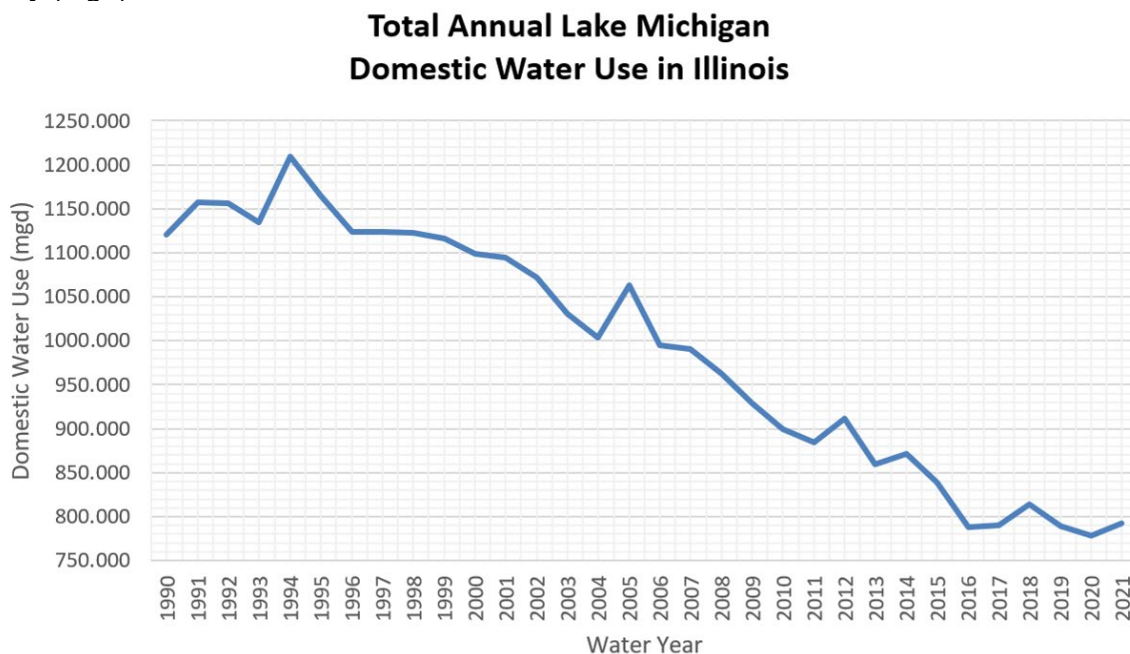
The other primary use of Lake Michigan water diverted directly into the Chicago Waterway System is to operate the navigation locks at the mouth of the Chicago River and on the Calumet River. Both lock facilities are operated and maintained by the U.S. Army Corps of Engineers. Illinois does not have any control over the amount of water diverted for lockage or for leakage through these structures, although this water is included in the accounting for Illinois' diversion under the U.S. Supreme Court Decree. Lake Michigan water levels have a significant impact on the amount of water diverted for the operation of the navigation locks.

H. Project Activity – Status of Water Demand Forecasts and Water Use

In 2023, the Department completed a comprehensive water reallocation for all our water supply permittees. As part of this reallocation, water demand forecasts for each year, out to the year 2050, were developed and ultimately included in the Department's updated Lake Michigan water reallocations. A primary reason for this long timeframe is to ensure that the Department's water allocation program is sustainable over the foreseeable future and will continue to keep Illinois' total diversion below the authorized U.S. Supreme Court Decree limit of 3200 cfs. This re-allocation will help the Department and its permittees better conserve and monitor water usage for the coming decades.

Over the last 5 years, the Department has issued a total of nine new requests for Lake Michigan water allocations.

Water use summaries for the 2010 through 2017 Water Years are on our website: <http://www.dnr.illinois.gov/WaterResources/Pages/LakeMichiganWaterAllocation.aspx>. This information was obtained from the Annual Water Use Audit Reports (LMO-2). In Water Year 2022 total domestic Lake Michigan water use was 785.66 million gallons per day (mgd).



This table clearly shows the long-term decline in total domestic use of Lake Michigan water. While the drought years of 1994, 2005 and 2012 are clearly visible, this downward trend in water use that has occurred over the last 20 years is significant, a 330 mgd reduction since 1992. In 2023 the annual precipitation was 33.73 inches, approximately 1 inch less than 2022 figures.

I. Project Activity - Water Infrastructure

The City of Chicago provides potable water to more than 100 suburban communities and more than 5.4 million people. continued to pursue several initiatives to upgrade their

water, wastewater and stormwater infrastructure. In 2020 the City of Chicago reported the installation of new ultrasonic meters for installation and has had success across the City approximately 15,000 new water meters and proposes to replace an additional 15,000 meters in 2018. Over the next 10 years, the City of Chicago is aiming to replace 900 miles of water main or about 20% of its 4,400 miles of water main, coupled with its lead pipe replacement program

There are many other Lake Michigan communities that have also developed or are working on conservation/sustainability initiatives. The northeastern Illinois region has several organizations, including the ISAWWA (Illinois region) who work with local government to help them become more sustainable. These initiatives are also moving outside the Lake Michigan water service region.

Conclusion

Illinois has had a Lake Michigan water conservation and efficiency program for over 30 years. Our program is consistent with and fully supports the Great Lakes-St. Lawrence River Basin Water Conservation and Efficiency Objectives. The unique nature of Illinois' Lake Michigan water use, and diversion as allowed under a U.S. Supreme Court Decree has resulted in a water conservation and efficiency program that is implemented primarily as a regulatory program, with additional measures, such as conservation pricing, conservation education and information sharing, implemented through a non-regulatory effort.

**Great Lakes-St. Lawrence River Water Resources Regional Body
Great Lakes-St. Lawrence River Basin Water Resources Council**

RESOLUTION NO. 2025-2

ADOPTING JOINT DECLARATION OF FINDING

For the Water Management Program Review and
Water Conservation and Efficiency Program Review
State of Indiana

I. BACKGROUND AND PURPOSE

The Compact

A. The Great Lakes-St. Lawrence River Basin Water Resources Compact (“Compact”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania, and was effective on December 8, 2008.

B. Section 3.4 of the Compact requires each Party State to submit a report to the Great Lakes-St. Lawrence River Basin Water Resources Council (“Compact Council”) and the Great Lakes-St. Lawrence River Water Resources Regional Body (“Regional Body”) on actions taken by that State to meet the provisions of the Agreement and Compact regarding that Party State’s Water management and conservation and efficiency programs.

C. Following the Compact Council’s review of such reports in cooperation with the Provinces pursuant to Section 3.4 of the Compact, the Council shall determine whether that State’s programs: (1) meet or exceed the provisions of the Compact; or (2) do not meet the provisions of the Compact and, if not, recommend options to assist the jurisdiction in meeting the provisions of the Compact.

D. Section 4.2 of the Compact requires the Compact Council in cooperation with the Provinces to adopt Basin-wide conservation and efficiency objectives, which were adopted by the Compact Council on December 8, 2008. Section 4.2.2 of the Compact requires each Party State to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a Water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State’s goals and objectives.

The Agreement

E. The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“Agreement”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin, the Commonwealth of Pennsylvania, the Province of Ontario, and the Government of Québec, and certain provisions of the Agreement began to more fully come into force on March 8, 2015.

F. Article 300 of the Agreement requires each Party State and Province to submit a report to the Regional Body on actions taken by the State or Province to meet the provisions of the Agreement regarding that State's or Province's Water management and conservation and efficiency programs.

G. Following the Regional Body's review of such reports pursuant to Article 300 of the Agreement, the Regional Body shall determine if that State or Province's programs: (1) meet or exceed the provisions of the Agreement; (2) do not meet the provisions of the Agreement; or (3) would meet the provisions of the Agreement if certain modifications were made and what options may exist to assist the jurisdiction in meeting the provisions of the Agreement.

H. Article 304, Paragraph 1 of the Agreement requires the Regional Body to identify Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency programs by December 13, 2007, which were adopted by the Regional Body on December 13, 2007. Article 304, Paragraph 2 of the Agreement requires each Party State and Province to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State's or Province's goals and objectives.

II. SUBMISSIONS BY STATE OF INDIANA

A. To the Compact Council. The Compact Council has received the State of Indiana's report on its Water management and conservation and efficiency programs under the Compact, which is attached to this Resolution as Attachment A.

B. To the Regional Body. The Regional Body has received the State of Indiana's report on its Water management and conservation and efficiency programs under the Agreement, which is attached to this Resolution as Attachment A.

III. DECLARATION OF FINDING

Upon review of the submissions of the State of Indiana, the terms of the Compact and the Agreement, the Compact Council and Regional Body find as follows:

- A. Based on the report submitted by the State of Indiana, the Water Management Program presented by the State of Indiana meets or exceeds the current requirements of the Compact and the Agreement.
- B. Based on the report submitted by the State of Indiana, the Water Conservation and Efficiency Program presented by the State of Indiana meets or exceeds the current requirements of the Compact and the Agreement.

Draft—For Discussion Purposes Only
November 11, 2025

ATTACHMENT A

Water Management and Conservation and Efficiency Programs—
Report to the Compact Council and Regional Body
Dated December 13, 2024

State of Indiana
Water Management Program Review
December 13, 2024

The State of Indiana submits the following Five Year Water Management Program Review to the Regional Body and Compact Council pursuant to the requirements in the Agreement Article 300 and Section 3.4 of the Great Lakes-St. Lawrence River Basin Water Resources Compact. The State of Indiana believes its measures for the management and regulation of new or increased withdrawals and consumptive uses within the Great Lakes Basin are consistent with the Decision Making Standard set forth in Section 4.11 of Indiana's implementation of the Great Lakes Compact under IC 14-25-15.

1) Lead Agency and Contact Persons

Indiana Department of Natural Resources; Ryan Mueller, Deputy Director, IDNR.

2) Water Management Program Implementing Laws, Rules, Regulations and Policies

The following statutory provisions, Rules and Policies will be applicable to the Water Management Program in the State of Indiana:

- Great Lakes-St. Lawrence River Basin Water Resources Compact under [IC 14-25-15](#): The State of Indiana's implementation of the Interstate agreement on the use of water resources in the Great Lakes-St Lawrence River Basin.
- Great Lakes Basin Water Management [Rule 312 IAC 6.2](#): Assists with the implementation of the Great Lakes-St. Lawrence River Basin Water Resources Compact (IC 14-25-15) for the registration and permitting of water withdrawal facilities; a voluntary conservation and efficiency program for water withdrawal facilities; and mandatory conservation and efficiency programs for new and increased withdrawals, diversions and consumptive uses. Rule 312 IAC 6.2 is applicable to the Water Management and Regulation provisions set forth in Article 4 of the Compact.
- Water Resource Management Act under [IC 14-25-7](#): Section 13 requires that an inventory of the water resource in Indiana be conducted and include an assessment of the following: 1) The capabilities of streams to support instream and withdrawal uses and of aquifers to support withdrawal uses; 2) Low stream flow characteristics; 3) Existing uses and projections of beneficial use requirements; 4) The potential in watersheds for managing flood water for beneficial uses; 5) Potential sources and amounts of surplus water for transfers; 6) Other assessment and information considered necessary to properly define water resource availability. Section 14 Allows for the determination and establishment of minimum flows of streams and minimum level of groundwater in aquifers. Section 15 requires that every person who owns a significant water withdrawal facility (SWWF) shall register it within three (3) months after the facility is

completed. A "significant water withdrawal facility" is defined in the act to mean "the water withdrawal facilities of a person that, in the aggregate from all sources and by all methods, has the capability of withdrawing more than one hundred thousand (100,000) gallons of ground water, surface water, or ground and surface water combined in one (1) day". Owners of a SWWF must also report annual water use within three (3) months after the end of each calendar year. Approved methods of measuring the amount of water withdrawn by a SWWF are specified in the [Nonrule Policy Document Information Bulletin #40](#). Water withdrawals from temporary construction dewatering operations must also be reported in accordance with IC 14-25-7. IC 14-25-7 is applicable to the Water Management and Regulation provisions set forth in Sections 4.1 and 4.2 of the Compact.

- Sale of Water under [IC 14-25-2](#) and [Rule 312 IAC 6.3](#): Conservation planning required in application for the sale of water from reservoir financed fully or in part by the State. IC 14-25-2 and 312 IAC 6.3 are applicable to the Water Management and Regulation provisions set forth in Section 4.2 of the Compact.
- Emergency Regulation of Ground Water Rights under [IC 14-25-4](#) and [Rule 312 IAC 12](#): Owners of small capacity water wells are protected against the impacts of high capacity groundwater pumping if it substantially lowers water levels, resulting in the failure of a small capacity well. Restrictions of high capacity pumping can occur when it is believed that discharge exceeds the recharge capability of the source aquifer. IC 14-25-4 and 312 IAC 12 are applicable to the Water Management and Regulation provisions set forth in Section 4.1 of the Compact.
- Emergency Regulation of Surface Water Rights under [IC 14-25-5](#) and [Rule 312 IAC 11.5](#): Freshwater lake owners are protected against the impacts of high capacity pumping if it substantially lowers the level of the freshwater lake, resulting in significant environmental harm to the lake or adjacent property. Restriction of high capacity pumping can be required in order to restore lake level. IC 14-25-5 and 312 IAC 11.5 are applicable to the Water Management and Regulation provisions set forth in Section 4.1 of the Compact.
- Water Well Drillers and Pump Installer Licensing under [IC 25-39](#) and [Rule 312 IAC 13](#): Requires licensing of water well drillers and water well pump installers and the submittal of water well records providing information regarding geology and ground water availability. [Water well records](#) are made available to the public on the IDNR, Division of Water webpage. IC 25-39 and 312 IAC 13 are applicable to the Water Management and Regulation provisions set forth in Section 4.1 of the Compact.
- Indiana's Water Management Policy: Developed by Indiana's Water Shortage Task Force under IC 14-25-14 (since repealed) declaring that *"Indiana's water resources are public goods that generate benefits for all citizens of the State. The wise use of water through environmentally sound and economically feasible water*

management practices is essential to maximize the benefits obtained from water resources and sustain them for future generations. To achieve these goals, Indiana promotes the following:

- 1) Public Education and outreach that identifies appropriate water management practices and water conservation methods;*
- 2) Appropriate water pricing and incentives;*
- 3) Identification and dissemination of water management practices, such as demand and supply analyses, that will increase water use efficiency;*
- 4) The application and sharing of available science and research regarding water management, water conservation, and water use efficiency; and*
- 5) Funding of a water management and water use efficiency program by user fees established by legislative directive.*

The State of Indiana's Water Management Policy is applicable to the Water Management and Regulation provisions set forth in Section 4.2 of the Compact.

3) Summary Description of the State of Indiana's Water Management Program Scope and Thresholds

- Reports on the [Water Resource Availability in the Great Lakes Basin](#) within the State of Indiana (St. Joseph River Basin-1987; Lake Michigan River Basin-1994; Maumee River Basin-1996) have been completed by the IDNR, Division of Water. The reports were completed in accordance with the Water Resource Management Act (IC 14-25-7) requiring that an inventory of the water resource (groundwater and surface water) in Indiana be conducted and include an assessment of the following: 1) The capabilities of streams to support instream and withdrawal uses and of aquifers to support withdrawal uses; 2) Low stream flow characteristics; 3) Existing uses and projections of beneficial use requirements; 4) The potential in watersheds for managing flood water for beneficial uses; 5) Potential sources and amounts of surplus water for transfers; 6) Other assessment and information considered necessary to properly define water resource availability. Section 14 Allows for the determination and establishment of minimum flows of streams and minimum level of groundwater in aquifers.
- [Maps of Unconsolidated and Consolidated Aquifer Systems](#) of all counties located within the Great Lakes Basin in Indiana have been completed by the Department of Natural Resource, Division of Water, and are available on the IDNR webpage.
- [Maps of the Potentiometric Surface of Bedrock and Unconsolidated Aquifers](#) of all counties located in the Great Lakes Basin in Indiana have been completed by the Department of Natural Resources, Division of Water, and are available on the IDNR webpage.

- [Indiana's Water Shortage Plan](#) (updated in 2009 by Water Shortage Task Force) provides an effective and systematic plan to assess and manage the State's water resources during a water shortage or potential water shortage to respond, to the maximum extent practicable, to the needs of its water users while protecting its environment. State of Indiana Water Shortage Plan Implementation Guide completed in 2024 in cooperation with the Indiana Dept. of Homeland Security, Indiana Dept. of Environmental Management and Indiana Dept. of Natural Resources.
- [Significant Water Withdrawal Facilities](#) (SWWF) shall be registered within three (3) months after the facility is completed in accordance with IC 14-25-7. Owners of a SWWF must also report annual water use within three (3) months after the end of each calendar year. Approved methods of measuring the amount of water withdrawn by a SWWF are specified in the Nonrule Policy Document Information Bulletin #40. Water withdrawals from temporary construction dewatering operations must also be reported. Water use data, identified as ground water or surface water, is reported in the following categories:
 - Agricultural and Irrigation (IR)—Crop and golf course irrigation, farm field drainage, agricultural services, etc;
 - Industry (IN)—Process water, cooling water, mineral extraction (except coal), quarry dewatering, waste assimilation;
 - Public Supply (PS)—Public water supply, drinking water and sanitary facilities;
 - Energy Production (EP)—Power generation, cooling water, coal mining, geothermal, oil recovery;
 - Rural Use (RU)—Watering of livestock, barn facilities, fisheries, etc.; and
 - Miscellaneous (MI)—Fire protection, amusement parks, construction dewatering, dust control, pollution abatement, hydrostatic testing, recreational field drainage, etc.
- In accordance with Section 7 of Indiana's implementation of the Great Lakes-St. Lawrence River Basin Water Resources Compact ([IC 14-25-15](#)), a person must obtain a permit from the IDNR for a daily withdrawal in excess of any of the following, calculated on average over any 90 day period: 1) five million (5,000,000) gallons from Lake Michigan surface water; 2) one hundred thousand (100,000) gallons from a salmonid stream; or 3) one million (1,000,000) gallons from any other surface water or groundwater source. Section 8 of the statute provides an exemption from the permit requirements if a withdrawal does not exceed the amount of baseline status determination. Forms for the "Notification of Sale or Transfer Of Baseline Volume Of Significant Water Withdrawal Facility (SWWF) Within the Great Lakes Basin of Indiana" and the "Application For Individual Permit For A New Water Withdrawal Within the Great Lakes Basin of Indiana" were developed by the DNR in 2018 and 2019 and are available online at <https://www.in.gov/dnr/water/division-of-water-forms>.

- [Rule 312 IAC 6.2](#) assists with the implementation of the Great Lakes-St. Lawrence River Basin Water Resources Compact (IC 14-25-15) for the registration and permitting of water withdrawal facilities; a voluntary conservation and efficiency program for water withdrawal facilities; mandatory conservation and efficiency programs for new and increased withdrawals; an exception to the prohibition on diversions for a straddling community, a community within a straddling county, and an intra-basin transfer; and the regulation of consumptive uses.
- 4) Application of the Decision Making and Exception Standards for Withdrawals, Consumptive Uses and Diversions**
- [Rule 312 IAC 6.2](#) assists with the implementation of the Great Lakes-St. Lawrence River Basin Water Resources Compact (IC 14-25-15) for the registration and permitting of water withdrawal facilities; a voluntary conservation and efficiency program for water withdrawal facilities; mandatory conservation and efficiency programs for new and increased withdrawals; an exception to the prohibition on diversions for a straddling community, a community within a straddling county, and an intra-basin transfer; and the regulation of consumptive uses. Provisions of 312 IAC 6.2 provide for compliance to the Decision Making and Exception Standards specified for new or increased withdrawals and consumptive uses under the Compact.
- 5) Overview of the State of Indiana's Reporting and Database of Withdrawals, Consumptive Uses and Diversions**
- Annual reports of withdrawals are required from the owner of each significant water withdrawal facility (SWWF) in accordance with [IC 14-25-7-15](#). The DNR provides hard copy report forms to each facility previously reporting by hard copy and provides email notification to facilities previously submitting data electronically. Annual water use data must be submitted by March 31st of the following year. Approved methods of measuring withdrawals are specified in NRC Bulletin #40. Upon receipt by hard copy or electronic submittal, annual water use reports are reviewed for accuracy and subsequently entered into a database. Digital data is reviewed by edit reports and corrections are made when necessary. Previous three years of reported SWWF annual water use available for review at [DNR: Significant Water Withdrawal Facility Data](#)
- 6) State of Indiana's Initiatives to Support an Improved Scientific Understanding of the Waters of the Great Lakes Basin**
- [Maps of Unconsolidated and Consolidated Aquifer Systems](#) of all counties located within the Great Lakes Basin in Indiana have been completed by the DNR, Division of Water and are available on the Division of Water's webpage.
 - [Maps of the Potentiometric Surface of Bedrock and Unconsolidated Aquifers](#) of all counties located within the Great Lakes Basin in Indiana have been completed by the DNR, Division of Water and are available on the Division of Water's webpage.

- [Reports on the Water Resource Availability in the Great Lakes Basin](#) within the State of Indiana (St. Joseph River Basin-1987; Lake Michigan River Basin-1994; Maumee River Basin-1996) have been completed by the DNR, Division of Water. The reports were completed in accordance with the Water Resource Management Act (IC 14-25-7) requiring that an inventory of the water resource (groundwater and surface water) in Indiana be conducted and include an assessment of the following: 1) The capabilities of streams to support instream and withdrawal uses and of aquifers to support withdrawal uses; 2) Low stream flow characteristics; 3) Existing uses and projections of beneficial use requirements; 4) The potential in watersheds for managing flood water for beneficial uses; 5) Potential sources and amounts of surplus water for transfers; 6) Other assessment and information considered necessary to properly define water resource availability. Section 14 allows for the determination and establishment of minimum flows of streams and minimum level of groundwater in aquifers.
- [Indiana's Voluntary Monitoring Network](#) (VMN) authorized under HEA 319 in 2015 currently includes 58 ground water monitoring wells throughout the state, and 11 wells located within the Great Lakes Basin in Indiana. The monitoring well network is maintained and operated by the DNR, Division of Water with water level data posted by the USGS. Siting of VMN observation wells is based upon past water rights issues or the potential for groundwater discharge to exceed the recharge capability of the source aquifer.

**Great Lakes-St. Lawrence River Water Resources Regional Body
Great Lakes-St. Lawrence River Basin Water Resources Council**

RESOLUTION NO. 2025-3

ADOPTING JOINT DECLARATION OF FINDING

For the Water Management Program Review and
Water Conservation and Efficiency Program Review
State of Michigan

I. BACKGROUND AND PURPOSE

The Compact

A. The Great Lakes-St. Lawrence River Basin Water Resources Compact (“Compact”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania, and was effective on December 8, 2008.

B. Section 3.4 of the Compact requires each Party State to submit a report to the Great Lakes-St. Lawrence River Basin Water Resources Council (“Compact Council”) and the Great Lakes-St. Lawrence River Water Resources Regional Body (“Regional Body”) on actions taken by that State to meet the provisions of the Agreement and Compact regarding that Party State’s Water management and conservation and efficiency programs.

C. Following the Compact Council’s review of such reports in cooperation with the Provinces pursuant to Section 3.4 of the Compact, the Council shall determine whether that State’s programs: (1) meet or exceed the provisions of the Compact; or (2) do not meet the provisions of the Compact and, if not, recommend options to assist the jurisdiction in meeting the provisions of the Compact.

D. Section 4.2 of the Compact requires the Compact Council in cooperation with the Provinces to adopt Basin-wide conservation and efficiency objectives, which were adopted by the Compact Council on December 8, 2008. Section 4.2.2 of the Compact requires each Party State to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a Water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State’s goals and objectives.

The Agreement

E. The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“Agreement”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin, the Commonwealth of Pennsylvania, the Province of Ontario, and the Government of Québec, and certain provisions of the Agreement began to more fully come into force on March 8, 2015.

F. Article 300 of the Agreement requires each Party State and Province to submit a report to the Regional Body on actions taken by the State or Province to meet the provisions of the Agreement regarding that State's or Province's Water management and conservation and efficiency programs.

G. Following the Regional Body's review of such reports pursuant to Article 300 of the Agreement, the Regional Body shall determine if that State or Province's programs: (1) meet or exceed the provisions of the Agreement; (2) do not meet the provisions of the Agreement; or (3) would meet the provisions of the Agreement if certain modifications were made and what options may exist to assist the jurisdiction in meeting the provisions of the Agreement.

H. Article 304, Paragraph 1 of the Agreement requires the Regional Body to identify Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency programs by December 13, 2007, which were adopted by the Regional Body on December 13, 2007. Article 304, Paragraph 2 of the Agreement requires each Party State and Province to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State's or Province's goals and objectives.

II. SUBMISSIONS BY STATE OF MICHIGAN

A. To the Compact Council. The Compact Council has received the State of Michigan's report on its Water management and conservation and efficiency programs under the Compact, which is attached to this Resolution as Attachment A.

B. To the Regional Body. The Regional Body has received the State of Michigan's report on its Water management and conservation and efficiency programs under the Agreement, which is attached to this Resolution as Attachment A.

III. DECLARATION OF FINDING

Upon review of the submissions of the State of Michigan, the terms of the Compact and the Agreement, the Compact Council and Regional Body find as follows:

- A. Based on the report submitted by the State of Michigan, the Water Management Program presented by the State of Michigan meets or exceeds the current requirements of the Compact and the Agreement.
- B. Based on the report submitted by the State of Michigan, the Water Conservation and Efficiency Program presented by the State of Michigan meets or exceeds the current requirements of the Compact and the Agreement.

Draft—For Discussion Purposes Only
November 11, 2025

ATTACHMENT A

Water Management and Conservation and Efficiency Programs—
Report to the Compact Council and Regional Body
Dated December 11, 2024



GRETCHEN WHITMER
GOVERNOR

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



PHILLIP D. ROOS
DIRECTOR

December 11, 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
309 E. Rand Road, #167
Arlington Heights, Illinois 60004

Dear Mr. Naftzger:

SUBJECT: 2024 Five-Year Program Review Report

On behalf of the State of Michigan, enclosed is the 2024 Five-Year Program Review Report sent pursuant to and in satisfaction of the obligations included in Section 3.4 of the Great Lakes-St. Lawrence River Basin Water Resources Compact and in Article 300 of the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement. 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

State of Michigan
Great Lakes-St. Lawrence River Basin Water Resources Compact
2024 Five-Year Program Review Report

This report fulfills the State of Michigan's obligation under Section 3.4 of the Great Lakes-St. Lawrence River Basin Water Resources Compact (Compact), and under Article 300 of the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (Agreement).

General Information

1. Lead agency/agencies, contact person(s), and contact information.

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

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.

2. Laws, statutes, rules, regulations, executive orders, administrative orders, or other similarly enforceable documents that establish or implement programs meeting the requirements of the Compact.

The Compact is enacted into law in Michigan under Part 342, Great Lakes St. Lawrence River Basin Water Resources Compact, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

Additional legislation enabling specific aspects of Michigan's water management and water conservation and efficiency programs is enacted in:

- Part 327, Great Lakes Preservation, of the NREPA, 1994 PA 451, as amended;
- The Safe Drinking Water Act, 1976 PA 399, as amended; and
- The Safe Drinking Water Act Administrative Rules.

Specific provisions from the Compact and Agreement for water management and water conservation and efficiency program elements and their corresponding legal citations are provided below:

a. Compact Section 3.4/Agreement Article 300.
Michigan Compiled Laws (MCL) 324.34201

- b. Compact Section 4.1/Agreement Article 301.**
MCL 324.34201, 324.32702, 324.32705, 324.32707, 324.32708, 324.32710, 325.1004, Michigan Administrative Rules 325.11502, 325.11504
 - c. Compact Sections 4.2(2), 4.2(4) and 4.2(5)/Agreement Article 304.**
MCL 324.34201, 324.32707, 324.32708a, 324.32723, 325.1004
 - d. Compact Section 4.3/Agreement Article 200.**
MCL 324.34201, 324.32704a, 324.32705, 324.32706a-e, 324.32723, 325.1004
 - e. Compact Section 4.8, 4.9 and 4.13/Agreement Articles 200, 201, and 208.**
MCL 324.34201, 324.32701, 324.32702, 324.32703, 324.32703a, 324.32704, 324.32704a, 324.32727
 - f. Compact Section 4.10/Agreement Article 206.**
MCL 324.34201, 324.32704a, 324.32705, 324.32706a-e, 324.32723, 325.1004
 - g. Compact Section 4.11/Agreement Article 207.**
MCL 324.34201, 324.32723
- 3. Major changes from Michigan's 2019 Five-Year Program Review Report.**
No changes since 2019.

Water Management Program Report

1. Water management program scope and thresholds.

Michigan's Water Use Program was established in 2008 to ensure Michigan continues to meet its obligations under the Compact and the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement. The program uses an online assessment tool to estimate the impact of proposed withdrawal by modelling the relationships between groundwater withdrawals, nearby stream flows, and fish populations. The purpose of the Water Use Program is to help Michigan fulfill its duty under MCL 324.32702 to effectively manage the waters of the state for the use and enjoyment of present and future residents and for the protection of the environment.

Michigan's water management program includes registration and water use reporting requirements for virtually all large quantity withdrawals¹ (LQWs), as well as an authorization process for new or increased LQWs which requires that an environmental impact standard must be met prior to registration.²

LQWs include all water withdrawals with the capacity to withdraw over 100,000 gallons per day (gpd) average in any consecutive 30-day period.³ New or increased LQWs > 100,000 gpd that cannot be authorized by the on-line Water Withdrawal Assessment Tool must be authorized by a site-specific review or an alternative analysis of the proposed LQW.⁴ New or increased LQWs > 2,000,000 gpd (2 MGD) require a permit.⁵ Exceptions to the registration and reporting requirements include

¹ MCL 324.32705, 324.32707, 324.32708, 324.32723

² MCL 324.32706

³ MCL 324.32701

⁴ MCL 324.32706c

⁵ MCL 324.32723

LQWs undertaken for groundwater contamination remediation, small residential properties, and hydroelectric power generation.⁶

Registered LQW facilities annually report their monthly withdrawal volumes, consumptive use, and return flow discharge information on forms provided by EGLE or the Michigan Department of Agriculture and Rural Development (MDARD).⁷ Before new or increased LQWs can begin operating, they must be authorized based on an assessment of their predicted, cumulative impact along with other new LQWs to nearby river or stream flows. Large quantity withdrawals that are likely to exceed this environmental standard are restricted to a lesser amount, or they may be prohibited in order to protect local streamflow.⁸ Michigan's management of withdrawals and water resources at the sub-watershed level ensures the protection of the waters of the Great Lakes Basin.

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 of the program as 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. This framework creates opportunities for the public, university researchers, industry professionals, advocacy groups, and other interested parties to be involved and to work directly with state agency personnel 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.

2. Management of Water Withdrawals by:

- a. Sector (public water supply, commercial and institutional, irrigation, livestock, industrial, electric power production (once-through and recirculated cooling), hydroelectric power production (off-stream and in-stream), voluntary, and other);**

With the exception of hydroelectric power generation, LQWs in all the above-mentioned water use sectors are subject to the Michigan water management program. Off-stream and in-stream hydroelectric water uses are exempt from management under Michigan law.⁹ All sectors are managed in essentially the same way, and the specific sector of water use is captured in the annual water use reporting.

- b. Water source (groundwater, Great Lakes-St. Lawrence River surface water, and other surface water);**

⁶ MCL 324.32727

⁷ MCL 324.32707, 324.32708

⁸ MCL 324.32706

⁹ MCL 324.32727

Large quantity withdrawals from all water sources including groundwater, the Great Lakes and their connecting waters, and other surface water are subject to the Michigan water management program. The specific water source is captured in the annual water use reporting. New LQWs are assessed based on the environmental impact to their source if they are from the Great Lakes or other surface water, or to nearby rivers or streams if the source is groundwater.¹⁰

c. Quantity (regulatory thresholds, volumes, rates, and reporting requirements);

The Michigan water management program regulates the quantity, volume, and/or rate of new or increased LQWs by tracking their cumulative impact to river and stream flows at a sub-watershed scale, or to fish populations or other uses of the lake for a direct withdrawal from a lake. The environmental impact standard is scaled to the size of the impacted stream or river and is dependent on its ecological classification. The regulatory limits are, therefore, variable across sub-watersheds¹¹ but are all based on the capacity of each system to support withdrawals. When the cumulative impact to a sub-watershed reaches the environmental impact standard limit, new or increased LQWs are restricted to a lesser amount, or they may be prohibited in order to preserve the local water resources.¹² Large quantity withdrawals that withdraw less than 1,500,000 gallons of water in a given year are not required to report specific water use volumes, but they are required to file an annual report stating the water usage was less than 1,500,000 gallons.¹³

d. Location (Statewide/Province-wide or Great Lakes-St. Lawrence River Basin);

The Michigan water management program applies statewide.

e. Any specific exemptions as allowed in the Agreement and the Compact.

Michigan law includes exemptions from its water management program for LQWs undertaken for groundwater contamination remediation, small residential properties, and hydroelectric power generation.¹⁴ Large quantity withdrawals utilized solely for fire suppression are exempt from the environmental impact standard, but they are required to register and report their annual water use.¹⁵

3. Application of the Standard of Review and Decision.

a. Decision Making Standard for Withdrawals and Consumptive Uses.

¹⁰ MCL 324.32706, 324.32723, 325.1004

¹¹ MCL 324.32701

¹² MCL 324.32706b, 324.32723

¹³ MCL 324.32707

¹⁴ MCL 324.32727

¹⁵ MCL 324.32721

MCL 324.32723: The Michigan water management program applies the Compact's Standard of Review and Decision to all new or increased withdrawals greater than two million gallons per day (MGD) capacity. An application for these withdrawals requires each criterion of the Decision-Making Standard to be addressed by the applicant and is evaluated by EGLE during the application review. Most criteria are evaluated on a scientific basis, with the exception of 4.11.5.c (the balance between economic development, social development, and environmental protection for the existing and proposed LQWs). For this criterion some deference is granted to the weight of public comments received on the proposed withdrawal to aid in EGLE's evaluation.

In addition to the Compact's Standard of Review and Decision, EGLE must also determine whether permit applications are reasonable under Michigan's common law for water uses. Michigan uses the "reasonable use balancing test" that evaluates: the purpose of the proposed use; the suitability of the proposed use to the location; the extent and amount of harm caused by the proposed use; the extent, duration, necessity, and application of the use, including any effects on the quantity, quality, and level of the water; and any other factor relevant under the circumstances of the particular case.

Large quantity withdrawals subject to Michigan's water management program, but less than two MGD capacity are required to meet an environmental impact standard. They are not evaluated by the Decision-Making Standard criteria.

b. Exception Standard for Diversions.

MCL 324.32701: The Michigan water management program applies the Exception Standard and evaluates each criterion for any proposed Diversion. Under Michigan law, a diversion does not include the supply of ballast for vessels; use in a noncommercial project on a short-term basis for firefighting, humanitarian, or emergency response purposes; a transfer of water from a Great Lakes watershed to the watershed of its connecting waterways; or a transfer of water out of the Great Lakes Basin in a container 5.7 gallons or less.

4. Reporting and database of Withdrawals, Consumptive Uses, and Diversions.

Michigan's water management program requires annual water use reporting for virtually all LQWs. Separate databases of withdrawals, consumptive uses, and diversions are maintained by the agencies responsible for each branch of the Michigan water management program: EGLE's Community Water Supply Program for public water supplies, MDARD for agricultural water uses, and EGLE's Water Use Program for all other LQWs. Most large quantity withdrawal owners submit annual reports directly to EGLE's or MDARD's databases using an online reporting system, while a limited number of withdrawal owners instead utilize forms provided by the agencies. EGLE's Water Use Program staff compiles the annual water use reporting data for community water supplies, agricultural water uses, and all other water uses under EGLE's jurisdiction and submits the annual water use data to the Great Lakes Commission and others upon request. All methods of measurement of water use volumes are approved, as are acceptable estimation methods in lieu of a

measurement device. A separate database is also maintained by the EGLE's Water Use Program to track the cumulative impact of new or increased LQWs relative to the environmental impact standard for each sub-watershed in the state.¹⁶

Regional notice is only required under the Compact when a proposed consumptive use (or the consumptive use portion of a proposed LQW) exceeds five million gallons per day (five MGD).

5. Withdrawal application forms.

Michigan's water management program utilizes an online application, the Water Withdrawal Assessment Tool (WWAT) to process all applications for new or increased LQWs up to two MGD capacity. Also, MCL 324.32706c provides for a site-specific review by EGLE or an alternative analysis of the proposed withdrawal submitted by a qualified hydrologist or hydrogeologist for any proposed withdrawals that cannot be authorized by the WWAT. A water withdrawal permit is required for new or increased LQWs greater than two MGD capacity. Information about all withdrawal application avenues can be found at <https://www.michigan.gov/wateruse>.

6. Initiatives to support an improved scientific understanding of the Waters of the Basin and an improved understanding of the groundwater of the Basin and the role of groundwater in Basin water resource management.

a. WUAC Recommendations.

The WUAC reports biennially to the Michigan Legislature, EGLE, MDARD, and the Michigan Department of Natural Resources (DNR). 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. Michigan's Quality of Life Agencies (EGLE, MDARD, and DNR) prioritize the recommendations in the Water Use Advisory Council's biennial reports and are implementing key recommendations with funding appropriated by the Michigan Legislature.

b. 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 Michigan State University (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

¹⁶ MCL 324.32706e

downstream accounting research; and 2) Evaluate streamflow depletion effects downstream through a stream network. The research is funded by the DNR, and by the United States Geological Survey (USGS) through the Institute for Water Research. Work in 2023 focused on characterizing changes in stream flow over time and associating patterns in stream flow with patterns in precipitation for select watersheds. Michigan's legislature appropriated funding to implement the 2024 WUAC recommendations, which includes funding for downstream streamflow accounting and depletion research.

c. 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 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.

d. Groundwater Modeling Study

EGLE Water Resources Division (WRD) staff are reviewing available data to identify depleted watersheds where EGLE WRD staff can create their own groundwater models.

e. 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, in addition to drilling in Allegan County. Barry, Cass, Calhoun and Ottawa Counties mapped in 2022 and 2023. 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 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 roto sonic 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 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 Wellogix, the state's well drilling record database which accounts for the largest source of geologic and groundwater point data with over one million well records. MGS has corrected or inputted over 870,000 well records as of December 2024.

Water Conservation and Efficiency Program Report

1. Water conservation and efficiency goals and objectives.

Michigan adopted goals and objectives consistent with the basin-wide conservation and efficiency goals and objectives set forth in Section 4.2(1) of the Compact on December 8, 2010 (Appendix 1). 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 WUAC plays an integral part in Michigan's water management and water conservation and efficiency program. 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 and water conservation and efficiency program. This process 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.

Michigan's water conservation and efficiency goals and objectives continue to be met through the program that was initiated with the adoption of the Compact. Public comments on how to enhance Michigan's water conservation and efficiency program are being addressed through the proceedings of the WUAC and its committees.

Michigan 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. Current state policy initiatives are focused on climate, energy, and water infrastructure investments which have resulted in more opportunities to guide programs toward sustainable water use. In addition, EGLE continues efforts with an interagency workgroup to create a collaborative strategy for statewide Great Lakes education and outreach programming focused on water stewardship. Appendix 2 provides a full list of water conservation and efficiency recommendations from the Water Strategy, as well as a link to the WUAC water conservation and efficiency recommendations.

2. 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).¹⁷ The assessment process evaluates proposed water withdrawals relative to environmental impact standards set for conserving and protecting the water resources of the Great Lakes Basin. The likely resource impacts of a proposed withdrawal must meet the environmental impact standard and be authorized by EGLE before the withdrawal can begin.¹⁸ Large quantity withdrawals 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.

Michigan's water conservation and efficiency program goes beyond the assessment process to comprise 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 LQW, owners are required to review water conservation measures applicable to their water use sector. Implementation of conservation measures is voluntary.¹⁹ In sub-watersheds that are approaching the environmental impact standard, as a condition of approval an applicant must implement the water conservation measures they deem to be reasonable.²⁰ As a condition for approval of applications with a capacity greater than

¹⁷ MCL 324.32705

¹⁸ MCL 324.32706, 324.32723

¹⁹ MCL 324.32707, 324.32708

²⁰ MCL 324.32706c, 325.1004

two MGD, the applicant must comply with sector or withdrawal-based water conservation measures.²¹

3. Water conservation and efficiency program consistency with regional objectives, and promotion of Environmentally Sound and Economically Feasible Water Conservation Measures.

a. 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; accounting and measuring water and energy savings from water infrastructure improvements; and building 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) awarded a grant for 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 water

²¹ MCL 324.32723

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 Michigan Great Lakes Protection Fund (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 the 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 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.

EGLE is utilizing the Michigan Clean Diesel Program to replace diesel equipment, vehicles, and engines with zero tailpipe emission, hybrid, or alternative fuel vehicles, engines, or equipment. One of the types of equipment targeted are diesel agricultural irrigation pumps. Pumps replaced as part of this program will deliver carbon emissions reductions and improve efficiency of water usage.

Current state policy initiatives are focused on climate, energy, and water infrastructure investments which have resulted in more opportunities to guide programs toward sustainable water use. Efforts are ongoing by many actors across the state to implement Michigan's Water Strategy, the 30-year roadmap to ensure the viability and sustainability of Michigan's water resources for current and future generations. For example, in 2022, EGLE formed an interagency work group to develop a concept for creating a collaborative statewide Great Lakes education and outreach program focused on water stewardship. The group continued its work in 2023 and sought input from external partners delivering on-the-ground programming to refine the program concept and funding opportunity to address highest priority needs. Creation of a statewide education and outreach program on water conservation was also recommended in the WUAC's December 12, 2014, report.

b. 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 through the assessment process on an individual basis to help implement withdrawals in an efficient manner that reduces the impact to water resources.²² This assessment process incorporates both supply-side management of the water resources using a specialized database that tracks cumulative impact of

²² MCL 324.32708, 324.32708a

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 also 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 up front, rather than when required to 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.

c. 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 (EQulS) database for EGLE's new Groundwater Data Management System. EGLE and DTMB staff are meeting on an ongoing basis with EarthSoft's EQulS 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., Environmental Protection Agency, EPA; United States Geological Survey, 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 Michigan State University.

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.

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 Michigan legislature appropriated \$1.2 million in Fiscal Year 2025 to support implementation of new recommendations included in the 2022 WUAC biennial report.

Other efforts 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. EGLE provided financial support for asset management planning for water utilities through grants under its Drinking Water Asset Management program from 2020 to 2023. EGLE also provided support with the Stormwater, Asset Management, and Wastewater Program (SAW) grants and technical assistance, which ended in 2020.

d. 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. Significant investments have been made as funding is

available to further these developments. The WUAC convenes scientific and policy discussions amongst stakeholders and technical experts to evaluate Michigan's water management and water conservation and efficiency programs and to identify where improvements could be made.

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. The initiatives undertaken to support a scientific understanding of the Waters of the Basin and an improved understanding of the groundwater of the Basin and the role of groundwater in Basin water resource management, as part of Michigan's Water Management Program, develop new science to support this section of the Water Conservation and Efficiency Program.

The Michigan Great Lakes Protection Fund exists as a dedicated funding program to support research to improve scientific understanding of Great Lakes issues. The fund is administered by the Michigan Office of the Great Lakes.

e. 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 and on-site trainings 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 United States Environmental Protection Agency's (USEPA) 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.

EGLE hosted a webinar series on Source Water Protection topics in partnership with Michigan State University's Institute of Water Research and Michigan Rural Water Association (MRWA). The series titled "Drinking Water: Protecting MI Source," hosted three webinars as of October 2023. The series kicked off on May 23, 2023, with a presentation titled "Healthy Forests Protect Drinking Water" featuring the Forests to MI Faucet Michigan Department of Natural Resources initiative discussing how this program promotes clean source water. The second webinar in the series, "Drops of Resilience: Empowering Communities through Source Water Plans," featuring MRWA's Source Water Protection Specialist presenting on the development and implementation of source water protection plans. The third webinar hosted to date, "Blooming Waters: Understanding Harmful Algal Blooms and Safe Drinking Water," featured EGLE's Water Resources and Drinking Water and Environmental Health divisions' experts on cyanotoxins and sampling efforts around the state to identify them in the source water at community water supplies across Michigan. The events have been attended by steadily increasing audiences of more than 300 attendees by community water supplies, watershed organizations, local public health staff, consultants, the public and others to learn more about important topics related to source water protection. Future webinars will continue to feature current and relevant topics with case studies and examples of how source water programs are working in other states.

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 Institute of Water Research, 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, 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 will teach 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 additional funding from the USEPA Great Lakes Restoration Initiative (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 GLRI funding to implement Phase 3 of the From Students to Stewards Initiative in 2024 and 2025. 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 host an annual Great Lakes and Fresh Water Week 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. Recent efforts have also focused on becoming water champions, water conservation, connections between water and wellness, the importance of water and Manoomin to tribes, and building the water workforce.

Water Conservation Webinar.

EGLE hosted a webinar about in-home water conservation in August 2023. The webinar featured presentations about the USEPA's Water Sense program, indoor water fixtures, home irrigation and water-efficient landscaping, especially in the context of climate change.

EGLE Classroom.

EGLE helps educators, youth, and families access resources they need to learn about Michigan's environment, EGLE's work to protect it, and what they can do to participate in that work 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 and hosts an annual Earth Day educational event. To view EGLE's environmental education opportunities or to borrow a hands-on activity from the [Environmental Education Lending Station](https://www.michigan.gov/EGLEclassroom), visit [Michigan.gov/EGLEclassroom](https://www.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.

4. 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 fully in effect since July 2009. Sector-based water conservation measures have been developed and are in use. Additional state funding resources have recently been allocated to bolster program areas of need. From the beginning, it has been acknowledged that the program would continually adapt and that the staff would be open to changes necessary for improvement and enhancement. Michigan has shown strong commitment to this forward-looking approach and seeks to remain vigilant for the betterment of the program and to uphold the ideals of the Compact.

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: WATER CONSERVATION AND EFFICIENCY RECOMMENDATIONS FROM MICHIGAN'S WATER STRATEGY

Goal 1: Michigan citizens are stewards of clean water and healthy aquatic ecosystems.

Recommendations:

1-2: The State, working with stakeholders, will develop a public outreach campaign that highlights stewardship practices and encourages actions that sustain water resources.

Goal 2: Michigan's aquatic ecosystems are healthy and functional.

Recommendations:

2-8: Incorporate planning for wet weather extremes, droughts, and increased seasonal variability of precipitation into state, regional, and community planning to mitigate impacts to ecological, economic, social, and cultural resources.

2-11: The State, working with tribal governments and stakeholders, will establish new partnerships to develop innovative strategies to enhance wetland restoration and green infrastructure efforts in Michigan. The Tribes will work with the State to elevate the recognition, protection, and restoration of native wild rice stands throughout the state.

2-14: Refine and improve the water withdrawal assessment process and model to ensure sustainable use of water resources and that high priority is given to incorporating existing and new data to better represent local and regional water resources and surface water/groundwater interactions.

2-15: Provide technical and financial support to communities and their partners to plan and implement green infrastructure techniques and low-impact development while preserving natural spaces that contribute to water quality, including application of these techniques in the design of new developments, redevelopments, and road projects to ensure storm water management, improved hydrology, and overall water quality.

2-16: Modernize road and highway planning and infrastructure and integrate with watershed planning to effectively accommodate storm water runoff and infiltration needs, thereby reducing the costs and impacts of flooding.

2-17: Enhance financial and technical support of local stakeholder efforts to develop and implement watershed management plans to restore impaired waters, protect high quality waters, and develop and utilize local water resource assets.

Goal 3: Michigan communities use water as a strategic asset for community and economic development.

Recommendations:

3-1: Emphasize water resources as assets in state, regional, and community planning efforts to provide appropriate, sustainable protection and to fully leverage community-based economic opportunities.

Goal 5: Michigan has a strategic focus on water technology and innovation to grow sustainable water-based economies.

Recommendations:

5-3: Establish voluntary water efficiency targets for all major water sectors to reduce water use impacts and costs.

5-4: Promote innovative technologies that reduce cost and water loss or convert waste products to usable materials.

5-5: Develop a water conservation and reuse strategy for the State, local governments, and public and private facilities that incorporates the use of green infrastructure, grey water systems, and energy production that includes recognition programs.

5-6: Fund a pilot project, through a competitive bid process, for the initiation and evaluation of a new model for wastewater management. This pilot program will assess the opportunities and barriers to creating a “Water Resources Utility of the Future” focused on:

- Reclaiming and reusing water
- Extracting and finding commercial uses for nutrients and other constituents
- Capturing waste heat and latent energy in biosolids and liquid streams
- Generating renewable energy using its land and other assets
- Using green infrastructure to manage storm water and improve urban quality of life

5-7: Define measures of agriculture water conservation and establish voluntary targets for utilizing best management practices (BMPs) that reflect conformance with the Irrigation Water Use Generally Accepted Agricultural and Management Practices in areas of existing or potential water stress.

5-8: Enhance voluntary water conservation measures through technology and outreach for agriculture to optimize water use while reducing impacts and costs.

Goal 8: Michigan has integrated outcome-based monitoring systems that support critical water-based decisions.

Recommendations:

8-1: Develop a coordinated, comprehensive monitoring strategy for groundwater quantity and quality, including a data management system.

8-2: Secure a long-term, sustainable funding source for groundwater and surface water quality and quantity monitoring that is continually improved with new technologies.

8-3: Implement a pilot decision-support framework that includes monitoring, data and information, and analytical tools. This framework will assess ecological, economic, social, and cultural values and outcomes at local and regional watershed scales.

Goal 9: Michigan has the governance tools to address water challenges and provide clean water and healthy aquatic ecosystems.

Recommendations:

9-3: Uphold the Great Lakes Compact and Agreement by actively participating in the Great Lakes-St. Lawrence River Regional Body and Great Lakes-St. Lawrence River Compact Council including financial support of these entities entrusted to govern the Compact and Agreement.

9-4: State and Tribal governments will meet on an ongoing basis to discuss and develop strategies to support management of Michigan's shared water resources. The State and Tribal governments will jointly develop agendas reflecting the priorities of all parties involved.

APPENDIX 3: SUMMARY OF PUBLIC OUTREACH ACTIVITIES AND COMMENTS RECEIVED

In addition to the internal contribution and review from Michigan agencies and requirements in compliance with the Compact, EGLE conducted the following activities to include Tribal government perspective and public comments into this five-year review report:

- Distribute draft five-year review report to Michigan federally-recognized Tribes (April 2024).
- Hold preliminary meeting with Tribes to gather early input, explain five-year review process and provide Great Lakes Compact education (May-June 2024).
- Present the report for a 45-day public comment period (July-August 2024).
- Hold Government to Government consultation with Michigan federally-recognized Tribes (September 2024).

Comments received touched on the Compact's role in protecting inland lakes, new water uses and their impacts, the definition of adverse impacts and the Prairie River reclassification.

**Great Lakes-St. Lawrence River Water Resources Regional Body
Great Lakes-St. Lawrence River Basin Water Resources Council**

RESOLUTION NO. 2025-4

ADOPTING JOINT DECLARATION OF FINDING

For the Water Management Program Review and
Water Conservation and Efficiency Program Review
State of Minnesota

I. BACKGROUND AND PURPOSE

The Compact

A. The Great Lakes-St. Lawrence River Basin Water Resources Compact (“Compact”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania, and was effective on December 8, 2008.

B. Section 3.4 of the Compact requires each Party State to submit a report to the Great Lakes-St. Lawrence River Basin Water Resources Council (“Compact Council”) and the Great Lakes-St. Lawrence River Water Resources Regional Body (“Regional Body”) on actions taken by that State to meet the provisions of the Agreement and Compact regarding that Party State’s Water management and conservation and efficiency programs.

C. Following the Compact Council’s review of such reports in cooperation with the Provinces pursuant to Section 3.4 of the Compact, the Council shall determine whether that State’s programs: (1) meet or exceed the provisions of the Compact; or (2) do not meet the provisions of the Compact and, if not, recommend options to assist the jurisdiction in meeting the provisions of the Compact.

D. Section 4.2 of the Compact requires the Compact Council in cooperation with the Provinces to adopt Basin-wide conservation and efficiency objectives, which were adopted by the Compact Council on December 8, 2008. Section 4.2.2 of the Compact requires each Party State to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a Water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State’s goals and objectives.

The Agreement

E. The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“Agreement”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin, the Commonwealth of Pennsylvania, the Province of Ontario, and the Government of Québec, and certain provisions of the Agreement began to more fully come into force on March 8, 2015.

F. Article 300 of the Agreement requires each Party State and Province to submit a report to the Regional Body on actions taken by the State or Province to meet the provisions of the Agreement regarding that State's or Province's Water management and conservation and efficiency programs.

G. Following the Regional Body's review of such reports pursuant to Article 300 of the Agreement, the Regional Body shall determine if that State or Province's programs: (1) meet or exceed the provisions of the Agreement; (2) do not meet the provisions of the Agreement; or (3) would meet the provisions of the Agreement if certain modifications were made and what options may exist to assist the jurisdiction in meeting the provisions of the Agreement.

H. Article 304, Paragraph 1 of the Agreement requires the Regional Body to identify Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency programs by December 13, 2007, which were adopted by the Regional Body on December 13, 2007. Article 304, Paragraph 2 of the Agreement requires each Party State and Province to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State's or Province's goals and objectives.

II. SUBMISSIONS BY STATE OF MINNESOTA

A. To the Compact Council. The Compact Council has received the State of Minnesota's report on its Water management and conservation and efficiency programs under the Compact, which is attached to this Resolution as Attachment A.

B. To the Regional Body. The Regional Body has received the State of Minnesota's report on its Water management and conservation and efficiency programs under the Agreement, which is attached to this Resolution as Attachment A.

III. DECLARATION OF FINDING

Upon review of the submissions of the State of Minnesota, the terms of the Compact and the Agreement, the Compact Council and Regional Body find as follows:

- A. Based on the report submitted by the State of Minnesota, the Water Management Program presented by the State of Minnesota meets or exceeds the current requirements of the Compact and the Agreement.
- B. Based on the report submitted by the State of Minnesota, the Water Conservation and Efficiency Program presented by the State of Minnesota meets or exceeds the current requirements of the Compact and the Agreement.

Draft—For Discussion Purposes Only
November 11, 2025

ATTACHMENT A

Water Management and Conservation and Efficiency Programs—
Report to the Compact Council and Regional Body
Dated December 10, 2024

Minnesota's Great Lakes Water Management Program Five Year Review 2019-2024

GENERAL INFORMATION

1. *Lead agency/agencies and contact person(s) and contact information.*

Minnesota Department of Natural Resources (DNR), [Division of Ecological and Water Resources](#) (EWR)

- Jess Richards, Assistant Commissioner- Ecological and Water Resources and Lands and Minerals
- Randall Doneen, Manager, Conservation Assistance and Regulation Section
- Claudia Hochstein, Water Conservation Consultant

2. *Identify all laws, statutes, rules, regulations, executive orders, administrative orders or other similarly enforceable documents (collectively, "Laws") that establish or implement programs meeting the requirements of the following provisions of the Compact or Agreement.*

- a. Water conservation program required: [Minn. Stat. 103G.101](#)
- b. Statutes guiding water diversion and water appropriation: requiring permits and monitoring; requiring water supply plans for public water suppliers serving over 1,000 people; establishing a statewide drought plan; creating a sustainability standard; and providing for penalties and enforcement: [Minn. Stat. 103G.255-103G.315](#)
- c. Great Lakes- St. Lawrence River Basin Water Resources Compact: [Minn. Stat. 103G.801](#)
- d. Permit, inspection, and monitoring fees: [Minnesota Rules 6115.0010-6115.0120](#)
- e. Water appropriation and use permits: [Minn. Rules 6115.0600-6115.0810](#)

3. *Identify any changes from the 2014 report, highlighting in particular major changes from 2014 throughout the response. If there are no changes, please indicate accordingly.*

Changes include additional research and implementation funds through the Legislative-Citizen Commission for Minnesota Resources and Clean Water Legacy Funds, plans to include more comprehensive water conservation requirements in Water Supply Plans, and a longer record of use and conservation reporting through the Minnesota Conservation Reporting System.

Minn Stat. 103G has been changed since the last report to create sustainable diversion limits, increase summer surcharge fees for water use, and expanded the Minnesota DNR's ability to issue administrative penalty orders for water appropriation permit violations.

WATER MANAGEMENT PROGRAM REPORT

1. Water management

A water appropriation permit from the DNR is required for groundwater and surface water withdrawals that exceed 10,000 gallons per day or one million gallons per year. Those proposing to use groundwater are required to receive preliminary approval from DNR before well construction. Permit requirements apply statewide to all water use sectors. Permit holders annually report monthly water use volumes to the DNR.

2. Describe specifically how Water Withdrawals in the State or Province are managed by:

- a. **Sector:** All water use sectors are subject to water use permitting and annual reporting requirements. Water appropriation permits specify the authorized source of water, withdrawal rates, annual water volumes, allowable uses, and withdrawal exclusion dates. Permit applications are evaluated to determine adequacy of water supplies, natural resource impacts, impacts on other users, and water conservation practices. Permits are permissive only and subject to modification, suspension or termination for violation of permit terms or to protect public interests and natural resources. Self-supply domestic uses for less than 25 persons for general residential purposes and agricultural drainage that does not impact Public Waters are exempt from permit requirements. Permits have not been required for in-stream uses for run-of-the-river hydroelectric power production where the water is not removed from its source.
- b. **Water source:** Permit requirements apply to “waters of the state”, which include surface and underground waters. Applications and permits identify the source of water and the withdrawal location. Separate applications are required for each source of water (groundwater, water basin, watercourse).
- c. **Quantity:** Permits are required for water withdrawals that exceed 10,000 gallons per day or one million gallons per year. Authorized water volumes and withdrawal rates are specified on permits. Permit holders submit an annual report of water use that includes monthly volumes.
- d. **Location:** Water management is a statewide program under the authority of the DNR. Withdrawal proposals are evaluated in accordance with the law, by location and by water source in order to assess individual and cumulative impacts. Permits identify authorized withdrawal locations. [*Minn Stat. 103G.271 subd. 4b.*](#) limits the distance water can be moved from the point of appropriation via bulk transfer (e.g., pipeline, truck, rail-car) to no more than 50 miles for all appropriators other than public water suppliers, who may distribute water up to 100 miles away.
- e. **Specific exemptions as allowed in the Agreement and Compact:** Transportation and emergency use exemptions in the Agreement and Compact are exempt from permit requirements or are covered by a general permit.

3. *Description of how the provisions of the Standard of Review and Decision are applied. The description should include information on how each criterion of the Decision Making Standard and Exception Standard is addressed.*

- a. **Decision Making Standard for Withdrawals, Consumptive Uses:** Statutes and rules cited under General Information, Item 2 define the standards for review and decisions on Water use proposals. All applications must consider alternatives, including conservation, and are evaluated for impacts to natural resources and other water users. Minnesota's existing program and regulations meet or exceed the Standard of Review.
- b. **Exception Standard for Diversions:** Diversions are subject to provisions in the Compact, which has been codified in [Minn. Stat. 103G.801](#) and the provisions in [Minn. Stat. 103G.265](#).

4. *Overview of State/Provincial reporting and database of Withdrawals, Consumptive Uses and Diversions:*

Water appropriation permittees must provide an annual report of their water use, split into monthly water volumes. Failure to report can result in permit termination, so annual compliance is high. The majority of permittees report through the [Minnesota Permitting and Reporting System \(MPARS\)](#), which is an online application.

[Minn. Stat. 103G.281](#) requires any high-capacity appropriator to use a flow meter to measure the quantity of water appropriated within the degree of accuracy required by rule (10%). The statute also allows the DNR to designate other methods for measuring use. Generally, this would be using timing devices and the pump rate of the installation.

Public water suppliers serving over 1,000 people have an additional requirement ([Minn Stat.103G.291](#)) to report water accounting factors including the number of connections and the amount of use by customer category and the volume of “unaccounted” water.

MPARS is also a database where DNR stores the water use information, and data is downloadable from https://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/wateruse.html. MN DNR reports consumptive use data to the Great Lakes Commission using factors that estimate water losses by sector.

5. *Include a web link to the State or Province's Withdrawal application form(s). In addition, include a section on web access to additional information on the program, link to any application forms and links to tools for improving the management of water resources or sharing information about water withdrawals.*

Applications happen in [\(MPARS\)](#). The following pages include information about MPARS and tools for water resource management:

- MN DNR's Water Conservation webpage, including links to resources for different sectors:

https://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/conservation.html

- Metropolitan Council's Water Conservation Toolbox:
<https://metro council.org/Wastewater-Water/Planning/Water-Supply-Planning/Conservation-and-Efficiency/Toolbox.aspx>
- Minnesota Water Conservation Reporting System:
https://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/water-conservation-reporting-system.html.

[*Minnesota Rules 6115.600-6115.0810*](#) outline the process and standards for reviewing and approving water appropriation permits.

6. *Summary description of the State's or Province's initiatives to support an improved scientific understanding of the Waters of the Basin and an improved understanding of the groundwater of the Basin and the role of groundwater in Basin water resource management. A description of State or Provincial initiatives or mechanisms to support an improved understanding of individual or cumulative impacts of Withdrawals, Consumptive Uses and Diversions on the Basin ecosystem should also be provided.*

The framework for improved scientific understanding and sustainable management of Minnesota's water resources is centered in three program areas: mapping; monitoring; and managing. DNR has drafted a [strategic plan](#) for improving its groundwater management. The DNR completed three pilot groundwater management area plans, all of which are outside of the Great Lakes Basin. While outside of the basin, the lessons learned from implementation allows the DNR to address groundwater-related management challenges anywhere they may arise in the state.

There are several mining operations within the Basin and along the Basin boundary, and much of the geology has been mapped. Ambient and permit-required monitoring networks provide data on groundwater levels, surface water levels and flows, precipitation, and water use that are used to evaluate individual and cumulative impacts. Statutes and rules provide for the establishment of resource protection limits including, safe yields for groundwater, protection elevations for water basins, and protected flows for watercourses. Water supply plans and permits must address potential resource impacts and are subject to modification.

Potential well owners must request a preliminary well construction assessment from DNR before constructing a well that will need a water use permit. DNR provides information on water resources in the area; the likelihood that their project could receive a water use permit; and resource concerns, additional monitoring, and aquifer testing that they may be required to perform at their expense during the water use permit application process. The potential well owner can then make an informed decision on whether to invest in a well and other equipment.

WATER CONSERVATION AND EFFICIENCY PROGRAM REPORT

1. *Status of the State or Province's Water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives. If developed, include State or Provincial goals and objectives or link to electronic version.*

Minnesota's water conservation goals and objectives are the same as those in the Compact. The goals are codified in [Minn. Stat. 103G.801](#). Minnesota's rules, laws and policies, as outlined in this document, address all of these goals and objectives; however, we continue to develop additional management tools to respond to increasing water resource management challenges and growth in our region.

2. *Water Conservation and Efficiency Program Overview.*

- a. **Citations to State/Provincial Water Conservation and Efficiency Program implementing laws, regulations and policies.**

We cite the laws, regulations, and policies within the summary of the Program. However, *Minn. Stat.* 103G.101 requires the Department of Natural Resources to develop a water resources conservation program for the state. The program must include conservation, allocation, and development of waters of the state for the best interests of the people. Further, the program must guide issuance for use and appropriation of waters of the state.

- b. **Summary description of the State's or Province's Water Conservation and Efficiency Program including what elements are voluntary and mandatory:**

- i. **Mandatory**

- **Permits:** A water appropriation (use or withdrawal) permit is required for all users withdrawing more than 10,000 gallons of water per day or 1 million gallons per year. The efficient use of water is required through the permitting process ([Minn. R., part 6115.0770](#)). Applicants may be required to provide alternatives to proposed actions, including conservation measures to improve water use efficiencies and reduce water demand [[Minn. Stat. 103G.301](#), subd. 1 (b)(3).]
- **Accuracy:** Water users must measure water volumes appropriated within 10% accuracy. Flow meters are required but other methods, such as timers or electrical use meters, can be approved for smaller water users.
- **Demand reduction measures:** Public water suppliers serving more than 1,000 people are required to prepare a [Water Supply Plan](#) every ten years that is approved by the DNR. In these plans, suppliers identify water demand projections, development plans, water sources, and demand reduction and conservation measures. The 2016-2018 plan template has a stronger emphasis on water conservation and efficiency. All Water Supply Plans for public water utilities along Lake Superior and from the inland communities within the basin were due October 15, 2018. We are currently developing the next generation of

water supply plans, which will continue the emphasis on water conservation and efficiency, and provide a clearer set of goals and accountability for public water suppliers.

Low Flow Suspensions: Surface water use can be and has been suspended during low flow periods in Minnesota, to protect downstream water needs and resources. [Published procedures](#) lay out when surface water users will be suspended. The DNR considers suspension of surface water appropriation permits within 81 watersheds when the average daily flow has been at or below Q90 in the respective major watershed Minnesota for 120 hours. Decisions about suspensions consider, but are not limited to, whether the use is consumptive, the priority of the use, and the extent to which the use is contributing to the flow in the watershed. Ecologically-based low flow or water level thresholds can be and have been developed for some surface waters.

ii. Voluntary

- The Water Conservation Reporting system is voluntary, with all municipalities (large and small), commercial, industrial, and institutional, and irrigators and agricultural users asked to report their conservation efforts.
- Most public water suppliers provide water conservation information to customers on their webpage, through newsletters and other outreach and educational materials.
- Cities are encouraged to become U.S. EPA WaterSense Partners.
- *Minnesota Statutes* require demand reduction measures for new public water supply wells or increased water volumes.
- Some local governments have collaborated with private industry to offer water-saving fixtures and other items such as soil moisture sensors.
- *Minnesota Statutes* encourage the reuse of non-consumptive water and the evaluation of reuse options as part of applications for water appropriation permits for dewatering activities.
- On the DNR webpage, public water suppliers and residents are referred to [the water conservation toolbox developed by the Metropolitan Council](#), in cooperation with the DNR, which contains water conservation tips and resources for individual water users and program guidance for public water suppliers.

3. Objectives

For each of the regional objectives, identify how the State/Provincial program is consistent with the regional objective, and a description of how the State or Province promotes Environmentally Sound and Economically Feasible Water Conservation Measures. More details for each objective are available at

http://www.glsregionalbody.org/Docs/Resolutions/GLSLRWRRB_Resolution_6-Conservation-Efficiency.pdf.

OBJECTIVES	LEGISLATIVE OR PROGRAM CITATION
Guide programs toward long-term sustainable water use.	The Minnesota Department of Natural Resources Division of Ecological and Water Resources' 10-year strategic plan includes the goal: "Minnesota water resources will be managed and used sustainably, and the water quality will be improved and protected." Relevant strategies to accomplish our water resources goal include: • Collecting, analyzing and sharing important data on the status and trends of Minnesota's waters and their use to support decision-making, permitting and awareness. • Engaging water users and other stakeholders to address challenges and opportunities in water use, watershed function and impaired waters. • Using a systems-based approach for water management and conservation. • Ensuring our permitting responsibilities are carried out efficiently, effectively and consistently with regulatory authority.
Adopt and implement supply and demand management to promote efficient use and conservation of water resources.	• Public water suppliers serving over 1000 customers must have demand reduction measures including a conservation rate structure or a uniform rate structure with a conservation program that achieves demand reduction. These demand reduction measures are used in the water supply plan review process and determining any approval for increases in appropriation or new water supply wells. • Public water supply authorities must also adopt and enforce conservation restrictions within their jurisdiction to limit lawn sprinkling, vehicle washing, golf course and park irrigation, and other nonessential uses in the event of a critical water deficiency (<i>Minn Stat.</i> 103G.291) • Water supply plans also require public water suppliers serving over 1,000 people to plan for conservation activities, education, and messaging. (<i>Minn Stat.</i> 103G.291) • Permit reviews for new appropriations or amended appropriations require review of conservation activities. Permits include a requirement to use conservation measures. • Between the law and the internal strategic policy, all DNR water appropriations work ensures that permitting, compliance, and technical assistance lead to long-term sustainable water use.

Improve monitoring and standardize data reporting among State and Provincial water conservation and efficiency programs.	Minn. Stat. 103G.281 Subd. 1-3 require water appropriators to measure and keep records of their water use, which they must then report to the DNR each year. The DNR requires reporting through the Minnesota Permitting and Reporting System (MPARS). DNR regularly improves MPARS through work orders. Using MPARS allows Minnesota to require standardized data entry and to retrieve data for reporting to the Compact Council. Within the Lake Superior Basin, the DNR has 32 active stream gages and 23 active DNR observation wells.
Develop science, technology and research.	Multiple state agencies including the Department of Natural Resources, the Pollution Control Agency, and the Board of Natural Resources have continued work to remediate Areas of Concern around the Duluth Harbor. Minnesota’s Legislative-Citizen Commission on Minnesota Resources continues to invest in water research affecting the Great Lakes. Topics include climate change, PFAS contamination and removal, microplastics in Lake Superior, surface and groundwater monitoring, groundwater mapping, and other emerging topics. Laws of Minnesota 2024, chapter 83 Laws of Minnesota 2024, chapter 106, article 2 Laws of Minnesota, 2023, chapter 40, article 2 Laws of Minnesota 2023, chapter 60 Laws of Minnesota 2021, 1st Spec. Sess., chapter 1, article 2 Laws of Minnesota 2021, 1st Spec. Sess., chapter 6
Develop education programs and information sharing for all water users.	The DNR provides many opportunities for education and information sharing across the state to help connect Minnesotans to not just the Great Lakes, but all bodies of water across the state. Whether as the lead agency or a partner, the DNR actively works to improve education and outreach in alignment with the Compact objectives. • We are Water MN is the premier water education program for the DNR. A joint effort with the Minnesota Humanities Center, the exhibit deepens connections between the humanities and water. The exhibit travels around the state, creating place-based connections to water and helping individuals, communities, and organizations make more relevant choices about water. • Minnesota Project WET trains classroom and other educators in hands-on, interactive lessons that are focused on water and encourage critical thinking. By providing training, materials,

	and support to these educators, MN Project WET works to improve Minnesotans' understanding of our water resources. Educators from the Basin have participated in these lessons. • The DNR, Minnesota Rural Water Association and other organizations help promote conservation with presentations at workshops and other events. Sources of water conservation information are available through DNR's website. • Minnesota's Lake Superior Coastal Program is a voluntary federal-state partnership dedicated to the comprehensive management of our coastal resources. The Program provides technical and financial resources for local communities in the Lake Superior coastal area. • DNR's website devotes a page for Great Lakes Compact information and links. • The Minnesota DNR is a Promotional Partner in EPA's WaterSense Program, which seeks to promote water efficiency and water efficient products. • The Minnesota Technical Assistance Program (MnTAP) is an outreach program at the University of Minnesota that helps Minnesota businesses develop and implement industry-tailored solutions that prevent pollution at the source, maximize efficient use of resources, and reduce energy use and cost to improve public health and the environment. • The DNR refers water suppliers and water users to the Metropolitan Council website's Water Conservation Toolbox. The toolbox provides tips and resources for residents, businesses, suppliers, communities, and learners. The DNR continues to work with the Metropolitan Council and other partners on water conservation education efforts.
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4. Description of the State or Provincial Water conservation and efficiency program implementation timeline and status.

The DNR launched the Minnesota Water Conservation Reporting System in January 2018 to encourage water appropriation permittees to identify and implement water conservation and efficiency efforts in their operations. This web-based tool is required for municipal/public water suppliers serving over 1,000 people. It is optional for all other water appropriators. The system allows the DNR to identify trends in conservation and note particularly successful water conservation practices. Municipal users are also able to view reports from other water suppliers to compare or get ideas. Additionally, water accounting measures within the system can alert users or the DNR to a potential leak or other problems in a treatment or distribution system.

Minnesota has a number of water conservation measures that are currently in place and integrated with the water appropriation permit program; we continue to explore ways to expand our water conservation efforts. Public water suppliers serving over 1,000 people must have conservation rate structures. Water supply plans for public water suppliers serving 1,000 people

or more must be updated and approved every ten years, and include plans for demand reduction, conservation practices, and education and outreach. We are in the planning process to develop new and improved water conservation, monitoring and management standards to incorporate into public water supply plans that are due for updates by 2028.

We are also looking for ways to expand support for water supply planning that includes small community public water suppliers, as well as developing incentives for commercial and agricultural water efficiency.

PUBLIC INPUT

The Draft Five-Year Review was available to the other Compact states and posted on the DNR's Great Lakes Compact Council webpage along with contact information for the coordinator and an invitation to provide feedback. The DNR did not receive any feedback on the draft Five-Year Review.

**Great Lakes-St. Lawrence River Water Resources Regional Body
Great Lakes-St. Lawrence River Basin Water Resources Council**

RESOLUTION NO. 2025-5

ADOPTING JOINT DECLARATION OF FINDING

For the Water Management Program Review and
Water Conservation and Efficiency Program Review
State of New York

I. BACKGROUND AND PURPOSE

The Compact

A. The Great Lakes-St. Lawrence River Basin Water Resources Compact (“Compact”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania, and was effective on December 8, 2008.

B. Section 3.4 of the Compact requires each Party State to submit a report to the Great Lakes-St. Lawrence River Basin Water Resources Council (“Compact Council”) and the Great Lakes-St. Lawrence River Water Resources Regional Body (“Regional Body”) on actions taken by that State to meet the provisions of the Agreement and Compact regarding that Party State’s Water management and conservation and efficiency programs.

C. Following the Compact Council’s review of such reports in cooperation with the Provinces pursuant to Section 3.4 of the Compact, the Council shall determine whether that State’s programs: (1) meet or exceed the provisions of the Compact; or (2) do not meet the provisions of the Compact and, if not, recommend options to assist the jurisdiction in meeting the provisions of the Compact.

D. Section 4.2 of the Compact requires the Compact Council in cooperation with the Provinces to adopt Basin-wide conservation and efficiency objectives, which were adopted by the Compact Council on December 8, 2008. Section 4.2.2 of the Compact requires each Party State to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a Water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State’s goals and objectives.

The Agreement

E. The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“Agreement”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin, the Commonwealth of Pennsylvania, the Province of Ontario, and the Government of Québec, and certain provisions of the Agreement began to more fully come into force on March 8, 2015.

F. Article 300 of the Agreement requires each Party State and Province to submit a report to the Regional Body on actions taken by the State or Province to meet the provisions of the Agreement regarding that State's or Province's Water management and conservation and efficiency programs.

G. Following the Regional Body's review of such reports pursuant to Article 300 of the Agreement, the Regional Body shall determine if that State or Province's programs: (1) meet or exceed the provisions of the Agreement; (2) do not meet the provisions of the Agreement; or (3) would meet the provisions of the Agreement if certain modifications were made and what options may exist to assist the jurisdiction in meeting the provisions of the Agreement.

H. Article 304, Paragraph 1 of the Agreement requires the Regional Body to identify Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency programs by December 13, 2007, which were adopted by the Regional Body on December 13, 2007. Article 304, Paragraph 2 of the Agreement requires each Party State and Province to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State's or Province's goals and objectives.

II. SUBMISSIONS BY STATE OF NEW YORK

A. To the Compact Council. The Compact Council has received the State of New York's report on its Water management and conservation and efficiency programs under the Compact, which is attached to this Resolution as Attachment A.

B. To the Regional Body. The Regional Body has received the State of New York's report on its Water management and conservation and efficiency programs under the Agreement, which is attached to this Resolution as Attachment A.

III. DECLARATION OF FINDING

Upon review of the submissions of the State of New York, the terms of the Compact and the Agreement, the Compact Council and Regional Body find as follows:

- A. Based on the report submitted by the State of New York, the Water Management Program presented by the State of New York meets or exceeds the current requirements of the Compact and the Agreement.
- B. Based on the report submitted by the State of New York, the Water Conservation and Efficiency Program presented by the State of New York meets or exceeds the current requirements of the Compact and the Agreement.

Draft—For Discussion Purposes Only
November 11, 2025

ATTACHMENT A

Water Management and Conservation and Efficiency Programs—
Report to the Compact Council and Regional Body
Dated November 26, 2024

QUESTIONNAIRE FOR PRELIMINARY SUBMITTALS BY STATES AND PROVINCES

This Questionnaire is provided as a guide to assist the States and Provinces in gathering the information necessary to prepare their Five-Year Reports and to enable the Compact Council and Regional Body to undertake their required review, declaration of findings and recommendations under the Compact and the Agreement.

General Information

1. Lead agency/agencies and contact person(s) and contact information.

Lead agency: NYS Department of Environmental Conservation (NYSDEC)

Contact person(s):

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2. Identify all laws, statutes, rules, regulations, executive orders, administrative orders or other similarly enforceable documents (collectively, “Laws”) that establish or implement programs meeting the requirements of the following provisions of the Compact or Agreement. In particular, ensure that all such citations address the following sections and articles of the Compact and Agreement. Include a brief lay person description for each section of the program and weblink for more information (registration, reporting, diversion, decision making standard for water use permits, water conservation program, science and research, etc.)

Weblinks:

Statute: New York State Environmental Conservation Law (ECL) Article 15 Title 15:
<https://codes.findlaw.com/ny/environmental-conservation-law/>

Regulation: 6 New York Codes Rules and Regulations (NYCRR) Part 601:
[https://govt.westlaw.com/nycrr/Browse/Home/NewYork/UnofficialNewYorkCodesRulesandRegulations?guid=If8c9ea40b5a011dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/nycrr/Browse/Home/NewYork/UnofficialNewYorkCodesRulesandRegulations?guid=If8c9ea40b5a011dda0a4e17826ebc834&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default))

a. Compact Section 3.4/Agreement Article 300

Statute:

- New York State Environmental Conservation Law (NYS ECL) §21-1001: adopts Compact into New York State's Environmental Conservation Law;
- NYS ECL §15-1501: sets forth New York's statewide water withdrawal permit program and water conservation and efficiency program with specified goals.

Regulation:

- 6 NYCRR §601(1): provides that 6 NYCRR Part 601 implements New York's obligation under the Compact to create a regulatory program for water withdrawals in the Great Lakes St. Lawrence River Basin (Basin) pursuant to NYS ECL 21, title 10;
- 6 NYCRR §601.5: provides annual reporting requirements for water withdrawals;
- 6 NYCRR §601.10(k): requires applicants for water withdrawal permits to submit a project justification that shows, among other things, why increased water conservation and efficiency measures cannot negate or reduce the need for the proposed water withdrawal;
- 6 NYCRR §601.10(n): provides that diversions of any quantity out of the Basin are prohibited by the Compact, subject to limited exceptions and that an applicant for an exception must provide NYS DEC with information in a timely manner to respond to requests by the Council and Regional Body;
- 6 NYCRR §601.11(c): requires, among other things, that in making a determination to grant or deny a water withdrawal permit or to grant a permit with exceptions, NYS DEC determine whether the need for all or part of the proposed water withdrawal cannot reasonably be avoided through the efficient use and conservation of existing water supplies;
- 6 NYCRR §601.11(d): states that when a proposed water withdrawal for public water supply also constitutes a diversion out of the Basin that is subject to the Compact, NYS DEC will determine whether all withdrawn water that is not lost to reasonable consumptive use will be returned to the Basin.

b. Compact Section 4.1/Agreement Article 301

Statute:

- NYS ECL §21-1001: adopts Compact into New York State's Environmental Conservation Law;
- NYS ECL §15-1501(4): directs NYS DEC to promulgate regulations regarding monitoring, reporting and recordkeeping requirements for water withdrawals equal to or greater than the threshold volume;
- NYS ECL §15-1502(14): establishes regulatory threshold volume of water for potable and non-potable withdrawals subject to permit and registration/reporting consistent with Compact;
- NYS ECL §15-1501(6): sets forth the annual water withdrawal reporting requirement;

- NYS ECL §15-1503(4): authorizes NYS DEC to set permit conditions, including reporting requirements;
- NYS ECL §15-1504: establishes water withdrawal requirements for agricultural withdrawals;
- NYS ECL §15-1505(6): prohibits diversions from the Basin with limited exceptions when in compliance with the Compact.

Regulation:

- 6 NYCRR §601.1: states that 6 NYCRR Part 601 implements New York’s obligations under the Compact;
- 6 NYCRR §601.5: implements statewide annual water withdrawal reporting requirements;
- 6 NYCRR §601.12: set forth provisions of water withdrawal permits, including a requirement that the permittee comply with all terms and conditions of the permit;
- 6 NYCRR §601.17: describes statewide requirements for annual registration of agricultural withdrawals;
- 6 NYCRR §601.18(j): prohibits diversions from the Basin with limited exceptions when in compliance with the Compact;
- 6 NYCRR §601.20(a)(1): requires water withdrawal permittees statewide to comply with all monitoring, recording and reporting requirements specified in the permit.

c. Compact Sections 4.2(2), 4.2(4) and 4.2(5)/Agreement Article 304

Statute:

- NYS ECL §21-1001: adopts Compact into New York State’s Environmental Conservation Law;
- NYS ECL §15-1501(6): mandates annual reporting of water conservation measures;
- NYS ECL §15-1501(8): sets forth New York's statewide water conservation and efficiency program with specified goals;
- NYS ECL §15-1503(1)(f): delineates elements of mandatory water conservation program that incorporates environmentally sound and economically feasible water conservation measures;
- NYS ECL §15-1503(2): sets forth determinations for NYS DEC to make when deciding whether or not to issue a water withdrawal permit, including whether all or part of the proposed withdrawal cannot be reasonably avoided through the efficient use and conservation of existing water supplies and whether the proposed withdrawal incorporates environmentally sound and economically feasible water conservation measures.

Regulation:

- 6 NYCRR §601.5(5): mandates annual reporting of consumptive use;
- 6 NYCRR §601.7(e): establishes 10-year term for permits and incorporates a requirement for environmentally sound and economically feasible water conservation measures;
- 6 NYCRR §601.10(e): requires permit applications to include an engineer's report that, among other things, evaluates all practicable alternatives to a proposed source, including analysis of increased water conservation measures as a means to reduce or eliminate the need for the proposed source;
- 6 NYCRR §601.10(f): describes required measures and use of statewide reporting form for a water conservation plan;
- 6 NYCRR §601.10(k)(2): requires permit applications to include a project justification showing why increased water conservation or efficiency measures cannot negate or reduce the need for the proposed water withdrawal;
- 6 NYCRR §601.10(k)(4): requires permit applications to include a project justification showing why the proposed water conservation measures are environmentally sound and economically feasible;
- 6 NYCRR §601.11(c): sets forth determinations for NYS DEC to make when granting or denying a permit application, including, but not limited to, determining whether the need for all or part of the proposed withdrawal cannot reasonably be avoided through the efficient use and conservation of existing water supplies and whether the proposed water withdrawal will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures;
- 6 NYCRR §601.11(d): states that when a proposed water withdrawal for public water supply also constitutes a diversion out of the Basin that is subject to the Compact, NYS DEC will determine whether all withdrawn water that is not lost to reasonable consumptive use will be returned to the Basin;
- 6 NYCRR §601.12(g): provides that if a withdrawal originates within the jurisdiction of a compact basin commission, the withdrawal must comply with applicable water withdrawal standards or requirements of that compact basin commission.

d. Compact Section 4.3/Agreement Article 200

Statute:

- NYS ECL §21-1001: adopts Compact into New York State's Environmental Conservation Law; Questionnaire—Page 5
- NYS ECL §15-1503: describes authority to regulate new and increased withdrawals by permit;

- NYS ECL §15-1504: outlines authority to manage existing agricultural withdrawals by registration and provides an exemption from reporting requirements for registered withdrawals;
- NYS ECL §15-1505(6): delineates the prohibition on diversions from the Basin subject to exceptions in compliance with the Compact.

Regulation:

- 6 NYCRR §601.4(a): implements prohibition on diversions consistent with Compact;
- 6 NYCRR §§601.6 through 601.10: delineates water withdrawal permit requirements;
- 6 NYCRR §601.10(n): sets forth the prohibition on diversions from the Basin other than in accordance with exceptions in compliance with the Compact;
- 6 NYCRR §601.16(a)(6): authorizes NYS DEC to deny a permit application that has not been approved by the Council;
- 6 NYCRR §601.16(b)(6): authorizes NYS DEC to suspend or revoke a water withdrawal permit if the permittee is out of compliance with the requirements of the Compact or any other compact basin commission;
- 6 NYCRR §§601.19 and 610.20: set forth monitoring, recording and reporting requirements.

e. Compact Section 4.8, 4.9 and 4.13/Agreement Articles 200, 201 and 208

Statute:

- NYS ECL §21-1001: adopts Compact into New York State's Environmental Conservation Law;
- NYS ECL §15-1501(7): provides exemptions from water withdrawal permits consistent with the Compact;
- NYS ECL §15-1505(6): prohibits diversions, subject to exceptions in compliance with the Compact.

Regulation:

- 6 NYCRR §601.4(a): implements the prohibition on withdrawals and diversions that are not in compliance with the Compact;
- 6 NYCRR §601.9: establishes permit exemptions;
- 6 NYCRR §601.10(n): implements prohibition on any new or increased diversions, subject to exceptions in compliance with the Compact;
- 6 NYCRR §601.11(d): establishes return flow requirement for all unused water if diverted from the Basin;

- 6 NYCRR §601.18(j): prohibits interbasin diversions unless an exception is authorized in compliance with the Compact.

f. Compact Section 4.10/Agreement Article 206

Statute:

- NYS ECL §21-1001: adopts Compact into New York State’s Environmental Conservation Law;
- NYS ECL §15-1502(14): defines threshold volume for management and regulation;
- NYS ECL §15-1503: authorizes regulatory permit program.

Regulation:

- 6 NYCRR §601.2(p): defines threshold volume in regulations;
- 6 NYCRR Part 601: sets forth implementing measures consistent with the Compact.

g. Compact Section 4.11/Agreement Article 207

Statute:

- NYS ECL §21-1001: adopts Compact into New York State’s Environmental Conservation Law;
- NYS ECL §15-1503(2): sets forth the decision-making standard, consistent with the Compact;

Regulation:

- 6 NYCRR §601.2: provides definitions consistent with Compact;
- 6 NYCRR §601.5: implements mandatory reporting requirements for water withdrawals;
- 6 NYCRR §601.10(k): incorporates elements of decision-making standard into permit application process;
- 6 NYCRR §601.11: implements process for taking action on permit applications.

h. Agreement Article 304

Statute:

- NYS ECL §21-1001: adopts Compact into New York State’s Environmental Conservation Law;
- NYS ECL §15-1501(6): mandates annual reporting of water conservation measures for all permitted withdrawals;
- NYS ECL §15-1501(8): establishes goals of water conservation and efficiency program;
- NYS ECL §15-1503(1)(f): delineates elements of mandatory water conservation program.

Regulation:

- 6 NYCRR §601.5(a)(5): provides for annual reporting of consumptive use;

- 6 NYCRR §601.7(e): establishes 10-year term for permits and incorporates requirement for environmentally sound and economically feasible water conservation measures;
- 6 NYCRR §601.10(f): describes required measures and use of statewide reporting form for water conservation plan.

3. Identify any changes from the 2019 report, highlighting in particular major changes from 2019 throughout the response. If there are no changes, please indicate accordingly.

NYS ECL §15-0314 was amended to raise standards for water-efficient plumbing and appliances to align with federal standards issued by the Environmental Protection Agency (EPA). The law took effect January 1, 2022.

A new online reporting tool called nForm was made available to permittees and registrants for water withdrawal annual reporting. This online reporting tool has been developed to increase compliance, enhance submittal quality, and to streamline the data QA/QC process.

Updated Water Withdrawal and Water Well location and withdrawal data have been posted to DEC InfoLocator (<https://giservices.dec.ny.gov/gis/dil/>), data.ny.gov (<https://data.ny.gov/browse?category=Energy+%26+Environment&utf8=%E2%9C%93>) and the NYS GIS Clearinghouse (<https://data.gis.ny.gov/>).

NYS DEC has initiated the rulemaking process for revisions to 6 NYCRR Part 601 (Water Withdrawal) and Part 602 (Long Island Well) regulations in an effort to improve regulation, clarity, consistency, and efficiency. The regulations will maintain their continued compliance with the Great Lakes Compact.

Water Management Program Report

1. Summary description of the State's or Province's Water management program scope and thresholds, including the current status of program implementation and a description of which New or Increased Withdrawals, Consumptive Uses and Diversions are subject to the program. The summary should include information on registration (if applicable), management and regulation, and reporting elements of the program.

New York State was among the first states to adopt the Compact into state Environmental Conservation Law (NYS ECL) on March 4, 2008. The NYS ECL was updated in 2011 to further protect New York's waters, incorporating the obligations of the Compact into a statewide regime, by requiring a NYS DEC permit for any type of water withdrawal system having the maximum capacity to withdraw 100,000 gallons per day (gpd) or more of surface water or groundwater. By basing the threshold on system capacity of at least 100,000 gpd rather than volume withdrawn, New York's threshold encompasses a greater number of withdrawals and consumptive uses. Previously, this law applied only to public water supplies. The law covers the following areas:

- Non-agricultural water withdrawal reporting and permitting
- Agricultural water withdrawal reporting, registration, and permitting

- Water well contractor program
- Drought information
- Scientifically sound and economically feasible water conservation and efficiency plans including a Water Conservation Manual and Certification Information For NYS Water Saving Plumbing Fixtures law
- Interbasin diversions and registration including the Compact's prohibition and exceptions for diversions.

Because the law expanded management and regulation of water withdrawals to a broader number of facilities having existing permits or registrations and to all new or increased withdrawals, it established two types of permits:

- "New Permits" are required before a new water withdrawal system, or an increase in taking at an existing system, can be put into operation; or if the facility did not previously report its withdrawal above the threshold volume. Some currently operating facilities that previously did not require a permit may fall under the "New Permits" definition.
- "Initial Permits" were required of any type of existing water withdrawal having the capacity to withdraw 100,000 gallons per day or more where the withdrawal was previously reported. Consequently, a large number of existing water withdrawals that were not previously required to obtain permits needed to do so. In order to manage permitting of all these existing facilities in a coordinated fashion, the regulations contained a 5-year schedule for application submissions to DEC, beginning with the largest (greater or equal to 100 million gallons per day) due in 2013 and the smallest by February 15, 2017. The Initial Permit Program has been successfully concluded. The law also requires statewide registration and reporting of existing (in existence before February 15, 2012) agricultural withdrawals that are greater than 100,000 gpd (30-day average) and major basin water diversions of greater than 1,000,000 gpd. The law became effective on February 15, 2012 and final implementing regulations became effective on April 1, 2013.

In addition, all water withdrawal permits require annual reporting of the following information:

- The water source, the location of the water source and the source capacity;
- The amount of water withdrawn for the calendar year including the average and peak withdrawals;
- A description of the use of the water withdrawn;
- The estimated amounts of water returned, if any, the locations of such returns, and the method of such returns;
- The actual or estimated average monthly and annual volumes and rates of water lost or consumptively used from the withdrawal;
- The water conservation and efficiency measures undertaken during the reporting period; and
- Any water user that purchased water from the facility during the previous year.

2. Describe specifically how Water Withdrawals in the State or Province are managed by:

- a. Sector (public water supply, self-supply commercial and institutional, self-supply irrigation, self-supply livestock, self-supply industrial, self-supply thermoelectric**

power production (once-through cooling), self-supply thermoelectric power production (recirculated cooling), off-stream hydroelectric power production, in-stream hydroelectric power production (voluntary), and other self-supply;

As described above, NYS DEC's Division of Water regulates by permit and registration all water withdrawals (with some exceptions) statewide with a capacity greater than or equal to 100,000 gpd for all use sectors and all agricultural facilities that withdraw an average of 100,000 gpd (30-day average).

A typical permit application must include, but is not limited to:

- General and Detailed Maps
- Contract Plans
- Engineer's Report
- Water Conservation Program
- Latest Annual Water Reporting Form
- Project Justification
- Compliance with the Compact

In making its decision to grant or deny a permit or to grant a new permit with conditions, the Department shall determine whether:

- the proposed water withdrawal takes proper consideration of other sources of water supply that are or may become available;
- the quantity of supply will be adequate for the proposed use;
- the proposed project is just and equitable to all affected municipalities and their inhabitants with regard to their present and future needs for sources of potable water supply;
- the need for all or part of the proposed water withdrawal cannot be reasonably avoided through the efficient use and conservation of existing water supplies;
- the proposed water withdrawal is limited to quantities that are considered reasonable for the purposes for which the water use is proposed;
- the proposed water withdrawal will be implemented in a manner to ensure it will result in no significant individual or cumulative adverse impacts on the quantity or quality of the water source and water dependent natural resources, including aquatic life, this determination may include an evaluation of whether all withdrawn water that is not lost to reasonable consumptive use will be returned to its source New York major drainage basin;
- the proposed water withdrawal will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures; and
- the proposed water withdrawal will be implemented in a manner that is consistent with applicable municipal, state, and federal laws as well as regional interstate and international agreements.

Permit exemptions, listed 6 NYCRR §601.9 and paragraph (e), below, include an exemption for withdrawals by hydropower facilities operating under a valid Federal Energy Regulating Commission license. Such facilities are subject to the requirements of a 401 Water Quality Certification which may include conditions such as the incorporation of conservation releases to

protect downstream habitat. The Division annually monitors and reports water use by this sector to the Great Lakes Commission for incorporation into the Great Lakes Regional Water Use Database.

b. Water source (groundwater, surface water (Great Lakes-St. Lawrence River), surface water other than Great Lakes-St. Lawrence River);

New York specifically considers the source of all water withdrawals (groundwater, surface water (Great Lakes-St. Lawrence River), surface water other than Great Lakes-St. Lawrence River) from “waters of the state”. All water withdrawal applications for new or increased withdrawals must submit hydrological data to confirm dependable ground or surface water supply yields while adequately protecting water levels and in-stream flows for habitat. Such applications must include, among other things:

- a general description of the project and the engineering features of the existing or proposed water withdrawal system;
- a listing of all existing sources of water supply, including wells, surface withdrawals, and any purchases, sales or transfers of water;
- the general character and extent and essential design features of proposed controlling, diverting or regulatory works;
- the proposed instantaneous and maximum daily rates of withdrawal; the existing and projected daily average, daily maximum, and 30-day maximum water demands of the water withdrawal system;
- for groundwater sources: well drilling logs, monitoring well locations and pump test data and analyses of results; and
- for surface water sources: information on rainfall, stream flows and classifications, contributing watershed size, location of the nearby USGS stream gages, other upstream water withdrawals, safe yield analyses or passby flow

c. Quantity (regulatory thresholds, volumes, rates, and reporting requirements);

New York specifically considers the quantity of all water withdrawn (regulatory thresholds, volumes, rates, and reporting requirements) during the permit application review process.

Any person who is engaged in, or proposes to engage in, the construction, operation or maintenance of a water withdrawal system that withdraws water of a volume equal to or greater than the threshold volume must obtain a permit or agricultural registration. ‘Threshold volume’ means the withdrawal of water of a volume of one hundred thousand gallons or more per day, determined by the limiting maximum capacity of the water withdrawal system; except that for withdrawals for agricultural purposes the threshold volume shall mean the withdrawal of water of a volume in excess of an average of one hundred thousand gallons per day in any consecutive thirty-day period.

An annual report must be submitted on a form available from NYS DEC, based on the water withdrawals for the previous calendar year, and shall include all information requested by the Division of Water. See response in item 1 of the Water Management Program Report section,

above, for reporting requirement details. Monthly and annual volumes are reported, and the Division has the authority to request more detailed information on a case-by-case basis.

d. Location (Statewide/Province-wide or Great Lakes-St. Lawrence River Basin); and

Permitting and registration requirements are applicable statewide and throughout New York State's portion of the Great Lakes-St. Lawrence River Basin.

e. Any specific exemptions as allowed in the Agreement and the Compact.

All New York State exemptions are compliant with the Compact and Agreement. A complete listing of these exemptions can be found at: <https://dec.ny.gov/environmental-protection/water/water-quantity/water-withdrawal-permits-reporting/permits>

The following exemptions are valid statewide and within the Basin:

- Withdrawals for agricultural purposes that have been registered or their annual water usage reported pursuant to the requirements of ECL 15, title 16 or title 33 as of February 15, 2012;
- Withdrawals of hydropower facilities operating under a valid Federal Energy Regulating Commission license;
- Withdrawals from the New York State Canal System, as defined by Subdivision 1 of Section 2 of the Canal Law, that are used by the New York State Canal Corporation for purposes authorized by law;
- Closed loop, standing column or similar non-extractive geothermal systems;
- On-site water withdrawal systems for approved inactive hazardous waste remedial site programs conducted pursuant to state or federal court order or state or federal government agency agreement or order;
- Withdrawals used for fire suppression or other public emergency purposes;
- The extension of supply or distributing mains or pipes within a previously-approved water service area that remains within the amount authorized in a water supply permit or water withdrawal permit for the purpose of supplying potable water;
- The reconstruction of facilities in an existing water withdrawal system when the capacity of such system is in no way altered (reconstruction does not include constructing an adjacent withdrawal structure);
- The construction of filtration or other treatment facilities that will not in any way alter the amount of water which can be made available from the present source of supply;
- Water withdrawals to supply ballast water necessary for lawful and normal vessel activity;
- Water withdrawal directly related to routine maintenance and emergency repairs of dams;
- Temporary water withdrawals for the purposes of construction, dewatering, hydrostatic testing, or aquifer testing, where the volume withdrawn is less than an average of 100,000 gallons per day in any consecutive thirty-day consecutive period (3 million gallons during a 30-day period).

Note: Address all sectors and sources in your descriptions even if one or more sector or source is not currently managed by your State or Province.

3. Description of how the provisions of the Standard of Review and Decision are applied. The description should include information on how each criterion of the Decision Making Standard and Exception Standard is addressed.

a. Decision Making Standard for Withdrawals, Consumptive Uses.

NYS ECL 15-1503 specifies the requirements of an application for a water withdrawal permit and the criteria that must be met. These criteria include consideration of other sources of supply, the implementation of water conservation measures, limiting the withdrawal to a reasonable usage and protection against adverse environmental impacts on the quality and quantity of the water source.

Furthermore, 6 NYCRR Part 617 implements the New York's State Environmental Quality Review Act (SEQR) (NYS ECL 8) and specifically states in 6 NYCRR §617.1(d) that:

"[i]t was the intention of the Legislature that the protection and enhancement of the environment, human and community resources should be given appropriate weight with social and economic considerations in determining public policy, and that those factors be considered together in reaching decisions on proposed activities. Accordingly, it is the intention of this Part that a suitable balance of social, economic and environmental factors be incorporated into the planning and decision-making processes of state, regional and local agencies."

In addition, 6 NYCRR §601.11(c) specifically addresses Section 4.11 of the Compact by requiring that:

- the proposed water withdrawal takes proper consideration of other sources of water supply that are or may become available;
- the quantity of supply will be adequate for the proposed use.
- the proposed project is just and equitable to all affected municipalities and their inhabitants with regard to their present and future needs for sources of potable water supply;
- the need for all or part of the proposed water withdrawal cannot reasonably be avoided through the efficient use and conservation of existing water supplies
- the proposed water withdrawal is limited to quantities that are considered reasonable for the purposes for which the water use is proposed;
- the proposed water withdrawal will be implemented in a manner to ensure it will result in no significant individual or cumulative adverse impacts on the quantity or quality of the water source and water dependent natural resources, including aquatic life; this determination may include an evaluation of whether all withdrawn water that is not lost to reasonable consumptive use will be returned to its source New York major drainage basin;
- the proposed water withdrawal will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures; and
- the proposed water withdrawal will be implemented in a manner that is consistent with applicable municipal, state and federal laws as well as regional interstate and international agreements.

New York has issued two policy documents in the Division of Water's Technical and Operational Guidance Series (TOGS) that provide guidance for consistent implementation of the standards for issuance.

- TOGS 3.2.1 Processing Water Withdrawal Permit Applications (issued May 25, 2017) provides procedures for staff to follow in the review of water withdrawal permit applications filed in accordance with NYS ECL §15-1501 and 6 NYCRR Part 601. It provides updated guidance on the amended statute, its applicability, and its implementation within the revised regulatory framework. (See https://extapps.dec.ny.gov/docs/water_pdf/togs321.pdf)
- TOGS 1.3.12 Incorporation of Flow-Related Conditions in Water Withdrawal Permits (issued April 12, 2017) describes the policies and procedures for incorporating flow-related conditions when issuing Water Withdrawal Permits. In particular, the policy addresses the procedures that should be followed to ensure that the proposed water withdrawal will be implemented in a manner to ensure it will result in no significant individual or cumulative adverse impacts on the quantity or quality of the water source and water dependent natural resources, including aquatic life. See https://extapps.dec.ny.gov/docs/water_pdf/flowtogsfinal.pdf

b. Exception Standard for Diversions.

NYS ECL 15-1505(6) states that diversions from the Basin are prohibited except for limited public water supply projects that are in compliance with the Compact. 6 NYCRR §601.10(n) also sets forth this prohibition.

4. Overview of State/Provincial reporting and database of Withdrawals, Consumptive Uses and Diversions including implementation status and database elements and capabilities, and reporting mechanisms (e.g., electronic submission, etc.). The overview should include methods of measurement (e.g., flow volume or rate meters, flow gauging, timing devices, etc.) approved by the State/Province for measuring Water volumes.

6 NYCRR §601.5 requires any individual or legal entity whatsoever submit an annual water withdrawal report to the NYS DEC's Division of Water if its water withdrawal system has a capacity to withdraw 100,000 gpd or more. These reports include withdrawal locations, average and peak day amounts, the usage sector, the location and amounts of water returned and the resulting consumptive losses. <https://dec.ny.gov/environmental-protection/water/water-quantity/water-withdrawal-permits-reporting/annual-water-withdrawal-reporting-non-agricultural> . Annual reports may be submitted electronically or in hardcopy.

The annual report shall be submitted on a form available from NYS DEC, based on the water withdrawals for the previous calendar year, and shall include all information requested by NYS DEC including, but not be limited to, the following:

- the water source, the location of the water source and the source capacity if known;
- the amount of water withdrawn for the reporting period, including the average and peak withdrawals, for monthly or other intervals specified by NYS DEC;

- a description of the use of the water withdrawn;
- the estimated amounts of water returned, if any, the locations of such returns, and the method of such returns;
- the actual or estimated average monthly and annual volumes and rates of water lost or consumptively used from the withdrawal; and
- the water conservation and efficiency measures undertaken during the reporting period.

The NYS DEC's Division of Water, in turn, annually reports water use by sector to the Great Lakes Commission for incorporation into the Great Lakes Regional Water Use Database.

The NYS DEC's Division of Water maintains internal databases of Water Withdrawal Permits, annual reports, and water wells. All permitted and registered water withdrawals are included within the NYS GIS Clearinghouse and NYS DEC InfoLocator and are available to the public at <https://gisservices.dec.ny.gov/gis/dil/>. With more than 50 data layers available, NYS DEC InfoLocator application shows both environmental quality monitoring and natural resource information together in one place.

- 5. Include a web link to the State or Province's Withdrawal application form(s). In addition, include a section on web access to additional information on the program, link to any application forms and links to tools for improving the management of water resources or sharing information about water withdrawals.**

Copies of the related regulations, policies, and manuals with the various permit application forms, annual reporting form, and related forms can be found on NYS DEC's public website at: <https://dec.ny.gov/environmental-protection/water/water-quantity/forms-tools-for-water-withdrawal-permit-applications>. Additional information on water withdrawals, conservation, interbasin diversions, water wells, drought management, and NYS DEC's Water Management Programs can be found on NYS DEC's public website at <https://dec.ny.gov/environmental-protection/water/water-quantity> and pages linked therefrom.

- 6. Summary description of the State's or Province's initiatives to support an improved scientific understanding of the Waters of the Basin and an improved understanding of the groundwater of the Basin and the role of groundwater in Basin water resource management. A description of State or Provincial initiatives or mechanisms to support an improved understanding of individual or cumulative impacts of Withdrawals, Consumptive Uses and Diversions on the Basin ecosystem should also be provided.**

New York State is working to improve the scientific basis for water management on numerous programmatic levels. Examples include:

- Across New York's portion of the Basin, stakeholders are working collaboratively under the Great Lakes Action Agenda that includes the goal, "Conserve Great Lakes water supplies in a manner that recognizes the renewable but finite supply of waters of the Basin for the long-term sustainable use and enjoyment of the public." A cross-cutting objective to implementing this goal is to enhance coordinated science, monitoring and information management. Opportunities for

water users, researchers and other stakeholders to annually pursue competitive small grants for related scientific research, demonstration and applications are now available through New York Sea Grant. (See <https://dec.ny.gov/nature/waterbodies/lakes-rivers/great-lakes/action-agenda>)

- New York has established the Climate Smart Communities Guide to Local Action that contains overviews of possible community actions, how-to's, and case studies to help communities adapt to the risks posed by climate change. Many of these risks affect vulnerable water supplies, water conveyance infrastructure systems and increased water demands especially during drought periods. A clearinghouse of climate and water-based scientific materials, methods and technologies has been developed to assist local communities in adaptation planning. (See <https://climatesmart.ny.gov/> and <https://climatesmart.ny.gov/actions-certification/actions/>)

- New York is also promoting ecosystem-based management approaches for more informed decision-making processes regarding groundwater withdrawals. In partnership with the U.S. Geological Survey's New York Water Science Center, an innovative aquifer quantity and quality characterization study focusing on the very high quality and threatened Tug Hill Aquifer near eastern Lake Ontario was conducted to test aquifer vulnerabilities and re-charge capabilities. USGS published the results from this study as a Scientific Investigations Report (SIR) titled: *Geohydrology and water quality of the northern and central parts of the Tug Hill glacial aquifer, Jefferson and Oswego Counties, north-central New York* in 2022. The SIR is available online here: <https://www.usgs.gov/publications/geohydrology-and-water-quality-northern-and-central-parts-tug-hill-glacial-aquifer>

- New York State is improving the scientific understanding of the groundwater resources of the Basin in cooperation with the USGS. Detailed aquifer mapping projects have been recently completed in the following Basin locations: Fairport Lyons Glacial Drainage Channel Aquifer (Wayne, Ontario, and Seneca Counties) – Published March 2022 and available online here: <https://pubs.usgs.gov/publication/sir20215086>; Owasco Inlet Valley (Cayuga and Tompkins Counties) – Published June 2023 and available online here: <https://pubs.usgs.gov/publication/sir20235031>. Detailed aquifer mapping projects are ongoing in the following Basin locations: Malone (Franklin County); and Springville (Erie, Cattaraugus, and Wyoming Counties).

- New York State continues its partnership with USGS in the operation and expansion of a statewide groundwater monitoring network. The USGS continues to collect, process, and disseminate groundwater level data from the Cooperative Network that currently includes 107 observation wells statewide. As part of the network expansion, bedrock wells in Monroe, Erie, and Yates Counties have been added to the network since 2014. USGS is currently investigating potential bedrock wells in Wayne and Washington Counties.

- All water withdrawal applications for new or increased groundwater withdrawals require the submittal of a 72-hour pumping test. Each test is assessed for potential impacts to other water users and the surrounding resources. 6 NYCRR §601.11(c) states that in making its decision to grant or deny a permit or to grant a permit with conditions, NYS DEC shall determine whether the proposed water withdrawal will be implemented in a manner to ensure it will result in no significant individual or cumulative adverse impacts on the quantity or quality of the water

source and water dependent natural resources, including aquatic life; this determination may include an evaluation of whether all withdrawn water that is not lost to reasonable consumptive use will be returned to its source New York major drainage basin.

- Water conservation and efficient use measures and methods vary considerably between different types of users, facilities, seasons, and locations. New York believes no “one size fits all” water conservation plan can apply universally. Consequently, the NYS DEC has devised an innovative guidance to assist potable and non-potable water permit applicants in developing their water conservation plans through an online tool that seeks to match possible methods to water uses. As permitted water users gain experience with the water conservation and efficient use methods, the tools can be adapted to enhance efficiency and effectiveness of future plans. (See <https://dec.ny.gov/environmental-protection/water/water-quantity/water-withdrawal-permits-reporting/water-conservation-requirements>)

- In 2018, New York State experts and local stakeholders collaboratively developed Harmful Algal Bloom (HAB) Action Plans for 12 priority lakes that are vulnerable to HABs. The waterbodies are valuable recreational waterbodies and/or critical sources of drinking water. Each action plan supports an improved scientific understanding of the Waters of the Basin by documenting trends in water quality, identifying contributing factors fueling HABs, and providing actions that can be taken to reduce the controllable sources of pollution that contribute to algal blooms. In addition, NYS DEC gave priority scoring for several key grant programs for waters with completed HABs Action Plans. In the Great Lakes Basin, Action Plans have been developed for Cayuga Lake, Conesus Lake, Honeoye Lake, Owasco Lake, Skaneateles Lake, Lake Champlain, and Lake George. (See NYS’s Clean Water Planning page for links to all HABs Action Plans: <https://dec.ny.gov/environmental-protection/water/water-quality/clean-water-plans>).

7. Additional information.

N/A

Water Conservation and Efficiency Program Report

1. Status of the State or Province’s Water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives. If developed, include State or Provincial goals and objectives or link to electronic version.

Since 1989, New York State has required all public water supply systems statewide to develop and submit water conservation programs when applying for new or increased water withdrawals. Each conservation program must specifically address:

- Source and customer metering;
- System water auditing to identify water losses and inefficiencies;
- System leakage and repair, and;
- Water use reduction particularly during the summer and drought conditions.

Based upon these programs, water withdrawal permits implement environmentally sound and economically feasible water conservation practices.

In 2011, New York's program was expanded to cover other sectors of water withdrawal in addition to public water supply. Again, water conservation programs are required to discuss and implement the best management practices for water conservation and reuse measures that apply to that sector of usage. These programs, in turn, lead to permit conditions in each water withdrawal approval.

In March of each year, water withdrawers are required to submit an annual report for the previous calendar year that includes a discussion and questions regarding compliance and progress with water conservation programs and conditions.

2. Water Conservation and Efficiency Program Overview.

a. Citations to State/Provincial Water Conservation and Efficiency Program implementing laws, regulations and policies.

The Water Withdrawal, Conservation and Drought program pages reference the Water Resources Law, which is part of NYS ECL 15, Title 15, and is derived from the Compact.

- Water Conservation: <https://dec.ny.gov/environmental-protection/water/water-quantity/water-use-conservation>

- Water Withdrawal: <https://dec.ny.gov/environmental-protection/water/water-quantity/water-withdrawal-permits-reporting>

- Drought: <https://dec.ny.gov/environmental-protection/water/water-quantity/drought>

NYS ECL §15-0314 was amended to raise standards for water-efficient plumbing and appliances to align with federal standards issued by the Environmental Protection Agency (EPA). The law took effect January 1, 2022.

b. Summary description of the State's or Province's Water Conservation and Efficiency Program including what elements are voluntary and mandatory.

All applications for water withdrawal permits require a Water Conservation Program that demonstrates an applicant's water conservation and efficiency measures. These must be environmentally sound, economically feasible and minimize inefficiencies and water losses.

Such measures must include but are not limited to: source and customer metering; frequent system water auditing; system leak detection and repair; recycling and reuse, and reductions during drought. (See <https://dec.ny.gov/environmental-protection/water/water-quantity/water-withdrawal-permits-reporting/water-conservation-requirements>)

3. For each of the regional objectives, identify how the State/Provincial program is consistent with the regional objective, and a description of how the State or Province

promotes Environmentally Sound and Economically Feasible Water Conservation Measures. More details for each objective are available at http://www.glsregionalbody.org/Docs/Resolutions/GLSLRWRRB_Resolution_6Conservation-Efficiency.pdf and can be provided in the table below.

OBJECTIVES	LEGISLATIVE OR PROGRAM CITATION
➤ Guide programs toward long-term sustainable water use.	NYS ECL §15-1501(8) requires the NYS DEC to establish a water conservation and efficiency program based on the Compact’s five water conservation goals to assure consistency; NYS ECL §15-1503(2) enacts the Compact’s decision-making criteria for permit approval, including implementation in a manner that incorporates environmentally sound and economically feasible water conservation measures; and NYS ECL §15-1503(3) requires the DEC to publish a water conservation manual. Guidance (TOGS 3.2.1) for consistent implementation of these statutes was issued May 25, 2017 (See https://extapps.dec.ny.gov/docs/water_pdf/togs321.pdf) Flow-related guidance (TOGS 1.3.12) considering pass-by flows and reservoir releases to ensure that water withdrawals will result in no significant or cumulative adverse impacts to the quantity and quality of the water source and water dependent natural resources was issued April 12, 2017. (See https://extapps.dec.ny.gov/docs/water_pdf/flowtogsfinal.pdf)
➤ Adopt and implement supply and demand management to promote efficient use and conservation of water resources.	- An additional Water Conservation Manual (NYS ECL §1501(8)), was developed by DEC to address various components of this objective which will be incorporated into conservation plans developed by all new non-potable water permit applicants. - Water conservation plans are required to provide annual water audit data which compares produced water to metered usage. - All water withdrawal permit applications for new or increased groundwater withdrawals must submit the results of a 72-hour pumping test. - All water withdrawal applications for new or increased surface withdrawals must submit hydrological data to confirm dependable water supply yields while adequately protecting water levels and in-stream flows for habitat. - All water withdrawal permits include conditions requiring metering, leak detection and repair, water audits, and maintaining water use records. Demand management is implemented through Department regulations (6 NYCRR Part 601). All water withdrawal applications must demonstrate that the requested withdrawal quantity is reasonable for the proposed use and that the need for the proposed water withdrawal cannot be met or reduced by increased water conservation or efficiency.

	NYS ECL §15-0314 was amended to raise standards for water-efficient plumbing and appliances to align with federal standards issued by the Environmental Protection Agency (EPA). The law took effect January 1, 2022.
➤ Improve monitoring and standardize data reporting among State and Provincial water conservation and efficiency programs.	All water withdrawers with the capacity to withdraw 100,000 gallons per day or more and all agricultural facilities with registered withdrawals are required to report their water withdrawals, sources, source capacities, current conservation practices, and types of use on an annual basis. Standard reporting forms for the submittal of this data have been developed and reports may now be submitted through our online nForm web portal. Submitted data undergoes internal QA/QC before being finalized. Information required is consistent with guidance developed by Compact Council/Regional Body. The Department manages approximately 750 actively reporting facilities within the Great Lakes Basin and has routinely achieved 100% compliance in required annual reporting. New York's Great Lakes Action Agenda, an ecosystem-based management strategy for protecting, restoring and conserving natural resources, includes a goal to "Conserve Great Lakes Water Supplies" with nine specific priority actions designed to focus state policies, programs and ongoing funding opportunities. (See https://dec.ny.gov/nature/waterbodies/lakes-rivers/great-lakes/action-agenda)
➤ Develop science, technology and research.	In developing an additional Water Conservation Manual for non-potable uses, the DEC has worked to identify best management practices (BMPs) and state of the art technologies for consideration by various water user categories. This manual will continue to be updated as additional technologies and efficiencies are learned through consultation with entities such as AWWA. New York's Great Lakes Action Agenda, an ecosystem-based management strategy for protecting, restoring and conserving natural resources, includes a goal to "Conserve Great Lakes Water Supplies" with nine specific priority actions designed to focus state policies, programs and ongoing funding opportunities. (See https://dec.ny.gov/nature/waterbodies/lakes-rivers/great-lakes/action-agenda)
➤ Develop education programs and information	NYS DEC's current public guidance information is available on NYS DEC's website:

sharing for all water users.	- Annual Water Withdrawal Reporting: https://dec.ny.gov/environmental-protection/water/water-quantity/water-withdrawal-permits-reporting/annual-water-withdrawal-reporting-non-agricultural - Water Conservation Tips for the Public: https://dec.ny.gov/environmental-protection/water/water-quantity/water-use-conservation The Water Conservation Manuals have been designed specifically to enhance public understanding and user access to best management practices for assisting various water users in developing their required plans. The manuals currently used to develop these plans can be found at: https://dec.ny.gov/environmental-protection/water/water-quantity/water-withdrawal-permits-reporting/water-conservation-requirements Application guidance is available for all water users on the Department's website: - TOGS 3.2.1 (Processing Water Withdrawal Permit Applications): https://extapps.dec.ny.gov/docs/water_pdf/togs321.pdf - TOGS 1.3.12 (Incorporation of Flow-Related Conditions in Water Withdrawal Permits): https://extapps.dec.ny.gov/docs/water_pdf/flowtogsfinal.pdf All permitted and registered water withdrawals are included in NYSDEC InfoLocator: https://gisservices.dec.ny.gov/gis/dil/ and on data.ny.gov https://data.ny.gov/Energy-Environment/Water-Withdrawals-by-Facility-Beginning-2009/94ue-tysy/about_data Basic water well information collected since 2000 for over 130,000 wells is available on NYSDEC InfoLocator (https://gisservices.dec.ny.gov/gis/dil/), at the NYS GIS Clearinghouse (https://data.gis.ny.gov/datasets/54bf2a4e4bf24f2eb6ceab77b367cdd2/explore), and through data.ny.gov at https://data.ny.gov/Energy-Environment/Water-Wells-Beginning-2000/6gke-uhe4/about_data Annual Reporting Forms are now publicly available on DEC's InfoLocator web GIS tool: https://gisservices.dec.ny.gov/gis/dil/
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4. Description of the State or Provincial Water conservation and efficiency program implementation timeline and status.

NYS DEC's Division of Water currently regulates by permit or registration all water withdrawal systems with the capacity to withdraw 100,000 gallons per day or more within the Basin. Since 1989, NYS ECL §15-1503 has required the submittal of a water conservation plan with each new

application for a permit for a public water supply system. The main objective of the plans is to promote implementation of the most environmentally sound and economically feasible water conservation measures. Components of these plans must include, at a minimum, 1) customer and source metering, 2) water auditing, 3) leak detection and repair and 4) outdoor water use management.

Amendments to NYS ECL §15-1501, et seq. were passed into law in 2011 and became effective on February 15, 2012. The new law extended NYS DEC's permitting and registration authority throughout the state and includes registration of existing agricultural withdrawals that are greater than 100,000 gpd (30-day average) and of major basin water diversions outside of the Basin of greater than 1,000,000 gpd. Implementing regulations (6 NYCRR Part 601) took effect on April 1, 2013 that included a five-year schedule, completed in 2017, to permit all existing withdrawals that meet the threshold volume. The statute and regulations strengthen the existing water conservation and efficient use provisions by including two objectives in addition to those stated above: (1) recycling and reuse, and (2) reductions during drought.

- On May 25, 2017, NYS DEC issued Technical & Operational Guidance Series (TOGS) 3.2.1 to promote consistent implementation of these statutes and regulations. (See https://extapps.dec.ny.gov/docs/water_pdf/togs321.pdf)

- On April 12, 2017, the NYS DEC issued Technical & Operational Guidance Series (TOGS) 1.3.12 that includes procedures to ensure that water withdrawals will result in no significant or cumulative adverse impacts to the quantity and quality of the water source and water dependent natural resources. (See https://extapps.dec.ny.gov/docs/water_pdf/flowtogsfinal.pdf)

In the final report, please provide an overview of any public outreach activities undertaken, as well as a summary of any comments received, and changes made in response to comments received.

A draft copy of this report was posted publicly for input from September 2024 through October 2024 on the Department webpage and the Department's "Great Lakes News, Funding, and Events" and "MakingWaves" email listservs. No public comments were received.

NYS DEC Division of Water conducted multiple outreach efforts throughout this five-year report period. Starting in 2020, multiple virtual and in-person outreach sessions were held with the agricultural regulated community and agricultural industry leaders to promote awareness of water withdrawal permitting, registration, and reporting requirements. The community and industry leaders expressed their need for improved permitting guidance from the Department. In response, the Department's agricultural water withdrawal webpages were updated: <https://dec.ny.gov/environmental-protection/water/water-quantity/agricultural-water-withdrawals>

From 2022 through 2023, the Department conducted virtual discussions with ski industry leaders to promote awareness of the water withdrawal permitting process and to provide information on Technical & Operational Guidance Series (TOGS) 1.3.12 low flow procedures. Ski industry leaders provided comment on the industry's reliance on stream withdrawals and the impacts of

climate change and lack of natural snowfall on New York ski operations. In response, program staff developed permitting strategies designed to collect streamflow information and to develop permits that allow for ski facility's continued operation while protecting aquatic habitat.

Discussions and outreach with the regulated community and industry groups culminated in the initiation of a 6 NYCRR Part 601 rulemaking intended to improve regulation clarity, efficiency, and consistency. A virtual public outreach session describing the proposed rulemaking was held in October of 2022. The proposed rulemaking will be publicly posted on the Department's Environmental Notice Bulletin later in 2024. The rulemaking will be posted for a 60-day comment period followed by a virtual public hearing.

In 2022 the Department created the Office of Indian Nation Affairs (OINA). The office works to address environmental concerns, cultural resources, and advance shared knowledge through consultation with State and Federally recognized Indian Nations. The Department's Commissioner Policy (CP) 42 requires contact, cooperation, and consultation with Indian Nations during certain application reviews or rulemakings. More information can be found at this location: <https://dec.ny.gov/about/dei/indian-nation-affairs>

The Division routinely provides reminders of annual report deadlines and regularly assists permittees improve the quality, accuracy, and timeliness of their reports. Additional outreach activities have been focused on increasing the volume and variety of water management information available to the public on the Department's website. Specific examples have been cited above.

The Department utilizes several tools to share information with the public including our Environmental Notice Bulletin (ENB) and Making Waves newsletter. The ENB is used to let the public know about projects or regulations being proposed each week. The ENB can be accessed at this location: <https://dec.ny.gov/news/environmental-notice-bulletin> Making Waves is used to broadcast information about water issues in New York State. Users can sign up for Making Waves at this location: <https://dec.ny.gov/environmental-protection/water>

For decades, the Department has published Conservationist Magazine which features stories and information about the protection of New York State's air, water, forests, fish, and wildlife. More information about Conservationist Magazine can be found at this location: <https://dec.ny.gov/news/conservationist-magazine>

Department staff routinely engage with stakeholders, industry groups, and permittees on focused topics when needed.

**Great Lakes-St. Lawrence River Water Resources Regional Body
Great Lakes-St. Lawrence River Basin Water Resources Council**

RESOLUTION NO. 2025-6

ADOPTING JOINT DECLARATION OF FINDING

For the Water Management Program Review and
Water Conservation and Efficiency Program Review
State of Ohio

I. BACKGROUND AND PURPOSE

The Compact

A. The Great Lakes-St. Lawrence River Basin Water Resources Compact (“Compact”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania, and was effective on December 8, 2008.

B. Section 3.4 of the Compact requires each Party State to submit a report to the Great Lakes-St. Lawrence River Basin Water Resources Council (“Compact Council”) and the Great Lakes-St. Lawrence River Water Resources Regional Body (“Regional Body”) on actions taken by that State to meet the provisions of the Agreement and Compact regarding that Party State’s Water management and conservation and efficiency programs.

C. Following the Compact Council’s review of such reports in cooperation with the Provinces pursuant to Section 3.4 of the Compact, the Council shall determine whether that State’s programs: (1) meet or exceed the provisions of the Compact; or (2) do not meet the provisions of the Compact and, if not, recommend options to assist the jurisdiction in meeting the provisions of the Compact.

D. Section 4.2 of the Compact requires the Compact Council in cooperation with the Provinces to adopt Basin-wide conservation and efficiency objectives, which were adopted by the Compact Council on December 8, 2008. Section 4.2.2 of the Compact requires each Party State to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a Water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State’s goals and objectives.

The Agreement

E. The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“Agreement”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin, the Commonwealth of Pennsylvania, the Province of Ontario, and the Government of Québec, and certain provisions of the Agreement began to more fully come into force on March 8, 2015.

F. Article 300 of the Agreement requires each Party State and Province to submit a report to the Regional Body on actions taken by the State or Province to meet the provisions of the Agreement regarding that State's or Province's Water management and conservation and efficiency programs.

G. Following the Regional Body's review of such reports pursuant to Article 300 of the Agreement, the Regional Body shall determine if that State or Province's programs: (1) meet or exceed the provisions of the Agreement; (2) do not meet the provisions of the Agreement; or (3) would meet the provisions of the Agreement if certain modifications were made and what options may exist to assist the jurisdiction in meeting the provisions of the Agreement.

H. Article 304, Paragraph 1 of the Agreement requires the Regional Body to identify Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency programs by December 13, 2007, which were adopted by the Regional Body on December 13, 2007. Article 304, Paragraph 2 of the Agreement requires each Party State and Province to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State's or Province's goals and objectives.

II. SUBMISSIONS BY STATE OF OHIO

A. To the Compact Council. The Compact Council has received the State of Ohio's report on its Water management and conservation and efficiency programs under the Compact, which is attached to this Resolution as Attachment A.

B. To the Regional Body. The Regional Body has received the State of Ohio's report on its Water management and conservation and efficiency programs under the Agreement, which is attached to this Resolution as Attachment A.

III. DECLARATION OF FINDING

Upon review of the submissions of the State of Ohio, the terms of the Compact and the Agreement, the Compact Council and Regional Body find as follows:

- A. Based on the report submitted by the State of Ohio, the Water Management Program presented by the State of Ohio meets or exceeds the current requirements of the Compact and the Agreement.
- B. Based on the report submitted by the State of Ohio, the Water Conservation and Efficiency Program presented by the State of Ohio meets or exceeds the current requirements of the Compact and the Agreement.

Draft—For Discussion Purposes Only
November 11, 2025

ATTACHMENT A

Water Management and Conservation and Efficiency Programs—
Report to the Compact Council and Regional Body
Dated December 11, 2024

STATE OF OHIO
WATER CONSERVATION & EFFICIENCY PROGRAM REVIEW
(December 11, 2024)

The following Water Conservation & Efficiency Program Review is submitted by the State of Ohio to the Compact Council pursuant to the requirements contained in Section 3.4.1 of the Great Lakes-St. Lawrence River Basin Water Resources Compact (“the Compact”) and to the Regional Body pursuant to the commitments made in Article 300 of the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“the Agreement”).

1. Lead Agency. The lead agency for Ohio’s water conservation & efficiency program is the Ohio Department of Natural Resources (“ODNR”). The lead contact person is Dena C. Barnhouse, Chief of the ODNR Division of Water Resources (“the Division”) (phone: 614-265-6737; email: Dena.Barnhouse@dnr.ohio.gov). An alternative contact is Bradley J. Lodge, Manager of the Division’s Water Inventory & Planning Program (phone: 614-265-6727; email: Bradley.Lodge@dnr.ohio.gov).

2. Status of Ohio Goals & Objectives. Ohio’s water conservation & efficiency goals are those contained in Section 4.2.1 of the Compact. Ohio’s water conservation & efficiency objectives have been developed and can be viewed [online](#).

3. Water Conservation & Efficiency Program Overview. Ohio’s implementing laws, regulations and policies are contained in the Compact, codified in §1522.01 of the Ohio Revised Code (ORC), and its state implementing provisions, codified in §§1522.02–.30 of the ORC. Specifically, §1522.05 of the ORC requires the Chief of the Division to adopt voluntary watershed-wide goals, objectives, and standards for water conservation and efficiency consistent with Section 4.2 of the Compact. In addition, §1522.17 of the ORC requires an applicant for a water withdrawal & consumptive use permit to submit a facility water conservation plan that, if it reasonably incorporates environmentally sound and economically feasible water conservation measures applicable to the facility, will be considered to be in compliance with Section 4.11.3 of the Compact. All other elements of Ohio’s water conservation & efficiency program are voluntary, except those that are authorized by pre-existing statutes, regulations, or programs. The only such program that provides for mandatory use reductions is the Ohio Emergency Management Agency’s Drought Contingency Plan, and then only when the Governor declares a Level Four Drought Emergency.

Ohio’s water conservation & efficiency program consists of education on the value of water conservation & efficiency and promotion of voluntary conservation practices. Such efforts are undertaken individually by state agencies pursuant to general education authorities and programs, and without centralized coordination by the lead agency under the Compact.

4. Consistency with Regional Objectives.

Objective	Legislative or Program Citation
Guide programs toward long-term sustainable water use	ODNR initiated its ConServe Ohio State Park Sustainability Plan which is a call to action for park staff and visitors to implement sustainability practices across ODNR owned properties. Water conservation, including water use tracking, mitigation techniques, and updated infrastructure, is a key component of this plan. Required best management practices for manure management to improve water quality in the western Lake Erie Basin have been adopted in Ohio statute, which can be viewed online at ORC 939.08. In addition, water quality management plans have been captured in Ohio's Domestic Action Plan for Lake Erie and the H2Ohio program, and the plans are being implemented. Further, Ohio is currently working on a TMDL for the Western Lake Erie Basin. A Water Inventory and Planning Program Visibility Outreach Initiative began its campaign to raise awareness about Ohio's water use rules and regulations. Program staff are presenting at various agencies, advisory councils, and conservation districts to inform water users on the requirements of the Ohio Revised Code. The Initiative will improve the accuracy of Ohio's water use data and aid in preventing potential water use conflicts. To aid in Conservation efforts, ODNR became a member of the Alliance for Water Efficiency. The Alliance provides comprehensive information, tools, and workshops regarding water-efficient products, practices, and programs. The tools provided will support in educating water users, and train staff on current best management practices. Water sector specific drought guidance was provided to all 2100+ active registered water users in the state. Information included industry specific drought preparedness, resources for those experiencing interruption in supply, and recommended water conservation and efficiency practices to decrease impacts on other users.

Objective	Legislative or Program Citation
Adopt and implement supply and demand management to promote efficient use and conservation of water resources	ODNR introduced the State of Ohio Water Withdrawal Atlas on ODNR’s Webpage: The Atlas concisely summarizes data collected from ODNR to assist in answering commonly asked questions regarding water use and to promote conservation focused initiatives by providing a clearer understanding of how water is used in Ohio. Understanding these factors can inform conservation solutions for the entire state as well as localized initiatives that support communities and watersheds. ODNR and the Ohio Environmental Protection Agency (“Ohio EPA”) are currently designing a comprehensive Ohio Water Study to assess current water infrastructure availability and project how both population and economic growth will impact Ohio’s water resources. Beginning with Central Ohio, the study will move region by region to provide a complete report for the State. Ohio EPA sponsored a bid to stand up Ohio’s Water Reuse Chapter through the Water Reuse Association’s national board. The board approved Ohio’s charter, making Ohio the first Midwest state to join the national organization. Water Reuse Ohio establishes a collaboration with utilities, businesses, consultants, and academics to share lessons learned, best management practices, and new technologies. ODNR joined as a regulatory council member.
Improve monitoring and standardize data reporting among state and provincial water conservation & efficiency programs	Water use information for registered withdrawals continues to be collected, analyzed, and reported for the various categories of water use. A new online water-use reporting application rolled out in 2023 allowing registered facilities easy access to their reporting history and furthered the water user’s ability to track their own water conservation practices. Accuracy of registrations and annual reporting has increased exponentially in just one year and will continue for years to come. An online Facility Locator is in development that will allow for water users or interested parties to view and download the location of registered facilities, and all historic water use. In 2023, ODNR announced its new citizen science program titled EnGauge Ohio that would enlist state park visitors to use their phones to record surface water data on high quality and sensitive streams throughout the state. In 2024, the Division onboarded new staff to launch a Surface Water Program within the Water Inventory and Planning Program. This new Program will spearhead efforts to better quantify the availability and improve monitoring of surface water in the State of Ohio.
Develop science, technology, and research	To further understand the “Michindoh” aquifer, ODNR enlisted USGS to complete a Geologic Characterization Study. The study will aid in producing a flow model of the “Michindoh” aquifer in the tri-state area. ODNR’s Groundwater Program is completing a nearly three-year project to create new, seamless, statewide maps and datasets for Ohio of both anticipated aquifer yield and hydraulic conductivity. The new maps will contain information about primary and secondary aquifer

Objective	Legislative or Program Citation
	designations, the hydraulic conductivity of the primary aquifer, primary and secondary aquifer yield in gallons per minute, and information about the relative position of the primary to secondary aquifer, when present. These maps are the result of extensive data collection, compilation, and interpretation, much of which was not available when these parameters were last evaluated. This project was partially funded by the Ohio Water Development Authority (OWDA). Final maps and associated digital data will be released in January 2025. ODNR is currently installing ten new groundwater observation wells in Willaims, Defiance, and Fulton counties. This project will advance our understanding of the aquifers in northwest Ohio and provide new, high-quality data and opportunities for long-term monitoring of groundwater. In addition to the ten new groundwater observation wells, new pumping tests and geophysical logging will be performed. The data from these tests can be used for future groundwater studies, models, and as references for future drilling and withdrawals. This project was funded in part by Ohio H.B. 33 as a one-time priority project to determine the estimated storage capacity and maximum annual yield of the network of aquifers that are north of the Maumee River in Ohio. Final observation well installation will be completed in early 2025 and aquifer testing will occur in Spring 2025.
Develop education programs and information sharing for all water users	Current water conservation and efficiency education programs continue to: -Provide an online forum for submitting input from water withdrawal facility managers on best management practices and conservation and efficiency initiatives. -Provide updated material conveniently accessible to the public containing information on water conservation and efficiency; the water conservation webpage can be viewed online on ODNR's Compact webpage by selecting Water Conservation Resources. In 2024, ODNR partnered with the Ohio Department of Education and Workforce (DEW) and Ohio EPA to host a Water Management Workshop for technical teachers and professors in water quality and quantity teaching positions. The first two-day workshop is scheduled for May 2025. The H2Ohio program, launched by Governor DeWine in 2019, is a comprehensive water quality initiative that is strategically addressing water issues like harmful algal blooms (HABs) caused by phosphorus runoff, failing drinking water and wastewater infrastructure, and lead contamination. The Governor, Ohio EPA, Ohio Department of Agriculture (ODA), ODNR, the Ohio Lake Erie Commission (OLEC), and many partners are working together to invest in projects that will provide long-term economic and water quality benefits to communities and ecosystems statewide. In 2023, Governor DeWine expanded the H2Ohio initiative with a program called H2Ohio Rivers to focus on improving and maintaining the health of Ohio's large rivers. More information about the program,

Objective	Legislative or Program Citation
	including educational resources, can be found at the H2Ohio website. The ODNR has contracted with the Lake Erie and Aquatic Research Network (LEARN) to develop and implement the H2Ohio Wetland Monitoring Program (WMP) to assess the effectiveness of H2Ohio's natural infrastructure projects and improve the design and management of projects in the future. In 2024, H2Ohio WMP hired a Wetland Monitoring Outreach & Engagement Coordinator. The H2Ohio WMP continues to provide additional support in share data, information, and educational resources throughout their effort (website).

5. Program Implementation Timeline & Status. Ohio's water conservation & efficiency program, which does not include any mandatory conservation requirements on water users (except those who have obtained water withdrawal and consumptive use permits), is currently being implemented as indicated, with further developments underway.

STATE OF OHIO

WATER MANAGEMENT PROGRAM REPORT

August 13, 2024

The following Water Management Program Report is submitted by the State of Ohio to the Compact Council pursuant to the requirements contained in Section 3.4.1 of the Great Lakes-St. Lawrence River Basin Water Resources Compact (“the Compact”) and to the Regional Body pursuant to the commitments made in Article 300 of the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“the Agreement”).

1. Lead agency/agencies and contact person(s). The lead agency for administering the Compact/Agreement is the Ohio Department of Natural Resources (“ODNR”). The authority to enforce the Compact and take appropriate actions to effectuate its purposes and intent rests with the Chief of the ODNR Division of Water Resources (“the Division”). The lead contact person is Dena C. Barnhouse, Chief of the Division (phone: 614-265-6723; email: Dena.Barnhouse@dnr.ohio.gov). An alternative contact is Bradley J. Lodge, Manager of the Division’s Water Inventory & Planning Program (phone: 614-265-6727; email: Bradley.Lodge@dnr.ohio.gov).

2. Implementing laws, regulations, and policies. Ohio’s implementing laws, regulations, and policies are contained in the Compact, codified in §1522.01 of the Ohio Revised Code (ORC), and its state implementing provisions, codified in ORC §§1522.02–.40. Provisions to administer and enforce specific sections of the Compact and/or articles of the Agreement are authorized as follows: Section 3.4 of the Compact/Article 300 of the Agreement by §1522.01 and §1522.03 of the ORC; Section 4.1 of the Compact/Article 301 of the Agreement by §1522.01, §1522.03, §1521.03(B), and §§1521.15–.16 of the ORC; Sections 4.2(2), 4.2(4) & 4.2(5) of the Compact/Article 304 of the Agreement by §1522.01, §1522.03, and §1522.05 of the ORC; Section 4.3 of the Compact/Article 200 of the Agreement by §1522.01, §1522.03, and §§1522.10–.30 of the ORC; Sections 4.8, 4.9 and 4.13 of the Compact/Articles 200, 201 and 208 of the Agreement by §1522.01, §1522.03, §1522.06, and §1522.11 of the ORC; Section 4.10 of the Compact/Article 206 of the Agreement by §1522.01, §1522.03, §§1522.12–.15, §1522.17, §1522.19 and §§1522.23–.25 of the ORC; Section 4.11 of the Compact/Article 207 of the Agreement by §1522.01, §§1522.03–.04, §1522.101, §§1522.13–.131, and §1522.17 of the ORC; and Article 304 of the Agreement by §1522.01 and §1522.03 of the ORC.

The State of Ohio is in compliance with the provisions of the Compact by virtue of §§1522.02–.30 of the ORC, which became effective in their present form on October 17, 2019.

3. Summary description of the water management program. The Compact’s prohibition on diversions out of the Great Lakes Basin has been enforced since December 8, 2008. A permit program for new or increased diversions that meet the criteria required to qualify as exceptions to the Compact’s prohibition on diversions has been in place since September 4, 2012. A separate permit program for diversions larger than 100,000 gallons per day both out of and into the Great Lakes Basin, enacted subsequent to the 1985 Great Lakes Charter, has been in place since 1986. A permit program for new or increased withdrawals and consumptive uses within the

Great Lakes Basin pursuant to the Compact has been in place since March 3, 2013. Revisions to this permit program requiring detailed groundwater flow modeling and a water replacement process for large ground water withdrawals went into effect on October 17, 2019. A separate permit program for withdrawals resulting in new or increased consumptive uses larger than two million gallons per day, enacted subsequent to the 1985 Great Lakes Charter, has been in place since 1988. This permit program was also updated to require detailed groundwater flow modeling and a water replacement process for large groundwater withdrawals on October 17, 2019.

Diversions & Withdrawals Subject to Regulation:

All new or increased diversions are subject to the prohibition on new or increased diversions (Section 4.8 of the Compact) except those that qualify as exceptions to the prohibition (Section 4.9 of the Compact) under a permit program authorized by §1522.11 of the ORC. New or increased water withdrawals above established threshold quantities and not specifically exempt from regulation require a permit from the Chief of the Division under authority of §§1522.12–.13 of the ORC.

Withdrawals Exempt from Regulation:

Under §1522.14 of the ORC, the following are exempt from the permit requirement: [1] a new facility whose proposed withdrawal & consumptive use capacity is below the applicable threshold quantity; [2] an existing facility whose proposed increase in withdrawal & consumptive use capacity is below the applicable threshold quantity; [3] a new facility whose actual maximum daily withdrawal will be less than the applicable threshold quantity when averaged over any 90-day period (45-day period if the withdrawal is from a high quality river or stream and the drainage area at the withdrawal point is between 50 and 100 square miles); [4] an existing facility whose increase in actual maximum daily withdrawal will be less than the applicable threshold quantity when averaged over any 90-day period (45-day period if the withdrawal is from a high quality river or stream and the drainage area at the withdrawal point is between 50 and 100 square miles); [5] an existing electric generating facility that increases its consumptive use due to a requirement imposed by federal regulation that is unrelated to an increase in electricity production; [6] a facility that is making a withdrawal for purposes other than industrial use or public water supply from an impoundment collected primarily from diffused surface water sources, including a farm pond, golf course pond, nursery pond, storm water retention pond, or other private pond; [7] a facility that is making a withdrawal for purposes other than industrial use or public water supply from a river or stream to augment the water supply of an impoundment used for firefighting purposes; [8] a facility that must temporarily establish a new or increased withdrawal and consumptive use capacity as a result of an emergency (for the duration of the emergency) that, without the new or increased capacity, would result in imminent harm to human health and property; [9] a facility that is establishing a new or increased withdrawal & consumptive use capacity in compliance with an experimental use permit; [10] a facility that must temporarily establish a new or increased withdrawal & consumptive use capacity in order to respond to a humanitarian crisis (for the duration of that crisis) if the new or increased capacity is necessary to assist in the management of that crisis; [11] a major utility facility that is subject to regulation under Chapter 4906 of the ORC or a facility that is increasing its withdrawal & consumptive use capacity directly related to supplying such a major utility facility; [12] a public water system whose increase in withdrawal & consumptive use capacity is proposed and reviewed in accordance with the requirements of §1521.23 (c) and (D) of the ORC; [13] a facility that is subject to regulation under Chapter 1514 of the ORC; [14] a facility that purchases all of its water from a public water system; and [15] a facility that is withdrawing or consumptively using water from an off-stream impoundment that has been substantially filled with an existing stream

withdrawal or a new or increased stream withdrawal that is subject to a withdrawal & consumptive use permit.

New or increased withdrawals and consumptive uses subject to regulation pursuant to the Compact (i.e., §§1522.10–.30 of the ORC) include only those withdrawals and consumptive uses within the Great Lakes Basin portion of the state. New or increased withdrawals and consumptive uses subject to regulation pursuant to §§1521.23–.29 of the ORC include those withdrawals and consumptive uses from any waters of the state.

Exemptions as allowed in the Compact are also included as exemptions to permit requirements pursuant to the Compact (i.e., §§1522.10–.30 of the ORC) but are not exempt from permit requirements pursuant to §§1521.23–.29 of the ORC.

New or increased withdrawals and consumptive uses that are exempt from regulation by §1522.14 of the ORC remain subject to the permit requirement contained in §§1521.23–.29 of the ORC, which requires a permit from the director of the ODNR prior to withdrawing waters of the state that would result in a new or increased consumptive use of an average of more than two million gallons per day in any thirty-day period. The following are exempt from this permit requirement: [1] a major utility facility that is subject to regulation under Chapter 4906 of the ORC; [2] a facility that is subject to regulation under Chapter 1514 of the ORC; [3] a public water supply that was in operation on June 29, 1988 and for which no substantial changes are proposed; [4] a public water supply that encompasses only water distribution facilities; [5] a facility that is required to obtain a withdrawal & consumptive use permit under §§1522.12–.13 of the ORC.

Registration & Reporting:

All existing diversions out of the Great Lakes Basin are registered consistent with Section 4.1.3 of the Compact and are required to annually report the monthly quantity of water diverted, as required by Section 4.1.4 of the Compact. All diversions permitted under §1522.11 of the ORC would also be required to annually report the monthly quantities of water diverted. All existing withdrawals with a capacity to withdraw greater than 100,000 gallons per day are registered consistent with Section 4.1.3 of the Compact and are required to annually report the monthly quantity of water withdrawn, as required by Section 4.1.4 of the Compact. All withdrawals permitted under §§1522.12–.13 of the ORC would also be required to annually report the monthly quantities of water withdrawn. A separate registration and reporting requirement for all existing withdrawals with a capacity to withdraw greater than 100,000 gallons per day, enacted subsequent to the 1985 Great Lakes Charter and codified in §1521.16 of the ORC, has been in place since 1988. Water withdrawal registration and reporting data can be obtained from the Division's Water Inventory & Planning Program by calling (614) 265-6620 or emailing a request to WIPP@dnr.ohio.gov.

Regulation by Water Use Sector & Source Type:

New or increased withdrawals and consumptive uses for all use sectors and all source types are subject to permit requirements pursuant to §§1522.12–.13 or §§1521.23–.29 of the ORC, except major utility facilities subject to regulation under Chapter 4906 of the ORC, facilities subject to regulation under Chapter 1514 of the ORC, and certain public water systems subject to regulation under Chapter 6109 of the ORC, which are subject to criteria identical to those in §§1521.23–.29 of the ORC.

Quantity Thresholds for Regulation:

All new or increased diversions that qualify for an exception to the prohibition on diversions are subject to the regulation regardless of quantity. New or increased withdrawals not otherwise exempt are subject to the permit requirement if they meet the following threshold quantities, established by §1522.12(A) of the ORC: [1] for withdrawals from Lake Erie or a recognized Lake Erie navigation channel, if the new or increased capacity for withdrawal or consumptive use is 2.5 million gallons per day or greater; [2] for withdrawals from any high quality river or stream, if the new or increased capacity for withdrawal or consumptive use is 100,000 gallons per day or greater; [3] for withdrawals from other surface water and ground water, if the new or increased capacity for withdrawal or consumptive use is 1.0 million gallons per day or greater.

Implementation and Enforcement:

Pursuant to §1522.03(B) of the ORC, the Chief of the Division is required to “enforce the great lakes–St. Lawrence river basin water resources compact and take appropriate actions to effectuate its purposes and intent.” Pursuant to §1522.12(A) of the ORC, the Chief of the Division is responsible for the review and consideration of permit applications for the withdrawal and consumptive use of water within the Lake Erie watershed.

The Division’s responsibilities include: collecting and analyzing water withdrawal, diversion, and consumptive use data; developing permit applications; reviewing permit application submittals; making recommendations to the Chief for enforcement action for noncompliance with the Compact and Compact-related regulations; and recommending the approval or denial of permits. The Division works closely with other state, federal and local agencies to gather information on water users in the Lake Erie Basin and to ensure that these agencies are aware of the requirements of the Compact.

Enforcement of the Compact is authorized by §§1522.20–.21 of the ORC, under which the Chief of the Division may issue an order to a person that the Chief determines has violated, is violating, or is threatening to violate any provisions of Chapter 1522 of the ORC, rules adopted under it, or permits or orders issued under it. The order shall be effective upon issuance and shall identify the facility where the violation has occurred, is occurring, or is threatened to occur, the specific violation, and actions that the owner or operator of the facility must take to comply with the order. The order shall establish a reasonable date by which the owner or operator must comply with the order. The Chief may, by order, propose to suspend or revoke a permit issued under Chapter 1522 of the ORC if the chief determines that any term or condition of the permit is being violated. The order shall identify the facility where the violation allegedly occurred, describe the nature of the violation, and prescribe what action the permittee may take to bring the facility into compliance with the permit. The Chief shall fix and specify in the order a reasonable date or time by which the permittee must comply. The order shall state that the Chief may suspend or revoke the permit if the permittee fails to comply with the order by that date or time. If on that date or time the Chief finds that the permittee has not complied with the order, the Chief may issue a new order suspending or revoking the permit.

Before issuance of a final order, the Chief shall issue a proposed order indicating the Chief’s intent to issue a final order. If the Chief receives a written objection from a person who is or will be aggrieved or adversely affected by the issuance of the final order, the Chief shall conduct an adjudication hearing with respect to the proposed order. A person who is or will be aggrieved or adversely affected by the issuance of the final order and who submitted a written objection under this division may be a party to the adjudication. Any person who is

issued a proposed order or a final order by the Chief shall be a party in any administrative or legal proceeding in which the proposed order or final order is at issue.

After the issuance of a final order, a person who is or will be aggrieved or adversely affected by the issuance of the order may appeal the order to the court of common pleas of Franklin County or the court of common pleas of the county in which the facility that is the subject of the order is located. The filing of an appeal does not automatically suspend the order that is the subject of the appeal. Upon application by the appellant, the court may suspend or stay the order, pending an immediate hearing on the appeal. If the court finds that the order was lawful and reasonable, it shall issue a written order affirming the order. If the court finds that the order was unreasonable or unlawful, it shall issue a written order vacating or modifying the order. The judgment of the court is final unless reversed, vacated, or modified on appeal.

The Ohio Attorney General, upon written request of the Chief, shall bring an action for an injunction or other appropriate legal or equitable action against any person who has violated, is violating, or is threatening to violate any provision of this chapter, any rule or order adopted or issued under it, or any term or condition of a permit issued under it. The Attorney General shall bring the action in the court of common pleas of Franklin County or the county where the applicable facility is located.

A person who violates any provision of Chapter 1522 of the ORC, any rule or order adopted or issued under it, or any term or condition of a permit issued under it is liable to the Chief for any costs incurred by the Division in investigating, mitigating, minimizing, removing, or abating the violation and conditions caused by it. Upon the request of the Chief, the Attorney General shall bring a civil action against the responsible person to recover those costs in the court of common pleas of Franklin County.

4. Description of how the Standard of Review and Decision is applied.

For application of the decision making standard for withdrawals & consumptive uses, §1522.101 of the ORC specifies that for the Ohio program “source watershed” (as used in Section 4.11 of the Compact) means the Lake Erie watershed considered as a whole.

In addition, §1522.13 of the ORC indicates that a withdrawal & consumptive use permit will be issued for a facility if the Chief of the Division determines that the facility meets all the criteria established in Section 4.11 of the Compact. It specifies that in applying Section 4.11.2 of the Compact, the Chief will require that a withdrawal or consumptive use be implemented so as to ensure that it will result in no significant individual or cumulative adverse impacts on the quality or quantity of the waters and water dependent natural resources of the Great Lakes Basin considered as a whole or of the Lake Erie source watershed considered as a whole and that as part of the evaluation, the Chief will: (1) rely on the best generally accepted scientific methods appropriate for this state derived from professionally accepted resources and practices, (2) consider the long-term mean annual inflow and outflow of the Lake Erie source watershed, and (3) consider the withdrawal and the portion of the withdrawal that is not returned to the Lake Erie source watershed. It also specifies that impacts of a withdrawal or consumptive use on the quantity or quality of waters and water dependent natural resources of more localized areas that affect less than the Great Lakes Basin considered as a whole or the Lake Erie source watershed considered as a whole shall be considered as a part of the evaluation of whether a proposed withdrawal or consumptive use is reasonable as provided in Section 4.11.5 of the Compact.

Legislation to provide additional instruction for applying the decision making standard is anticipated, and administrative rules are being developed that may also provide instruction in the application of the decision-making standard as well as the exception standard for diversions.

5. Overview of reporting and database of Withdrawals, Consumptive Uses & Diversions.

Ohio has required the registration and annual reporting of water withdrawals and permitted diversions since 1990, including the location and source of the withdrawal or diversion and the purpose for which it is used. Monthly withdrawal data for each well and/or surface water intake is reported annually. Monthly diversion data for registered diversions has also been reported annually, beginning in 2013. Electronic submission is not available. Data are entered and stored in MS Access format, and can be queried as needed by the Division staff. Metering is not required; reports based on flow gauging and timing devices are also accepted, and technical assistance in generating water withdrawal and diversion reports is available. Experience has demonstrated that consumptive use quantities cannot generally be accurately measured; instead, consumptive use coefficients are employed. Data described in this section can be obtained from the Division's Water Inventory & Planning Program by calling 614-265-6620 or emailing a request to WIPP@dnr.ohio.gov.

6. Attach a copy of the withdrawal application forms.

Application forms for water diversion permits pursuant to §1522.11 of the ORC and water withdrawal & consumptive use permits pursuant to §1522.12–.13 of the ORC have been developed and are available upon request. The electronic Water Withdrawal Facility Registration and Annual Report forms, pursuant to §1521.16 of the ORC and Section 4.1 of the Compact, are available on the Program website.

7. Summary description of initiatives to support an improved scientific understanding of the waters of the Basin.

The Division has county-by-county groundwater resources and pollution potential maps available online at [ground water maps](#). These are being superseded by statewide, seamless products. In 2018, the Division of Geological Survey secured funding from the Ohio Water Development Authority (OWDA) to update and standardize the county-based pollution potential maps into a statewide, seamless Groundwater Vulnerability Map. The new map was published in 2022 and is available online on the [Ohio Geology Interactive Map](#). The map utilizes a modified DRASTIC model, which evaluates an area's overall vulnerability to groundwater contamination using seven key parameters to produce a vulnerability index. In 2021, the Division of Geological Survey was granted funding from the ODWA to update and standardize the county Groundwater Resources maps into a statewide, seamless Aquifer Yield Map. Work for this project is ongoing and is expected to be completed at the end of 2024, with publication in early 2025. Accompanying the statewide Aquifer Yield Map will be maps of primary and secondary aquifer as well as aquifer hydraulic conductivity.

A detailed analysis of water demand by county and/or watershed can be found using the [State of Ohio Water Withdrawal Atlas](#). Updated annually, the Atlas provides water use trends dating back to 1990. Withdrawals specific to the Lake Erie Watershed are also provided in the "Additional Downloads" section of the webpage.

In 2024, funds were secured to drill an additional ten new observation wells in the Western Lake Erie basin to better monitor groundwater in the northwest region of Ohio.

8. Additional information.

Nothing additional.

**Great Lakes-St. Lawrence River Water Resources Regional Body
Great Lakes-St. Lawrence River Basin Water Resources Council**

RESOLUTION NO. 2025-7

ADOPTING JOINT DECLARATION OF FINDING

For the Water Management Program Review and
Water Conservation and Efficiency Program Review
Commonwealth of Pennsylvania

I. BACKGROUND AND PURPOSE

The Compact

A. The Great Lakes-St. Lawrence River Basin Water Resources Compact (“Compact”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania, and was effective on December 8, 2008.

B. Section 3.4 of the Compact requires each Party State to submit a report to the Great Lakes-St. Lawrence River Basin Water Resources Council (“Compact Council”) and the Great Lakes-St. Lawrence River Water Resources Regional Body (“Regional Body”) on actions taken by that State to meet the provisions of the Agreement and Compact regarding that Party State’s Water management and conservation and efficiency programs.

C. Following the Compact Council’s review of such reports in cooperation with the Provinces pursuant to Section 3.4 of the Compact, the Council shall determine whether that State’s programs: (1) meet or exceed the provisions of the Compact; or (2) do not meet the provisions of the Compact and, if not, recommend options to assist the jurisdiction in meeting the provisions of the Compact.

D. Section 4.2 of the Compact requires the Compact Council in cooperation with the Provinces to adopt Basin-wide conservation and efficiency objectives, which were adopted by the Compact Council on December 8, 2008. Section 4.2.2 of the Compact requires each Party State to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a Water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State’s goals and objectives.

The Agreement

E. The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“Agreement”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin, the Commonwealth of Pennsylvania, the Province of Ontario, and the Government of Québec, and certain provisions of the Agreement began to more fully come into force on March 8, 2015.

F. Article 300 of the Agreement requires each Party State and Province to submit a report to the Regional Body on actions taken by the State or Province to meet the provisions of the Agreement regarding that State's or Province's Water management and conservation and efficiency programs.

G. Following the Regional Body's review of such reports pursuant to Article 300 of the Agreement, the Regional Body shall determine if that State or Province's programs: (1) meet or exceed the provisions of the Agreement; (2) do not meet the provisions of the Agreement; or (3) would meet the provisions of the Agreement if certain modifications were made and what options may exist to assist the jurisdiction in meeting the provisions of the Agreement.

H. Article 304, Paragraph 1 of the Agreement requires the Regional Body to identify Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency programs by December 13, 2007, which were adopted by the Regional Body on December 13, 2007. Article 304, Paragraph 2 of the Agreement requires each Party State and Province to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State's or Province's goals and objectives.

II. SUBMISSIONS BY COMMONWEALTH OF PENNSYLVANIA

A. To the Compact Council. The Compact Council has received the Commonwealth of Pennsylvania's report on its Water management and conservation and efficiency programs under the Compact, which is attached to this Resolution as Attachment A.

B. To the Regional Body. The Regional Body has received the Commonwealth of Pennsylvania's report on its Water management and conservation and efficiency programs under the Agreement, which is attached to this Resolution as Attachment A.

III. DECLARATION OF FINDING

Upon review of the submissions of the Commonwealth of Pennsylvania, the terms of the Compact and the Agreement, the Compact Council and Regional Body find as follows:

- A. Based on the report submitted by the Commonwealth of Pennsylvania, the Water Management Program presented by the Commonwealth of Pennsylvania meets or exceeds the current requirements of the Compact and the Agreement.
- B. Based on the report submitted by the Commonwealth of Pennsylvania, the Water Conservation and Efficiency Program presented by the Commonwealth of Pennsylvania meets or exceeds the current requirements of the Compact and the Agreement.

Draft—For Discussion Purposes Only
November 11, 2025

ATTACHMENT A

Water Management and Conservation and Efficiency Programs—
Report to the Compact Council and Regional Body
Dated December 5, 2024

PENNSYLVANIA GREAT LAKES WATER MANAGEMENT PROGRAM
Five Year Report
(2019-2024)

The following information is included in the report submitted by the Commonwealth of Pennsylvania to the Regional Body and Compact Council pursuant to the requirements in the Agreement Articles 200, 201, 206-208, 300, 301, and 304 and the Compact Sections 3.4, 4.1-11, and 4.13.

GENERAL INFORMATION

1. Lead agency/agencies and contact person(s):

Pennsylvania Department of Environmental Protection (DEP):

- Timothy Bruno, Coordinator, Great Lakes Program, Interstate Water Resources Management Division, 717.798.6001
- Susan Weaver, Program Manager, Interstate Water Resources Management Division, 717.783.8055

2. Citations to Pennsylvania's Water Management Program implementing laws, regulations and policies that establish or implement programs meeting the requirements of provisions of the Compact and Agreement:

a. Laws and Regulations

COMPACT	AGREEMENT	IMPLEMENTING LAWS
Compact Section 3.4	Agreement Article 300	• The Great Lakes-St. Lawrence River Basin Water Resources Compact of 2008 (P.L. No. 526, No. 43), ("Act 43") 32 P.S. § 817.22.3.4.
Compact Section 4.1	Agreement Article 301	• Act 43, 32 P.S §§ 817.22.4.1;817.25(1) • The Water Resources Planning Act of 2002 (P.L. 1776, No. 220), ("Act 220") 27 Pa.C.S. §§ 3117-3118. • 25 Pa. Code §§ 110.201- 110.402.

Compact Sections 4.2(2), 4.2(4), and 4.2(5)	Agreement Article 304	• Act 43, 32 P.S §§ 817.22.4.2.2; 817.22.4.4; 817.22.4.5; 817.25(2). • Act 220, 27 Pa.C.S. §§ 3111-3112; 3115-3116. • The Pennsylvania Safe Drinking Water Act of 1984 (“Safe Drinking Water Act”) (P.L. 206, No. 43), 35 P.S. § 721.7. 25 Pa. Code § 109.603. • The Dam Safety and Encroachments Act of 1978 (P.L. 1375, No. 325), (“Dam Safety Act”) 32 P.S. § 2. 25 Pa. Code §§ 105.15; 105.113. • The Emergency Management Services Code of 1978 (P.L. 1332, No. 323), (“EMS Code”) 35 Pa.C.S. § 7313. • 4 Pa. Code §§ 118.4-118.5; 119.2; 119.4; 120.3-120.5.
Compact Section 4.3	Agreement Article 200	• Act 43, 32 P.S § 817.22.4.3. • The Water Rights Act of 1939 (P.L. 842, No. 365), (“Water Rights Act”) 32 P.S. §§636-637. • The Pennsylvania Clean Streams Law of 1937 (P.L. 1987, No. 396), as amended (“Clean Streams Law”) 35 P.S. §§ 691.402; 691.611. • The Pennsylvania Oil and Gas Act (“Oil and Gas Act”) (P.L. 87, No. 13), 58 Pa.C.S. §3211(m).
Compact Sections 4.8, 4.9 and 4.13	Agreement Article 200, 201 and 208	• Act 43, 32 P.S §§ 817.22.4.8-817.22.4.9; 817.22.4.13. • Water Rights Act, 32 P.S. §§ 636-637. • Clean Streams Law, 35 P.S. § 691.611.

Compact Section 4.10	Agreement Article 206	• Act 43, 32 P.S §§ 817.22.4.10. • Act 220, 27 Pa.C.S. § 3118. 25 Pa. Code §§ 110.201-110.402. • Water Rights Act, 32 P.S. §§ 636-637. • Clean Streams Law, 35 P.S. §§ 691.401-691.402; 691.611. • Oil and Gas Act, 58 Pa.C.S. § 3211(m). • Dam Safety Act, 32 P.S. §§ 6-7; 9.
Compact Section 4.11	Agreement Article 207	• Act 43, 32 P.S §§ 817.22.4.11; 817.24(3). • Act 220, 27 Pa.C.S. § 3120. • Safe Drinking Water Act, 35 P.S. § 721.7.

b. Policies

- i. Susquehanna River Basin Commission's (SRBC's) *Guidelines for Using and Determining Passby Flows and Conservation Releases for Surface-Water and Ground-Water Withdrawal Approvals* (SRBC Policy No. 2003-01). This policy is being applied by DEP statewide. However, policy based on research by The Nature Conservancy (TNC) is being implemented by SRBC during low-flow conditions in the Susquehanna River basin, and similar policies based on TNC's study are under development in other basins, including the Great Lakes.
- ii. DEP *Water Quality Antidegradation Implementation Guidance* (DEP document 391-0300-002) states that it is the policy of DEP to protect the existing uses of all surface waters, and the existing quality of High Quality (HQ) and Exceptional Value (EV) waters.
- iii. DEP *Public Water Supply Manual - Part II, Community System Design Standards* (DEP document 383-2125-108).
- iv. DEP *Aquifer Testing Guidance for Public Water Systems* (DEP document 394-2125-001) establishes guidelines for aquifer testing for new or expanded Public Water Systems and replaces the corresponding procedures included in Part II of the Public Water Supply Manual pertaining to aquifer testing guidance.
- v. DEP *Guidelines for Identification of Critical Water Planning Areas* (DEP document 392-2130-014) provides for identification of Critical Water Planning Areas (CWPAs) as part of the State Water Plan. It defines a CWPAs as a significant hydrologic unit where existing or future demands exceed or threaten to exceed the safe yield of available water resources.

WATER MANAGEMENT PROGRAM REPORT

1. Summary description of the State's or Province's water management program scope and thresholds, including current status of program implementation and a description of which New or Increased Withdrawals, Consumptive Uses and Diversions are subject to the program.

DEP's Water Management Program implements the *Great Lakes–St. Lawrence River Basin Water Resources Compact (Compact)* and the *Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement (Agreement)*. The Water Management Program is responsible for guiding sustainable water use policy throughout the Commonwealth, though special practices and reporting for the Great Lakes Basin are incorporated into the general practices of the Program. The information included in this report is specific to the Great Lakes Basin.

Pennsylvania accomplishes water management activities through several statutes, regulations, and supporting case law. The Water Rights Act of 1939 provides a broad,

contextual basis for water quantity management, governing the acquisition of water rights by public water supply agencies to divert water from rivers, streams, natural lakes, and ponds, and/or other surface waters within the Commonwealth in the interest of securing an adequate and safe supply of water for the public. Section 3 of this statute assures that acquisitions of water rights for diversions made by public water supply agencies allow for existing and future needs of the agencies as well as other entities requiring the procurement and use of water.

The Water Resources Planning Act of 2002 (Act 220) and its implementing regulations, 25 Pa. Code Chapter 110 (Chapter 110), establish registration, monitoring, recordkeeping and reporting requirements for purposes of obtaining accurate information to guide existing and future planning for water resources. Act 220 and Chapter 110 provide the contemporary framework for water management in Pennsylvania and created the Pennsylvania State Water Plan and avenues for registration and reporting of water withdrawals for all public water supply agencies, hydropower facilities, and other entities withdrawing greater than an average rate of 10,000 gallons per day.

Act 43 of 2008, implementing the Great Lakes–St. Lawrence River Basin Water Resources Compact in Pennsylvania, establishes the threshold for management and regulation as follows: any new or increased withdrawal from the basin in an amount that equals or exceeds 100,000 gallons per day averaged over any 90-day period; any new or increased consumptive use of water withdrawn from the basin in an amount which equals or exceeds 5,000,000 gallons per day averaged over any 90-day period; or any new or increased diversion of water from the basin.

Water Use Registration and Reporting

Act 220, Chapter 110, and Act 43 of 2008 set the registration and reporting requirements for water withdrawals, consumptive uses, and diversions in Pennsylvania.

Registration

Chapter 110, Subchapter B, Section 110.201 requires the following persons to register with DEP within 30 days following the initiation of a water withdrawal or withdrawal use:

- Each owner of a public water supply agency.
- Each owner of a hydropower facility.
- Each person whose total withdrawal from a point of withdrawal, or from multiple points of withdrawal operated as a system either concurrently or sequentially, within a watershed exceeds an average rate of 10,000 gallons per day in any 30-day period.
- Each person who obtains water through an interconnection with another person in an amount that exceeds an average rate of 100,000 gallons per day in any 30-day period.

- Within an area designated as a critical water planning area, each person who obtains water through interconnection with another person in an amount that exceeds an average rate of 10,000 gallons per day in any 30-day period.

Registrants are required to supply the following information by submitting their registration online through the web portal

<https://greenport.pa.gov/WaterSourceRegistration/RegLookup>. A separate online submission is required for each source of water.

- Registrant identification and description information.
- For each source: Name, description, location, amount of water withdrawn or obtained through interconnection with another person, or instream hydropower use.

Reporting

Chapter 110, Subchapter C, 110.304 states that each person subject to registration in Chapter 110.201 shall provide an annual report to DEP describing water use during the previous calendar year. Reports include industry-specific information as well as:

- The amount of consumptive and non-consumptive uses reported as monthly totals and number of days used.
- Locations and amounts of any waters returned or discharged reported as annual total.
- Amounts of water transferred between public water supply agencies by means of interconnections reported as monthly totals and number of days used.

All Chapter 110 and Water Management Plan (required for oil and gas operators) reporting is accomplished through an online data submission portal, DEP Greenport (<https://greenport.pa.gov/>). Public water suppliers are required to report by March 31 following the report year, and all other registrants are required to report by June 30.

Withdrawals

‘Withdrawal’ is defined in Act 43 of 2008, Article I as “the taking of water from surface water or groundwater.” Act 43 of 2008, Section 6 sets the threshold for management and regulation as follows: any new or increased withdrawal from the basin in an amount that equals or exceeds 100,000 gallons per day averaged over any 90-day period; any new or increased consumptive use of water withdrawn from the basin in an amount which equals or exceeds 5,000,000 gallons per day averaged over any 90-day period; or any new or increased diversion of water from the basin.

The permitting of withdrawals is accomplished through multiple DEP permitting programs that focus on the type of activity and industry proposing the withdrawal. Public water supplies are governed by the Pennsylvania Safe Drinking Water Act which requires stringent source water quality standards and provides guidelines on water

quantity, either surface or ground water, through the DEP *Public Water Supply Manual - Part II, Community System Design Standards*, Section III: Source Development and Construction (DEP document 383-2125-108) and the DEP *Aquifer Testing Guidance for Public Water Systems* (DEP document 394-2125-001).

Water withdrawals associated with unconventional oil and natural gas well drilling and development activities are subject to approval requirements of Section 3211(m) of Pennsylvania's 2012 Oil and Gas Act and its implementing regulation in 25 Pa. Code Chapter 78a which requires the creation and approval of a Water Management Plan and quarterly reporting of daily withdrawals and purchases. Operators may also report daily use values on a monthly basis to allow for greater flexibility in reporting,

Certain activities that involve surface water withdrawals and intake structures may require permitting through Pennsylvania's Dam Safety and Encroachments Act of 1978 and its implementing regulations in 25 Pa. Code Chapter 105.

Consumptive Use

'Consumptive Use' is defined in Act 43 of 2008, Article I as "that portion of the Water Withdrawn or withheld from the Basin that is lost or otherwise not returned to the Basin due to evaporation incorporation into Products, or other processes." Water withdrawal registrants under Act 220 and 25 Pa. Code §110.304 are required to report the amounts of consumptive and non-consumptive uses by a means or method accurate to within 10% of actual flow or through established scientific means as defined by Chapter 110.501.

Diversions

'Diversion' is defined in Act 43 of 2008, Article I as "a transfer of Water from the Basin into another watershed, or from the watershed of one of the Great Lakes into that of another by any means of transfer, including but not limited to a pipeline, canal, tunnel, aqueduct, channel, modification of the direction of a water course, a tanker ship, tanker truck or rail tanker but does not apply to Water that is used in the Basin or a Great Lake watershed to manufacture or produce a Product that is then transferred out of the Basin or watershed." Currently in Pennsylvania, there are no existing or proposed diversions. Any proposed diversion would be reviewed through existing water withdrawal permitting programs.

2. Specific description of how water withdrawals in Pennsylvania are managed by sector, water source, quantity, and location.

Water withdrawals in Pennsylvania are regulated in a varying manner depending on sector, source, quantity and location.

a. Regulation by Sector

Under the registration process of 25 Pa. Code §§ 110.201-110.206, withdrawal sources in the Great Lakes-St. Lawrence River Basin are assigned codes within Pennsylvania's

Water Use Data System (WUDS) that identifies a source use (sector) type consistent with Great Lakes-St. Lawrence River Regional Water Use Database. Other data collected include, but are not limited to, facility type and client-level information related to ownership and location.

Public water supply (statewide)

Under the authority and provisions of Pennsylvania's Water Rights Act, 32 P.S. §§ 636-637, public water suppliers obtain water rights from DEP for all surface water withdrawals, with no rate or volume thresholds, through the application of and approval of water allocation permits. Public water suppliers are also regulated by the Pennsylvania Safe Drinking Water Act, 35 P.S. § 721.7. Public water suppliers are also subject to registration, recordkeeping, monitoring, and reporting requirements as described in 25 Pa. Code §§ 110.201-110.402.

Gas well development in unconventional formations (statewide)

Under Pennsylvania's Oil & Gas Act, 58 Pa.C.S. § 3211(m) and its implementing regulation in 25 Pa. Code Chapter 78a, any person withdrawing or using water from a water source in the Commonwealth, for drilling or completing an unconventional gas well, are to obtain approval of a Water Management Plan from DEP prior to the withdrawal or use of water, with no quantity or rate minimums. Water Management Plan approvals identify the maximum rate and volume of water that may be withdrawn, and if applicable, passby flow conditions. Holders of these approvals are required to measure water withdrawals and purchases using continuous-recording devices or flow meters. Daily records of withdrawal volumes, in-stream flow measurements or water source purchases, or both, are submitted quarterly.

Other sectors

The management and regulation of all other sectors within the Great Lakes-St. Lawrence River Basin (e.g., mineral, industrial, agricultural, commercial, and electric) fall under the provisions of Act 43, 32 P.S. §§ 817.22.4.10, including: any new or increased withdrawal from the basin in an amount that equals or exceeds 100,000 gallons per day averaged over any 90-day period; any new or increased consumptive use of water withdrawn from the basin in an amount which equals or exceeds 5,000,000 gallons per day averaged over any 90-day period; or any new or increased diversion of water from the basin.

As with public water supply and oil and gas operations, water withdrawals for other sectors are subject to the registration, recordkeeping, monitoring, and reporting requirements of 25 Pa. Code §§ 110.201-100.402.

b. Regulation by Water Source

Groundwater:

Groundwater withdrawals are managed and regulated within the Great Lakes-St. Lawrence River Basin under the provisions of Act 43, 32 P.S. §§ 817.22.4.10, including: any new or increased withdrawal from the basin in an amount that equals or exceeds 100,000 gallons per day averaged over any 90-day period; any new or increased consumptive use of water withdrawn from the basin in an amount which equals or exceeds 5,000,000 gallons per day averaged over any 90-day period; or any new or increased diversion of water from the basin.

Groundwater withdrawals for public water suppliers, with no minimum thresholds, are regulated under the authority of the Pennsylvania Safe Drinking Water Act, 35 P.S. § 721.7, the DEP *Water Supply Manual - Part II, Community System Standards*, and the registration, recordkeeping, monitoring, and reporting requirements of 25 Pa. Code §§ 110.201-110.402.

Groundwater withdrawals for unconventional gas well development are regulated under Pennsylvania's Oil and Gas Act, 58 Pa.C.S. § 3211(m), requiring DEP approval of Water Management Plans developed by unconventional gas well operators. Holders of these approvals generally follow the recordkeeping, monitoring, and reporting procedures of 25 Pa. Code §§ 110.201-110.402.

Withdrawals for groundwater withdrawals by other sectors (e.g., mineral, industrial, agricultural, commercial, and electric) are subject to the registration, recordkeeping, monitoring, and reporting requirements of 25 Pa. Code §§ 110.201-110.402.

Surface Water:

In the Great Lakes Basin portion of Pennsylvania, all surface water withdrawals by public water suppliers are regulated under the Water Rights Act, 32 P.S. §§ 636-637 and, for all withdrawals of 10,000 gallons per day or more over a 30-day average, under 25 Pa. Code §§ 110.201-110.402.

Surface water withdrawals for unconventional gas well development are regulated under Pennsylvania's Oil and Gas Act, 58 Pa.C.S. § 3211(m), requiring DEP approval of Water Management Plans developed by unconventional gas well operators. Holders of these approvals generally follow the recordkeeping, monitoring, and reporting procedures of 25 Pa. Code §§ 110.201-110.402.

c. Regulation by Quantity

Withdrawals are managed and regulated within the Great Lakes-St. Lawrence River Basin under Act 43, 32 P.S. §§ 817.22.4.10, including: any new or increased withdrawal from the basin in an amount that equals or exceeds 100,000 gallons per day averaged over any 90-day period; any new or increased consumptive use of water withdrawn from the basin in an amount which equals or exceeds 5,000,000 gallons per

day averaged over any 90-day period; or any new or increased diversion of water from the basin.

Act 220, 27 Pa.C.S. § 3118, and its implementing regulations at 25 Pa. Code §§ 110.201-110.402 require registration, reporting, and recordkeeping for water withdrawals if an owner of a public water supply agency, hydropower facility, or any person whose total withdrawal exceeds an average rate of 10,000 gallons per day in any 30-day period or exceeds an average rate of 100,000 gallons per day in any 30-day period if obtaining water through interconnection with another person. Reports are to be submitted to DEP yearly. Depending on the sector, different user-specific contents are required in these reports.

d. Regulation by Location

In Pennsylvania, regulation of water withdrawals varies somewhat between withdrawals and uses within and outside of the Great Lakes-St. Lawrence River Basin. While all the provisions of Act 220, 27 Pa.C.S. § 3118, 25 Pa. Code §§ 110.1-110.603, the Oil and Gas Act, 58 Pa.C.S. § 3211(m), and 25 Pa. Code § 78a.69 apply statewide, the provisions of Act 43 regarding the prohibition of new or increased diversions, new or increased withdrawals, and consumptive uses apply only within Pennsylvania's portion of the Great Lakes-St. Lawrence River Basin.

e. Exemptions as allowed in the Agreement and Compact

Act 43, 32 P.S §§ 817.22.4.9 and 817.22.4.13 provide for the full exemptions allowed in the Agreement and Compact.

i. Section 4.9 Exceptions to the prohibition of diversions

- Provisions for certain transfers of water to areas within “straddling communities”; and
- Provisions for certain transfers of water to communities within a “straddling county”.

ii. Section 4.13 Exemptions

- To supply vehicles, including vessels and aircraft, whether for the needs of the persons or animals being transported or for ballast or other needs related to the operation of the vehicles.
- To use in non-commercial project on a short-term basis for firefighting, humanitarian, or emergency response purposes.

3. Description of how the provisions of the Standard of Review and Decision are applied, including information on how each criterion of the Decision-Making Standard and Exception Standard is addressed.

The Standard of Review and Decision was codified in Pennsylvania in Act 43 of 2008 and is applied when DEP permits or regulates water withdrawals within the Great Lakes-

St. Lawrence River Basin in accordance with the statutes, regulations, and/or policies described in the General Information section above. No additional standards have been incorporated in the withdrawal review process in Pennsylvania.

a. Decision making standard for withdrawals, consumptive uses.

Section 4.11 of Act 43 details the requirements for proposals subject to the threshold level for management and regulations of all new or increased withdrawals of 100,000 gallons per day or greater average in any 90-day period.

- i. All water withdrawn shall be returned, either naturally or after use, to the source watershed less an allowance for consumptive use;
- ii. The withdrawal or consumptive use will be implemented to ensure that the proposal will result in no significant individual or cumulative adverse impacts to the quantity or quality of the waters and water dependent natural resources and the applicable source watershed;
- iii. The withdrawal or consumptive use will be implemented to incorporate environmentally sound and economically feasible water conservation measures;
- iv. The withdrawal or consumptive use will be implemented to ensure that it is in compliance with all applicable municipal, State and Federal laws as well as regional interstate and international agreements, including the Boundary Waters Treaty of 1909;
- v. The proposed use is reasonable, based upon consideration of factors including efficiency, balance between economic development, social development and environmental protection, supply potential of the water source, and adverse impacts expected to be caused by the proposed withdrawal.

b. Exception standard for diversions

- i. Section 4.8 of Act 43 provides for the prohibition of new or increased diversions with Section 4.9 providing an exception standard for proposals subject to management and regulation under the Act as previously described above in item 2.e.
- ii. The following diversion proposals are subject to more stringent standards as well as separate review and approval by the eight Great Lakes states who are members of the Compact Council and review by the Regional Body composed of the Compact Council members plus representatives of the Canadian provinces of Ontario and Quebec, in accordance with the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement and the Compact:
 - Proposals to divert Great Lakes water to a community within a county that straddles the Great Lakes Basin; and

- Proposals to transfer water from the basin of one Great Lake to that of another that result in more than 5,000,000 gallons per day consumptive use.

4. Overview of Pennsylvania’s reporting and database of Withdrawals, Consumptive Uses, and Diversions including implementation status and database elements and capabilities and reporting mechanisms as well as methods of measurement.

Pennsylvania’s water withdrawal and use requirements are outlined in 25 Pa. Code §§ 110.1-110.603.

a. § 110.201.

Registration of a water source is required of: (1) each owner of a public water supply agency, with no minimum threshold; (2) each owner of a hydropower facility, with no minimum threshold; (3) each person whose total withdrawals exceeds an average rate of 10,000 gallons per day in any 30-day period; (4) each person who obtains water through interconnection with another person that exceeds an average rate of 100,000 gallons per day; and (5) each person within an area designated as a critical water planning area who obtains water through interconnection with another person that exceeds 10,000 gallons per day.

- Registration is accomplished through submission of forms that identify ownership, source, use type, sector, location, source details, and measurement of water. Once accepted, the registration information is retained within the Commonwealth’s Water Use Data Management System (WUDS). From this information, consumptive use coefficients are applied by sector based on published values or computed using a balancing equation when discharge volume is reported at a facility.

b. § 110.302-110.305.

Each person subject to the registration under § 110.201 is required to submit a report of their withdrawals or purchases. This is accomplished electronically through the DEP Greenport, a web-based application, <https://www.depgreenport.state.pa.us>.

- Monthly water withdrawals and use are reported on an annual basis by March 31 for public water suppliers and June 30 for all sectors except for public water suppliers. Public water suppliers with surface water sources report daily withdrawal values on a monthly basis and unconventional gas operator sources report daily withdrawal values on a quarterly basis.

c. § 110.401-110.402

Each person subject to registration and reporting is to retain supporting data for at least five years.

d. § 110.501-110.503

A public water supplier is to measure its withdrawals and transfers by means of a continuous recording device or flow meter accurate to within 5% of actual flow. A hydropower facility is to measure its withdrawals or in-stream uses by continuous recording device, by flow meter, or by calculation based on electrical generation or turbine flow rates accurate to within 5% of actual flow. Each person whose total withdrawals equals or exceeds an average rate of 50,000 gallons per day in any 30-day period or obtains water by interconnection in excess of an average of 100,000 gallons per day in any 30-day period is to measure or calculate: (1) withdrawals and interconnection flows by a continuous recording device or meter accurate to within 5% of actual flow; and (2) consumptive use by means accurate to within 10% of actual flow. DEP may grant exceptions if standards are not technically feasible or economically practical. Withdrawals and uses are to be recorded daily with water obtained by interconnection recorded on a weekly basis. Voluntary registrants may record monthly. Provision is made for more accurate measurement or calculations in Critical Water Planning Areas designated through State Water Plan planning processes.

5. Application Form(s) and related regulations, policies, and manuals

Water allocation permit form and instructions for public water supply surface water withdrawals

<http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=4042>

Water withdrawal registration and use forms and instructions of all withdrawals under 25 Pa. Code Chapter 110

<https://greenport.pa.gov/WaterSourceRegistration/RegLookup>

Water Management Plan form and instructions for unconventional gas water withdrawals

<http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=3908>

Public Water Supply Permit Applications

<http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=3928>

25 Pa. Code Chapter 110

<http://www.pabulletin.com/secure/data/vol38/38-46/2057.html>

The Water Resources Planning Act of 2002 (Act 220)

<https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2002&sessInd=0&act=220>

Act 43, the Great Lakes-St. Lawrence River Basin Water Resources Compact

<http://www.legis.state.pa.us/WU01/LI/LI/US/HTM/2008/0/0043..HTM>

Water Rights Act of 1939

<http://www.legis.state.pa.us/WU01/LI/LI/US/PDF/1939/0/0365..PDF>

Oil and Gas Act, 58 Pa.C.S. § 3211(m)

<http://files.dep.state.pa.us/OilGas/BOGM/BOGMPortalFiles/OilGasReports/2012/act13.pdf>

25 Pa. Code Chapter 78a

<https://www.pacode.com/secure/data/025/chapter78a/chap78atoc.html>

DEP Public Water Supply Manual

<https://greenport.pa.gov/elibrary/GetDocument?docId=1419665&DocName=PUBLIC%20WATER%20SUPPLY%20MANUAL%20-%20PART%20II%20COMMUNITY%20SYSTEM%20DESIGN%20STANDARDS.PDF%20%20%3Cspan%20style%3D%22color%3Agreen%3B%22%3EAS%20OF%20APRIL%2012%2C%202014%2C%20THE%20AQUIFER%20TESTING%20GUIDELINES%20WITHIN%20THIS%20MANUAL%20ARE%20REPLACED%20BY%3C%2Fspan%3E%20%3Cspan%20style%3D%22color%3Ablue%3B%22%3E%3C%2Fspan%3E>

DEP Aquifer Testing Guidance for Public Water Systems

<http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=4643>

DEP Guidelines for Identification of Critical Water Planning Areas

<http://www.depgreenport.state.pa.us/elibrary/GetFolder?FolderID=4670>

6. Summary description of the State’s or Province’s initiatives to support an improved scientific understanding of the Waters of the Basin and an improved understanding of the groundwater of the Basin and the role of groundwater in Basin water resource management including a description of initiatives or mechanisms to support an improved understanding of individual or cumulative impacts of withdrawals, consumptive uses and diversions of the Basin.

- a. Pennsylvania completed the Pennsylvania Lake Erie Integrated Water Resources Management Plan in coordination with Pennsylvania Sea Grant, Erie County Conservation District, and the Regional Science Consortium at Presque Isle. Released in December 2015, this document consolidated much of the scientific data and attributes associated with Pennsylvania tributaries in the Lake Erie Basin. It is available for viewing and download at:
<https://pawalter.psu.edu/sites/default/files/resources/PALE%20IWRM%20Plan%20%282015%29.pdf>
- b. In 2018, Pennsylvania and Pennsylvania Sea Grant launched the Water and Land Technical Resource website as a “one-stop, web-based center” to access and integrate Pennsylvania Great Lakes related information, data, services, and guidance. The website underwent a significant refresh in 2020 to include an improved interactive geospatial mapping application that allows the viewing and downloading of watershed, water quality, and land use data and reports to help water management understanding and inform policy decision-making. The wide array of topics, digital information, and historical documents and reports are available for viewing and download at:
<https://pawalter.psu.edu/>
- c. DEP implemented a series of trainings in 2016 specifically developed for public water supply operators within the Lake Erie Basin that focused on reducing system-wide public drinking water losses. These trainings educated over 50 Lake Erie Basin water supply operators, and topics included: In-depth Training in Water Loss Auditing using the American Water Works Association’s Free Water Audit Software; Controlling Water Utility Apparent Losses in Customer Metering and Billing Operations; and Fundamentals of Leakage and Pressure Management for Water Utilities. DEP continues to update and deliver these courses across the Commonwealth and has trained hundreds of operators since inception.

WATER CONSERVATION AND EFFICIENCY PROGRAM REPORT

The following information summarizes Pennsylvania’s efforts regarding the Commonwealth’s Water Conservation and Efficiency Program. This information is being submitted by the Commonwealth to the Regional Body and Compact Council pursuant to the requirements in the Agreement Article 304 and the Compact Section 4.2.2.

1. Status of the State or Province’s Water Conservation and Efficiency Goals and Objectives consistent with the Basin-wide Goals and Objectives.

Pennsylvania continues to achieve its water conservation and efficiency goals and objectives through a mix of voluntary efforts combined with statewide regulatory requirements.

Pennsylvania’s Act 43 of 2008 (32 P.S. § 817.25) authorized the Commonwealth to join the Compact and established that the Water Conservation and Efficiency Program, required under Compact § 4.2, shall be a voluntary program. As part of its State Water Planning Program, Pennsylvania has eight key goals that support the Basin-wide and regional objectives of the Compact. Pennsylvania’s water conservation and efficiency goals are articulated in our State Water Planning Program at 27 Pa.C.S. § 3120(a).

As reported in prior updates, the eight goals are:

1. Establish guidelines for developing voluntary water use reduction in Critical Water Planning Areas.
2. Identify and compile principles, practices, and technologies to assist all water users in conserving water.
3. Identify and compile principles, practices, and technologies to encourage groundwater recharge.
4. Develop a statewide program to promote voluntary reduction of water loss.
5. Establish a voluntary statewide conservation program for all users.
6. Develop educational programs for households, industry, and other water users.
7. Facilitate Governor’s Water Conservation and Efficiency Award Program (currently facilitated through the Governor’s Awards for Environmental Excellence).
8. Establish voluntary water use reduction goals for all users.

Pennsylvania continues to achieve reductions in overall Great Lakes water use. In Water Year 2023, the total Pennsylvania Great Lakes Basin withdrawal amount was 28.0 mgal/d, an 8.2 percent decrease from Water Year 2022 and the lowest overall water withdrawn since the inception of the Compact and Agreement. The reduction was accounted for by a 7.5 percent decrease in public water supply use and an 18 percent decrease in water use for self-supply livestock, both associated with normal fluctuations. The majority (25.2 mgal/d or 89.7 percent) of the total withdrawn for 2023 was used for public water supply purposes, followed by self-supplied livestock, with a total withdrawal amount of 2.4 mgal/day, and self-supplied irrigation use of 0.4 mgal/day. The estimated total consumptive use was 3.0 mgal/d, mostly accounted for by public water supply at 83.7 percent of the total.

2. Water Conservation and Efficiency Program Overview.

Pennsylvania's Water Conservation and Efficiency Program is implemented through a mix of voluntary efforts combined with statewide regulatory requirements. Pennsylvania's Act 43 of 2008 authorizes the use of a voluntary Water Conservation and Efficiency Program. As part of its State Water Planning Program, Pennsylvania has eight key goals that support the Basin-wide and regional objectives of the Compact. In addition, regulatory programs that support and complement water conservation and efficiency goals and objectives are already in place through other statewide laws and policies of the Commonwealth. Most water use in Pennsylvania's Great Lakes Basin is attributable to public water supplies. Public water supply agencies throughout the Commonwealth are required to obtain a water allocation permit for surface water sources, with approvals of systems metering, use justification, drought management, and water conservation and efficient use elements included in the permitting process that implements the Water Rights Act (Act 365 of 1939, 32 P.S. §§ 63 et seq.).

Pennsylvania regulatory programs with citations and summaries include the following:

The Great Lakes-St. Lawrence River Basin Water Resources Compact (32 P.S. §§ 817.21 et seq.) — Specifically, 32 P.S. § 817.25 states that DEP, “shall have the power and duty to: ... (2) Administer and implement within the basin a water conservation and efficiency program required under Compact § 4.2. Such a program shall be a voluntary program, utilizing the provisions of 27 Pa.C.S. § 3120 (relating to water conservation).”

Water Resources Planning Act (Act 220 of 2002, 27 Pa.C.S. §§ 3101 et. seq.) — Act 220 of 2002 authorizes DEP to build capacity to the water use reporting system to develop a program for water users to record their voluntary water conservation and efficiency efforts.
www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2002&sessInd=0&act=220

Water Rights Act (Act 365 of 1939, 32 P.S. §§ 636-637) Pennsylvania Surface Water Allocation Program — Under this act, public water supply agencies must obtain Water Allocation Permits from DEP to acquire rights to use surface water sources in Pennsylvania. Included in the review of permit applications, DEP considers the conservation, development, and use to the best advantage of existing sources of water supply. Permits generally contain requirements to implement water conservation programs, adopt drought contingency plans and submit annual permit compliance reports.
www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=1939&sessInd=0&act=365

3. A description of how Pennsylvania promotes Environmentally Sound and Economically Feasible Water Conservation Measures consistent with the regional objectives follows.

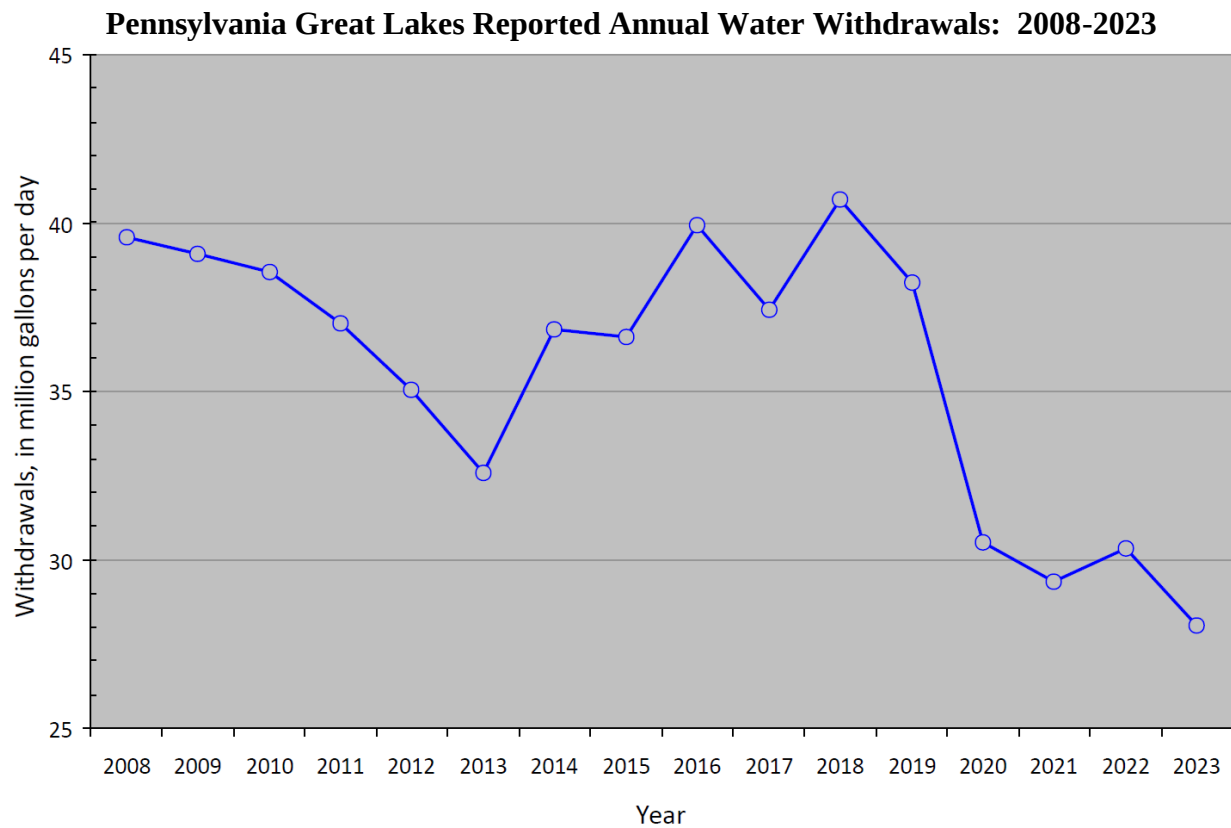
OBJECTIVES	LEGISLATIVE OR PROGRAM CITATION
Guide programs toward long-term sustainable water use	(1) Water Rights Act, 32 P.S. §§ 636-637 — Under this act, public water supply agencies must obtain Water Allocation permits from DEP to acquire rights to surface water in PA. In its review of the permit applications, DEP considers water conservation and use of existing water supplies. (2) Water Resources and Planning Act (Act 220 of 2002), 27 Pa.C.S. §§ 3117; 3120, authorizes DEP to build capacity of the water use reporting system to develop a program for water users to record their voluntary water conservation and efficiency efforts. (3) The Pennsylvania Public Utility Commission has provisions in the <i>Pennsylvania Code</i> for water conservation measures for public water suppliers (52 Pa. Code § 65.11) in the event of short-term water supply deficiencies. In addition, public water suppliers are to encourage customers to implement cost-effective water conservation measures. Rates for water utilities are set with consideration for the following factors: customer education, efficient plumbing fixtures, leak detection, water audits for large non-residential customers, unaccounted for water, and metering (52 Pa. Code § 65.20). This section also requires public water suppliers to file mandatory conservation contingency plans.
Adopt and implement supply and demand management to promote efficient use and conservation of water resources	(4) A DEP regulation, which establishes water withdrawal and use registration, monitoring, record-keeping and reporting requirements at 25 Pa. Code §§ 110.201 and 110.301, became effective upon its publication in the <i>Pennsylvania Bulletin</i> on November 15, 2008. This regulation requires water users who withdraw in excess of 10,000 gallons per day on a 30-day average or who purchase water through interconnection in excess of 100,000 gallons of water per day or more on a 30-day average to report their water use to DEP. <i>See also</i>, Water Resources and Planning Act (Act 220 of 2002), 27 Pa.C.S. § 3118.
Improve monitoring and standardize data reporting among state water conservation and efficiency programs	(5) Pennsylvania participates in the Great Lakes Regional Water Use Database process. Currently this process is administered by the Great Lakes Commission in consultation with the Council of Great Lakes Governors, to meet the goal of standardizing data reporting among the Jurisdictions (27 Pa.C.S. § 3117). A reporting requirement has been imposed in the Commonwealth on all water uses over 10,000 gallons per day on a 30-day average (27 Pa. C.S. § 3118; 25 Pa. Code §§ 110.201 and 110.301); and

OBJECTIVES	LEGISLATIVE OR PROGRAM CITATION
	any water use for oil and gas development requires submission of a water management plan (58 Pa.C.S. § 3211(m)).
Develop science, technology, and research	(6) DEP plans to continue to seek the assistance of Pennsylvania Sea Grant, The Pennsylvania State University, and other regional higher education institutions and to focus on developing science, technology, and research in the Great Lakes Basin.
Develop education programs and information sharing for all water users	(7) Water Resources Planning Act (Act 220 of 2002), 27 Pa.C.S. §§ 3117; 3120, authorizes DEP to build capacity of the water use reporting system to develop a program for water users to record their voluntary water conservation and efficiency efforts. Pennsylvania is considering new ways to increase water conservation and efficiency awareness and enhance commitments made in Resolution 5 of the Compact Council and Resolution 6 of the Regional Body. DEP plans to continue to seek the assistance of Pennsylvania Sea Grant and The Pennsylvania State University to increase the level of water conservation and efficiency outreach and education through partnerships within the local and regional communities.

4. Description of the State or Provincial Water conservation and efficiency program implementation timeline and status.

- a. In 2025-2029, DEP will continue offering opportunities for conservation and efficiency education to public water suppliers in Pennsylvania's Great Lakes Basin. Virtual trainings can help increase water operator participation and utility implementation to assist Pennsylvania in achieving conservation and efficiency goals through reductions in non-revenue water loss.
- b. In 2025-2029, DEP will continue to convene the Great Lakes Water Resources Regional Committee of the State Water Plan to maintain organizational structure and receive information regarding activities in the Pennsylvania Great Lakes Basin (Lake Erie and Genesee River). Progress can be followed at:
www.dep.pa.gov/Business/Water/PlanningConservation/StateWaterPlan
- c. In 2025-2029, DEP will continue the evaluation of water conservation and efficiency successes through the current Governor's Award for Environmental Excellence. This award is open to any Pennsylvania business, farm, government agency, educational institution, non-profit organization, and individual that has created or participated in the development of a project that promotes environmental stewardship and economic development in the state. Information on the award may be found at:
<https://www.dep.pa.gov/About/Awards/EnvironmentalExcellence/Pages/default.aspx>

- d. In 2025 and future years, DEP will dedicate segments of the Pennsylvania Lake Erie Environmental Forum (PA LEEF) to wise water use in Pennsylvania and potential conservation and efficiency program initiatives. PA LEEF is a cooperative program between DEP and Pennsylvania Sea Grant that provides an opportunity for members of the public to learn about Great Lakes activities. More information about future PA LEEF meetings, as well as videos and presentations from previous meetings can be found at: <https://seagrant.psu.edu/outreach/pa-leef/>



END OF REPORT

**Great Lakes-St. Lawrence River Water Resources Regional Body
Great Lakes-St. Lawrence River Basin Water Resources Council**

RESOLUTION NO. 2025-8

ADOPTING JOINT DECLARATION OF FINDING

For the Water Management Program Review and
Water Conservation and Efficiency Program Review
State of Wisconsin

I. BACKGROUND AND PURPOSE

The Compact

A. The Great Lakes-St. Lawrence River Basin Water Resources Compact (“Compact”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin and the Commonwealth of Pennsylvania, and was effective on December 8, 2008.

B. Section 3.4 of the Compact requires each Party State to submit a report to the Great Lakes-St. Lawrence River Basin Water Resources Council (“Compact Council”) and the Great Lakes-St. Lawrence River Water Resources Regional Body (“Regional Body”) on actions taken by that State to meet the provisions of the Agreement and Compact regarding that Party State’s Water management and conservation and efficiency programs.

C. Following the Compact Council’s review of such reports in cooperation with the Provinces pursuant to Section 3.4 of the Compact, the Council shall determine whether that State’s programs: (1) meet or exceed the provisions of the Compact; or (2) do not meet the provisions of the Compact and, if not, recommend options to assist the jurisdiction in meeting the provisions of the Compact.

D. Section 4.2 of the Compact requires the Compact Council in cooperation with the Provinces to adopt Basin-wide conservation and efficiency objectives, which were adopted by the Compact Council on December 8, 2008. Section 4.2.2 of the Compact requires each Party State to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a Water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State’s goals and objectives.

The Agreement

E. The Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (“Agreement”) is by, between and among the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, and Wisconsin, the Commonwealth of Pennsylvania, the Province of Ontario, and the Government of Québec, and certain provisions of the Agreement began to more fully come into force on March 8, 2015.

F. Article 300 of the Agreement requires each Party State and Province to submit a report to the Regional Body on actions taken by the State or Province to meet the provisions of the Agreement regarding that State's or Province's Water management and conservation and efficiency programs.

G. Following the Regional Body's review of such reports pursuant to Article 300 of the Agreement, the Regional Body shall determine if that State or Province's programs: (1) meet or exceed the provisions of the Agreement; (2) do not meet the provisions of the Agreement; or (3) would meet the provisions of the Agreement if certain modifications were made and what options may exist to assist the jurisdiction in meeting the provisions of the Agreement.

H. Article 304, Paragraph 1 of the Agreement requires the Regional Body to identify Basin-wide Water conservation and efficiency objectives to assist the Parties in developing their Water conservation and efficiency programs by December 13, 2007, which were adopted by the Regional Body on December 13, 2007. Article 304, Paragraph 2 of the Agreement requires each Party State and Province to develop its own water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives, and develop and implement a water conservation and efficiency program, either voluntary or mandatory, within its jurisdiction based on the Party State's or Province's goals and objectives.

II. SUBMISSIONS BY STATE OF WISCONSIN

A. To the Compact Council. The Compact Council has received the State of Wisconsin's report on its Water management and conservation and efficiency programs under the Compact, which is attached to this Resolution as Attachment A.

B. To the Regional Body. The Regional Body has received the State of Wisconsin's report on its Water management and conservation and efficiency programs under the Agreement, which is attached to this Resolution as Attachment A.

III. DECLARATION OF FINDING

Upon review of the submissions of the State of Wisconsin, the terms of the Compact and the Agreement, the Compact Council and Regional Body find as follows:

- A. Based on the report submitted by the State of Wisconsin, the Water Management Program presented by the State of Wisconsin meets or exceeds the current requirements of the Compact and the Agreement.
- B. Based on the report submitted by the State of Wisconsin, the Water Conservation and Efficiency Program presented by the State of Wisconsin meets or exceeds the current requirements of the Compact and the Agreement.

Draft—For Discussion Purposes Only
November 11, 2025

ATTACHMENT A

Water Management and Conservation and Efficiency Programs—
Report to the Compact Council and Regional Body
Dated December 11, 2024

WISCONSIN DEPARTMENT OF NATURAL RESOURCES WATER MANAGEMENT AND CONSERVATION AND EFFICIENCY PROGRAM REVIEW

December 11, 2024

General Information

1. Lead agency/agencies and contact person(s) and contact information.

Lead agency: State of Wisconsin Department of Natural Resources (WDNR)

Contacts:	Adam Freihoefer WDNR DG/5 PO Box 7921 Madison, WI 53707-7921 Adam.Freihoefer@wisconsin.gov (608) 514-6058	Shaili Pfeiffer WDNR DG/5 PO Box 7921 Madison, WI 53707-7921 Shaili.Pfeiffer@wisconsin.gov (608) 219-2216
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2. Identify all laws, statutes, rules, regulations, executive orders, administrative orders or other similarly enforceable documents (collectively, “Laws”) that establish or implement programs meeting the requirements of the following provisions of the Compact or Agreement. In particular, ensure that all such citations address the following sections and articles of the Compact and Agreement. Include a brief lay person description for each section of the program and weblink for more information (registration, reporting, diversion, decision making standard for water use permits, water conservation program, science and research, etc.)

The Wisconsin Legislature ratified the *Great Lakes–St. Lawrence River Basin Water Resources Compact* (Compact) in 2007 Wisconsin Act 227. Section 281.346 of the Wisconsin Statutes details Wisconsin’s program for managing and regulating new or increased water withdrawals, diversions and consumptive uses consistent with the provisions of the Compact. There have been some changes to Wisconsin’s laws related to Compact implementation since 2007 Act 227. All relevant changes are noted below. Additional detail is provided in the table below.

COMPACT	AGREEMENT	IMPLEMENTING LAWS AND ADMINISTRATIVE CODES*
Compact Section 3.4	Agreement Article 300	§281.343(3)(d); §281.346(11)
Compact Section 4.1	Agreement Article 301	§281.343(4); §281.346(3); §281.346(11); NR 856
Compact Sections 4.2(2), 4.2(4), and	Agreement Article 304	§281.343(4b)(b), (d) & (e); §281.346(8) and (11)(d); NR 852

Compact Section 4.3	Agreement Article 200	§281.343(4d); §281.346; NR 850; NR 852; NR 856; NR 860
Compact Sections 4.8, 4.9, and 4.13	Agreement Articles 200, 201 and 208	§281.343(4m), (4n) and (4v); §281.346(4), (5m), (6) and (7); NR 851; NR 852; NR 854; NR 856
Compact Section 4.10	Agreement Article 206	§281.343(4p); §281.346 (4m), (4s), (5), (5e) and (5m); NR 860
Compact Section 4.11	Agreement Article 207	§281.343(4r); §281.346(6); NR 860

*NR references refer to chapters or sections of the Wisconsin Administrative Code; § references refer to sections of the Wisconsin Statutes.

Registration: Water withdrawers must register a water withdrawal if the water supply system (e.g. high capacity well or surface water intake pipe) has the capacity to withdraw at least 100,000 gallons per day (70 gallons per minute) (including from the Great Lakes basin) in any 30-day period. The two exemptions to this requirement are: withdrawals to supply vehicles for the needs of the persons or animals being transported or for ballast or other needs related to the operation of the vehicles and temporary withdrawals for fire-fighting, humanitarian or emergency response purposes. Ch. NR 856, Wis. Adm. Code;
<https://dnr.wi.gov/topic/WaterUse/registration.html>

Reporting: Registered withdrawers are required to measure or estimate the volume of water they withdraw every month and report that information annually to the WDNR. Even if water is not withdrawn during the previous year, a withdrawal report is still required. Reporting is required for: all high capacity well properties (statewide); permitted (Chapter 30, Wis. Stats.) surface water withdrawals (statewide); properties with a Water Use Permit (Great Lakes basin); and any properties that withdrew an average of 100,000 gallons per day or more in any 30-day period. Ch. NR 856, Wis. Adm. Code;
<https://dnr.wi.gov/topic/WaterUse/report.html>

Water Use Permits: Since December 8, 2011, WDNR requires water use permits in the [Great Lakes Basin](#) (Lake Superior or Lake Michigan) for properties that plan to withdraw water at an average of 100,000 gallons per day or more in any 30-day period. There are two types of water use permits:

- **Water Use General Permit** - Required for withdrawals that average 100,000 gallons per day or more in any 30-day period but do not equal at least 1,000,000 gallons per day for 30 consecutive days.
- **Water Use Individual Permit** - Required for withdrawals that equal at least 1,000,000 gallons per day for 30 consecutive days.

Applicants must receive a water use permit prior to withdrawing water. There are no Water Use Permit application fees. § 281.346(4m), (4s), (5), Wis. Stat.; Ch. NR 860, Wis. Adm. Code; <https://dnr.wi.gov/topic/WaterUse/permits.html>

Water Conservation and Efficiency: Wisconsin implements a water conservation and efficiency program in line with the Wisconsin and Great Lakes basin-wide water conservation and efficiency goals and objectives. The water conservation and efficiency program is implemented by the WDNR, in cooperation with the Public Service Commission of Wisconsin, and the Wisconsin Department of Safety and Professional Services. Wisconsin provides [annual reports](#) on its water conservation and efficiency program to the Compact Council and Regional Body. § 281.346(8), Wis. Stat.; Ch. NR 852, Wis. Adm. Code; <https://dnr.wi.gov/topic/WaterUse/conservation.html>

Diversions: The Great Lakes Compact and Agreement ban diversions of Great Lakes water with limited exceptions. These exceptions allow a “straddling community” or “community in a straddling county” to apply to divert water (i.e., to move water out of the Great Lakes basin). “Straddling community” refers to communities that straddle the Great Lakes basin boundary. These are communities that lie partly within the Great Lakes basin and partly outside of the Great Lakes basin. Examples of straddling communities in Wisconsin are the City of New Berlin, Village of Mount Pleasant, and the Village of Somers. “Community in a straddling county” refers to communities that are wholly outside of the Great Lakes basin but located in a county that straddles the Great Lakes basin boundary. An example of this type of community is the City of Waukesha. § 281.346(4), Wis. Stat.; Ch. NR 851, Wis. Adm. Code; <https://dnr.wi.gov/topic/WaterUse/compact.html>

Other: Wisconsin summarizes water use reporting data annually and [reports](#) are available on the WDNR’s website. Additionally, Wisconsin annually provides aggregate water use data to the Great Lakes Commission to include in the Great Lakes Commission’s Great Lakes [water use report](#). Wisconsin also provides an on-line search tool of [water withdrawal sources](#).

3. Identify any changes from the 2019 report, highlighting in particular major changes from 2019 throughout the response. If there are no changes, please indicate accordingly.

Wisconsin promulgated two rules related to implementing the Great Lakes Compact. These rules include Ch. NR 851, Wis. Adm. Code, Management of Great Lakes Diversions and Ch. NR 854, Wis. Adm. Code, Water Supply Service Area Plans, which went into effect July 1, 2024. The Management of Great Lakes Diversions administrative code defines the application requirements and the DNR’s review processes for Great Lakes diversions. The Water Supply Service Area Plans administrative code contains the water supply service area plan requirements and procedures for public water supply systems to follow when preparing water supply service area plans. These plans are required for most diversion applications. No other statutory or administrative code changes have occurred since 2019.

The high capacity well application review process has changed since 2019. These applications relate to implementation of the Compact as they are the review mechanism for impacts from high-capacity wells on waters of the state, including waters in the Great Lakes Basin. In July 2021, the Wisconsin Supreme Court issued a decision in *Clean Wisconsin v. Wisconsin Department of Natural Resources*, 2021 WI 72, affirming the WDNR’s constitutional duty and statutory authority to consider environmental effects on the waters of the state when reviewing high capacity well applications. This decision affirmed the court’s

previous ruling in *Lake Beulah Management District v. Wisconsin Department of Natural Resources*, 2011 WI 54. In accordance with the *Clean Wisconsin* decision, the WDNR high capacity well application review process considers environmental impacts to the waters of the state when reviewing a proposed high capacity well application, makes a fact-specific determination for each application, and considers sufficient concrete, scientific evidence of potential harm to waters of the state.

Water Management Program Report

- 1. Summary description of the State's or Province's Water management program scope and thresholds, including the current status of program implementation and a description of which New or Increased Withdrawals, Consumptive Uses and Diversions are subject to the program. The summary should include information on registration (if applicable), management and regulation, and reporting elements of the program.**

Water Use Program Management: The Water Use Program at WDNR was created to implement the Compact and *Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement* (Agreement) and to focus on sustainable and efficient water use. Wisconsin's Compact-implementing legislation (2007 Wisconsin Act 227) and related regulatory and case law provide the foundation for the Water Use Program. While most of the program applies statewide, there are specific requirements for water users in the Great Lakes Basin. Information related to the Water Use Program is available on the WDNR website: <http://dnr.wi.gov/topic/wateruse/>.

The Water Use Program is focused on achieving Wisconsin's goal, as described in [the state's water conservation and efficiency goals and objections](#), to:

“Sustainably manage the quantity and quality of water in the state to ensure that water is available to be used to protect and improve our health, economy and environment now and into the future.”

Water Use Program components include:

- Documenting and monitoring water use through registration and reporting;
- Implementing the Compact through water use permitting and regulating diversions of Great Lakes Basin waters;
- Helping communities plan water supply needs;
- Reviewing the construction and environmental impact of high capacity wells;
- Building a statewide water conservation and efficiency program;
- Developing and maintaining a statewide water resources inventory, including a better understanding of water loss and consumptive use in Wisconsin; and
- Providing information to the public on water withdrawal sources in Wisconsin, applications for new high capacity wells, and opportunities for public participation on significant Compact related proposals.

Statewide water use registration and reporting

Section 281.346(3), Wis. Stat., and Chapter NR 856, Wis. Adm. Code, requires people to register water withdrawals and report of water withdrawal data annually to the WDNR to support management of the state's water resources.

Registration

Any person who proposes to begin a new or increased withdrawal from waters of the state using a water supply system¹ with the capacity to withdraw 100,000 gallons per day (~ 70 gallons per minute) or more in any 30-day period, must register the withdrawal with the WDNR. Examples of water supply systems that may fall under this category include:

- All high capacity well properties;²
- Permitted (Wis. Stat. Chapter 30) surface water withdrawals;
- Any other properties statewide on which there is a water supply system with the capacity to withdraw an average of 100,000 gallons per day or more in any 30-day period from surface water or groundwater.

Prior to the effective date of the Compact, December 8, 2008, any approved and permitted water supply systems with a capacity to withdraw at least 100,000 gallons per day through several programs were automatically registered with the WDNR. Following implementation of the Compact, all new or increased withdrawals that meet the withdrawal threshold must register with the WDNR prior to withdrawing groundwater or surface water. This is typically done in conjunction with other approval or permitting procedures. As of 2024, WDNR has approximately 15,400 registered withdrawal sources statewide, of which, approximately 14,300 are wells and 1,100 are surface water sources. The public may search for water withdrawal locations through WDNR's [water quantity data viewer](#).

Reporting

In addition to registering water withdrawals, persons who make withdrawals from the waters of the state that average 100,000 gallons per day or more in any 30-day period must annually report to the WDNR the monthly volumes of the withdrawal.³

Owners with registered withdrawals must measure or estimate their monthly withdrawal volumes and report the previous calendar years' monthly water use by March 1 of each year. Methods for measuring water for reporting purposes are outlined in s. NR 856.31, Wis. Adm. Code. Owners report on-line or through mailed copies. Reporting response rate is

¹ "Water supply system," when not preceded by "public," means one of the following: 1. Except as provided in subd. 2., the equipment handling water from the point of intake of the water to the first point at which the water is used. 2. For a system for providing a public water supply, the equipment from the point of intake of the water to the first point at which the water is distributed. Wis. Stat. § 281.346(1)(wp).

² Section NR 812.07(51), Wis. Adm. Code, defines "high capacity property" as "one property on which a high capacity well system exists or is to be constructed." Further, s. NR 812.07(53) defines "high capacity well system" as "one or more wells, drillholes or mine shafts used or to be used to withdraw water for any purpose on one property, if the total pumping or flowing capacity of all wells, drillholes or mine shafts on one property is 70 or more gallons per minute based on the pump curve at the lowest system pressure setting, or based on the flow rate from a flowing well or wells."

³ Pursuant to Wis. Stat. s. 281.346 and Ch. NR 820, Wis. Adm. Code, high capacity well owners must annually report withdrawals to the WDNR, regardless of withdrawal volume. Further, under Ch. NR 860, Wis. Adm. Code, water use permittees must also annually report withdrawals, regardless of volume.

consistently around 92%. These reports are stored in a database and analyzed for errors and inconsistencies.

Wisconsin summarizes water use reporting data annually and [reports](#) are available on the WDNR's website. Water use information is available to the public by source or aggregated through the WDNR's online [water withdrawal data portal](#) and geospatially through the [water quantity data viewer](#). Water use data are provided upon request to governmental partners, researchers, businesses and private individuals.

The Regional Body and Compact Council Water Use Reporting Protocols require that States and Provinces report aggregate water use to the Great Lakes Commission annually to include in the Great Lakes Water Use report. Wisconsin provides this information annually by the specified August 15 deadline.

Water Use Permitting

Sections 281.346(4m), (4s), and (5), and Chapter NR 860, Wis. Adm. Code, establish the process, requirements and criteria for implementing water use permitting. A water use permit is required before persons may withdraw water in quantities that average 100,000 gallons per day or more in any 30-day period from groundwater or surface water (including streams, rivers, inland lakes, Lake Michigan, and Lake Superior) in the Great Lakes basin.

WDNR approved coverage for 912 water withdrawals to operate under Water Use General Permit No. 1 and 309 water withdrawal to operate under Water Use General Permit No. 2. WDNR has issued 326 Individual Water Use Permits. The General Permits will be reissued in 2036 and individual permits are valid for 10 years. In 2021 WDNR reviewed and reissued all active Individual Water Use Permits.

Water use permits for pre-existing withdrawals

In Wisconsin, water use permitting requirements began on December 8, 2011. WDNR issued automatic coverage under Water Use General Permit No. 1 to persons in the Great Lakes Basin with the capacity to withdraw an average of 100,000 gallons per day or more, but less than 1 million gallons per day, in any 30-day period. WDNR issued automatic Water Use Individual Permits to persons with a water supply system or systems on one property or a public water supply system having approval to withdraw at least 1 million gallons of water per day for any 30 consecutive days.

The automatic permits included a baseline, set at the maximum hydraulic capacity of the most restrictive component of the water supply system or a withdrawal limit contained in a permit or approval as of December 8, 2008. Wis. Stat. § 281.346(4e). (For baselines, *see* Wis. Stat. § 281.346(2)(e)). The automatic permits issued in December 2011 also included an authorized withdrawal amount, which was based on the maximum hydraulic capacity of the most restrictive component of the water supply system or a withdrawal limit contained in an approval or other permit. If a person proposes to modify their authorized withdrawal amount before December 8, 2021 so that it equals 1 million gallons per day or more over

the baseline for any 30 consecutive days, the withdrawal had to meet the State Decision-Making Standard (Wis. Stat. § 281.346(5)(f)1.). If a person proposes to modify the withdrawal before December 8, 2021, so that it equals 10 million gallons per day or more over the baseline for any 30 consecutive days, the withdrawal had to meet the Compact Decision-Making Standard (Wis. Stat. § 281.346(5)(f)2.).

Water use permits for new or increased withdrawals in the Great Lakes Basin

After December 8, 2011, persons proposing new withdrawals averaging 100,000 gallons per day or more in any 30-day period or proposing to increase an existing withdrawal so that it will equal 100,000 gallons per day or more in any 30-day period (but will not equal at least 1 million gallons per day for any 30 consecutive days) must apply for and receive coverage under the Water Use General Permit No. 2. Persons proposing Great Lakes basin withdrawals that will equal at least 1 million gallons per day for any 30 consecutive days must apply for an Individual Water Use Permit and the state decision-making standard and conservation and efficiency measures apply.

If a person proposes to increase a withdrawal above the withdrawal amount authorized in an existing permit, the person must apply to modify the permit and implement water conservation and water use efficiency measures related to the new or increased source. Beginning December 8, 2011, coverage under the Water Use General Permit No. 2 is accompanied by a notice of coverage (NOC) letter that includes: an authorized withdrawal amount, requirements for reporting water use, and a copy of the required water conservation and efficiency measures.

Public notice and comment are required for each individual water use permit application. Any interested party may also request a public hearing on an individual water use permit. If a new general permit is proposed by WDNR, public notice and comment on the proposed general permit is also required.

Persons receiving coverage under Water Use General Permit⁴ must satisfy the following requirements:

- Meet water conservation requirements in Wis. Adm. Code ch. NR 852;
- Ensure the water withdrawal is consistent with an approved water supply service area plan, if a plan is required; and
- Receive all necessary permits or approvals for the withdrawal under Wis. Stat. §§ 30.12, 30.18, 281.34, 281.35, 283.31, and 281.41, or § 281.17, 2001 Stats.
 - WDNR may only issue an individual permit if all the following requirements are satisfied:
- The person withdrawing water will meet water conservation requirements in Wis. Adm. Code ch. NR 852;
- The water withdrawal is consistent with an approved water supply service area plan, if a

⁴ These are the permit requirements for General Permit 2 – which is applicable for proposed new or increased water withdrawals. General Permit 1 applied to withdrawer that existed at the time of the Compact ratification and General permit 3 applies to temporary construction dewatering.

- plan is required;
- The person withdrawing water has all necessary permits or approvals for the withdrawal under Wis. Stat. §§ 30.12, 30.18, 281.34, 281.35, 283.31, and 281.41, or §. 281.17, 2001 Stats.;
- The withdrawal meets the state decision-making standard or compact decision-making standard, if applicable; and
- If applicable, WDNR has provided notice to the Regional Body and if required, WDNR has considered the Regional Review declaration.

Wisconsin's water use permits reference several other water management regulations. Most proposed water withdrawals are reviewed based on these additional regulations.

Statute Section	Subject	Standards
30.12	Structure and deposits in navigable waters	- Establishes standards for general permits and individual permits - Establishes exemptions from permit requirements
30.18	Withdrawal of water from lakes and streams	- Applies to withdrawals of any amount for maintaining flow or lake level, and for agriculture or irrigation - Withdrawals may not injure public rights
281.34	Groundwater withdrawals	- Applies to withdrawal of 100,000 gallons per day or more - Approval conditions or denials may be necessary to avoid significant adverse impacts for withdrawals that: fall within a groundwater protection area, impact a spring, result in 95% water loss, impact a municipal well, impact groundwater quality or quantity.
281.41	Wastewater Treatment Plant Plans	- Requires plan and specification approval for reviewable projects

Water Loss and Consumptive Use

“Consumptive Use” is “a use of water that results in the loss of or failure to return some or all of the water to the basin from which the water is withdrawn due to evaporation, incorporation into products, or other processes.” § 281.346(1)(e), Wis. Stat. WDNR uses consumptive use coefficients, as outlined in ch. NR 142, Wis. Adm. Code, to calculate consumptive use. WDNR estimates consumptive uses on an annual basis, based on water use coefficients and reporting data. Site specific data for consumptive use may be

submitted to the department by the withdrawer. WDNR also refers to tables within United States Geological Survey (USGS) publications SIR 2007-5197 and Fact Sheet 2008-3032 for consumptive use coefficient information.

In addition to the water use permits, water loss approvals are required statewide for new or increased withdrawals from groundwater or surface water that will result in a water loss averaging more than 2 million gallons per day in any 30-day period. § 281.35, Wis. Stat. WDNR must determine the following in order to issue a water loss approval:

- No public water rights in navigable water will be adversely affected;
- The proposed withdrawal does not conflict with any applicable plan for future uses of the waters of the state;
- The applicant's current water use and proposed plans incorporate reasonable conservation practices;
- The proposed withdrawal and uses will not have a significant adverse impact on the environment and ecosystem of the Great Lakes basin or the upper Mississippi River basin;
- The proposed withdrawal and uses are consistent with the protection of public health, safety and welfare and will not be detrimental to the public interest; and
- The proposed withdrawal will not have a significant detrimental effect on the quantity and quality of waters of the state.

In addition, if the proposed withdrawal will result in an interbasin diversion and water loss applies, WDNR must determine all of the following:

- Each state or province to which the water will be diverted has developed and is implementing a plan to manage and conserve its own water quantity resources, and that further development of its water resources is impracticable or would have a substantial adverse economic, social or environmental impact;
- It will not impair the ability of the Great Lakes basin or upper Mississippi River basin to meet its own water needs;
- The interbasin diversion alone, or in combination with other water losses, will not have a significant adverse impact on lake levels, water use, the environment or the ecosystem of the Great Lakes basin or upper Mississippi River basin; and
- The proposed withdrawal is consistent with all applicable federal, regional and interstate water resources plans.

Persons with water loss approvals must annually report water loss to WDNR. WDNR publishes a public notice upon receipt of a complete water loss application.

Diversions

A "diversion" is "a transfer of water from the Great Lakes basin into a watershed outside the Great Lakes basin, or from the watershed of one of the Great Lakes into that of another, by any means of transfer, including a pipeline, canal, tunnel, aqueduct, channel, modification of the direction of a water course, tanker ship, tanker truck, or rail tanker except that the "diversion" does not include any of the following:

- The transfer of a product produced in the Great Lakes basin or in the watershed of one of the Great Lakes, using waters of the Great Lakes basin, out of the Great Lakes basin, or out of that watershed.
- The transmission of water within a line that extends outside the Great Lakes basin as it conveys water from one point to another within the Great Lakes basin if no water is used outside the Great Lakes basin.
- The transfer of bottled water from the Great Lakes basin in containers of 5.7 gallons or less.” § 281.346(1)(h), Wis. Stat.

WDNR issued grandfathered diversion approvals to water supply systems that diverted water prior to December 8, 2008. For the diversion approvals that returned water to the Great Lakes basin, the authorized diversion amount identified in the approval was based on the amount of water necessary to provide water for public water supply purposes within a sewer service territory that provides for the return of wastewater to the Great Lakes basin and that is specified in the sewer service area provisions of an area-wide water quality management plan approved by WDNR before December 31, 2007. The approved diversion amounts for these public water systems were based on approved sewer service areas, and population and related water supply service projections for build-out conditions in those communities. *See* § 281.344(3e) and (3m), Wis. Stat. For diversion approvals that discharge wastewater to the Mississippi River basin, the diversion amount was based on the maximum hydraulic capacity of the most restrictive component of the water supply system. *See* § 281.343(4t)(b), Wis. Stat.

Relevant provisions of the Compact and s. 281.346(4), Wis. Stat., govern diversions in the state. No person may begin a diversion, unless as authorized under s. 281.346(4), Wis. Stat., and no person may increase the amount of a diversion over the diversion amount specified in an approval under that subsection without prior approval from WDNR. For each diversion application, WDNR is required to provide public notice, offer a public comment period, and hold a public hearing if requested. WDNR is required to provide access to information on diversion applications. To facilitate public access to information on diversion applications, WDNR has provided a webpage for each diversion application and posted all official correspondence between WDNR and the applicant on these webpages. WDNR has an electronic subscription for members of the public interested in Great Lakes Compact issues. Public notices related to diversion applications are also provided via email to the Great Lakes Compact issues electronic subscription list. The list currently has more than 7,500 subscribers.

WDNR has approved three straddling community diversion applications since 2008, including the City of [New Berlin \(approved in 2009\)](#), the [City of Racine](#) (approved in 2018), and the [Village of Somers](#) (approved in 2022). All straddling community diversion are required to return their treated wastewater to the Great Lakes less an allowance for consumptive use.

In 2012 and 2013, WDNR approved intrabasin transfers for Enbridge to conduct hydrostatic testing of pipeline segments between Superior, WI and Sarnia, ON and between Superior, WI and Mokena, IL. WDNR required that all water was discharged into

Lake Huron and Lake Michigan. WDNR notified the Regional Body of these intrabasin transfers through email correspondence.

WDNR has approved one community in a straddling county diversion application since 2008. WDNR issued the City of Waukesha a diversion approval in 2021 after the City of Waukesha received approval from the Compact Council in 2016 and obtained all necessary federal and state approvals and permits to implement the diversion. The City of Waukesha began diverting water in 2023, and WDNR submitted its first annual report on the diversion to the Compact Council in August 2024. The City of Waukesha is required by condition of approval to return approximately 100% of the volume of diverted water to the Great Lakes Basin.

2. Describe specifically how Water Withdrawals in the State are managed by:

a. Sector

Each withdrawal source and property is assigned a [water use code](#). Water use codes that represent specific sectors are assigned based on the purpose for which most of the water is used. For the most part, water withdrawals in Wisconsin are not regulated by sector but are regulated based on water source, quantity, and location. There are a few exceptions: 1) surface water withdrawals of any amount from a stream for the purposes of agriculture or irrigation are regulated under s. 30.18, Wis. Stat.; 2) water conservation and efficiency requirements differ among sectors under ch. NR 852, Wis. Adm. Code; and 3) the public water supply sector is subject to a separate set of requirements⁵ and is also regulated by the Public Service Commission of Wisconsin.

b. Water source

i. Surface water withdrawals (Lake Michigan, Lake Superior, and other surface waters)

Surface water withdrawals are required to register if the water system has the capacity to withdraw 100,000 gallons per day. Surface water withdrawals with the capacity to withdraw 100,000 gallons per day are required to report withdrawals over 100,000 gallons per day. Surface water withdrawals are also managed under s. 30.18, Wis. Stat. WDNR regulates surface water withdrawals of any amount from streams for purposes of agriculture or irrigation (§ 30.18(2)(a)2., Wis. Stat.); withdrawals of any amount from a stream to maintain or restore lake levels or stream flows (§ 30.18(2)(a)1., Wis. Stat.); and withdrawals from a stream or lake resulting in a water loss of more than 2 million gallons per day in any 30-day period (§ 30.18(2)(b), Wis. Stat.). An individual permit is required for withdrawals falling into any of the categories above. WDNR evaluates permit applications to ensure that the proposed withdrawals do not injure public rights in navigable waters and either withdraw only surplus water or have the consent of all possibly adversely affected riparian owners. § 30.18(5), Wis. Stat.

ii. Groundwater withdrawals

⁵ Including chs. NR 809, 810 and 811, Wis. Adm. Code.

Groundwater withdrawals are required to register if the water system has the capacity to withdraw 100,000 gallons per day. Groundwater withdrawal sources with the capacity to withdraw 100,000 gallons per day are required to report water withdrawals of any volume. Groundwater withdrawals are further regulated under ch. 281, Wis. Stat., chs. NR 812 and 820, Wis. Adm. Code, and related case law. All public and private wells, except those community water system wells that are subject to separate regulations, are subject to ch. NR 812, Wis. Adm. Code regulations that govern their location and provide standards and requirements for well construction, pump installation, and water treatment. High capacity wells are those with a capacity of more than 100,000 gallons per day from one or more wells on a system or contiguous property. As part of the high capacity well application process, WDNR is required to undertake an environmental review if the proposed well may impact a spring with a normal flow of 1 cubic foot per second; is in a groundwater protection area (i.e., is within 1,200 feet of a trout stream or outstanding or exceptional resource water); or will have a water loss of more than 95 percent of the amount withdrawn. *See* Wis. Stat. § 281.34(4) and (5). Additionally, WDNR conducts a case-by-case analysis of all high capacity well applications that considers the needs of the property and the environmental effects that the proposed high capacity well may have on the waters of the state, individually and combined with existing environmental impacts. A complete description of the review process can be found at <https://dnr.wisconsin.gov/topic/Wells/HighCap>

c. Quantity

Water withdrawals are required to register if the water system has the capacity to withdraw 100,000 gallons per day. Groundwater withdrawal sources with the capacity to withdraw 100,000 gallons per day are required to report water withdrawals of any volume. Surface water withdrawals with the capacity to withdraw 100,000 gallons per day are required to report withdrawals over 100,000 gallons per day.

New or increased water withdrawals in the Great Lake Basin proposing to withdraw between 100,000 gallons per day and 1,000,000 gallons per day for 30 consecutive days are required to receive coverage under a general water use permit. New or increased water withdrawals in the Great Lakes Basin proposing to withdraw 1,000,000 gallons per day for 30 consecutive days or more are required to obtain an individual water use permit and are subject to the state decision-making standard. New or increased water withdrawals in the Great Lakes Basin proposing to withdraw 10,000,000 gallons per day for 30 consecutive days are subject to the Compact decision-making standard.

d. Location

The primary geographical distinction affecting water withdrawal management in Wisconsin is that between withdrawals and uses in the Great Lakes basin (Lake Michigan and Lake Superior basins) and withdrawals and uses outside of the basin (i.e., in the Upper Mississippi River basin). Regulations specific to the Great Lakes basin include: water use permits, mandatory conservation and efficiency plans, diversion prohibitions, and regional notification and review procedures. These additional Great Lakes requirements are discussed below.

e. Any specific exemptions as allowed in the Agreement and the Compact

The scope and thresholds for the water management program are described above.

Wisconsin's Compact-implementing legislation does not include any specific exemptions to the water management program.

3. Description of how the provisions of the Standard of Review and Decision are applied. The description should include information on how each criterion of the Decision-Making Standard and Exception Standard is addressed.

a. State decision-making standard

Under s. 281.346(5), Wis. Stat., WDNR may not approve an application for a new withdrawal that will equal at least 1 million gallons per day for any 30 consecutive days, or for an existing withdrawal that is not covered by a general permit that is proposed to be modified so that it will equal at least 1 million gallons per day for any 30 consecutive days, unless the withdrawal meets the state decision-making standard.

To meet the state decision-making standard, applicants for a new or increased withdrawal must attach documentation describing how the withdrawal will be implemented such that the following criteria, listed in s. 281.346(5m), Wis. Stat., are met:

- The amount of the withdrawal or increase in the withdrawal is needed to meet the projected needs of the person who will use the water.
- For an increase in a withdrawal, cost-effective conservation practices have been implemented for existing uses of the water, consistent with ch. NR 852, Wis. Adm. Code.
- The applicant has assessed other potential water sources for cost-effectiveness and environmental effects.
- Cost-effective conservation practices will be implemented to ensure efficient use of the water;
- One of the following applies:
 - o No significant adverse environmental impacts to waters of the state will result;
 - o If the withdrawal is from a surface water body, the withdrawal will not result in the violation of water quality standards under s. 281.15, Wis. Stat., or impair fish populations;
 - o WDNR has issued a permit under s. 30.18, Wis. Stat., for the new or increased withdrawal or has issued a permit under s. 30.12, Wis. Stat., for a structure that will be used for the new or increased withdrawal; or
 - o WDNR has issued an approval under § 281.34, Wis. Stat., or § 281.17, 2001 Stats., for the new or increased withdrawal.

Under s. NR 860.31(3)(a)12., Wis. Adm. Code, an applicant for an individual water use permit that is subject to the state decision-making standard must submit to WDNR

additional information and documentation including:

- Documentation that the proposed withdrawal amount is needed to meet the applicant's projected needs;
- Documentation of compliance with the applicable provisions of ch. NR 852, Wis. Adm. Code (Water Conservation & Water Use Efficiency);
- An alternatives analysis comparing other potential water sources for cost-effectiveness and environmental effects;
- A description of the baseline conditions of the source including hydrologic flow, water quality, and for surface water sources, habitat of the source (not required if there is a permit or approval under ss. 30.12, 30.18, or 281.34, Wis. Stat.); and an assessment of the potential impacts of the withdrawal on the waters of the state (not required if there is a permit or approval under ss. 30.12, 30.18, or 281.34, Wis. Stat.).

An applicant must comply with all the above state decision-making standard requirements prior to the proposed withdrawal.

Since December 8, 2011, the WDNR has reviewed and approved one application for an individual permit and the WDNR has reissued two water loss approval in the Lake Michigan basin.

b. *Compact decision-making standard*

Under Wis. Stat. s. 281.346(5), WDNR may not approve an application for a new withdrawal that will equal at least 10 million gallons per day for any 30 consecutive days, or for an existing withdrawal that is not covered by a general permit and that is proposed to be modified so that it will equal at least 10 million gallons per day for any 30 consecutive days, unless the withdrawal meets the Compact decision-making standard.

However, the state decision-making standards apply if the person proposing a new or increased withdrawal to which the Compact decision-making standard would otherwise apply, demonstrates using procedures in s. 142.06, Wis. Adm. Code, that the water loss would average less than 5 million gallons per day in every 90-day period. § 281.346(5)(f), Wis. Stat.

To meet the Compact decision-making standard, an applicant must demonstrate the following, as required by s. 281.346(6), Wis. Stat.:

- All of the water withdrawn from the Great Lakes basin will be returned to the source watershed, less an allowance for consumptive use;
- The withdrawal will result in no significant adverse individual impacts or cumulative impacts to the quantity or quality of the waters of the Great Lakes basin, to water dependent natural resources, to the source watershed, or, if the withdrawal is from a stream tributary to one of the Great Lakes, to the watershed of that stream;
- The withdrawal will be implemented in a way that incorporates environmentally

sound and economically feasible water conservation measures;

- The withdrawal will be in compliance with all applicable local, state, and federal laws and interstate and international agreements, including the Boundary Waters Treaty of 1909; and
- The proposed use of the water is reasonable, based on a consideration of all of the following:
 - Whether the proposed withdrawal is planned in a way that provides for efficient use of the water and will avoid or minimize the waste of water;
 - If the proposal would result in an increased water loss, whether efficient use is made of existing water supplies;
 - The balance of the effects of the proposed withdrawal and use, and other existing or planned withdrawals and water uses from the water source, on economic development, social development, and environmental protection;
 - The supply potential of the water source, considering quantity, quality, reliability, and safe yield of hydrologically interconnected water sources;
 - The probable degree and duration of any adverse impacts caused or expected to be caused by the proposed withdrawal and use, under foreseeable conditions, to other lawful consumptive uses or nonconsumptive uses of water or to the quantity or quality of the waters of the Great Lakes basin and water dependent natural resources, and the proposed plans and arrangements for avoidance or mitigation of those impacts; and
 - Any provisions for restoration of hydrologic conditions and functions of the source watershed or, if the withdrawal is from the stream tributary to one of the Great Lakes, of the watershed of that stream.

Under s. NR 860.31(3)(a)13., Wis. Adm. Code, an applicant for an individual water use permit that is subject to the compact decision-making standard must submit to WDNR additional information and documentation including:

- An assessment of the potential impacts of the withdrawal on the waters of the state and water dependent natural resources including wetlands, and possible modeling of anticipated hydrologic impacts or water quality evaluation to determine if the withdrawal or return flow will meet established water quality standards;
- Documentation of compliance with the applicable provisions of ch. NR 852, Wis. Adm. Code;
- Documentation of compliance with all applicable local, state, and federal laws, rules, and regulations, and interstate and international agreements, including the Boundary Waters Treaty of 1909;

- An analysis of the efficiency of the proposed water use, and if there is an expected increase in water loss, an analysis of the efficiency of the use of existing water supplies. The analysis shall include a comparison of the proposed water use intensity with the water use intensity of similar facilities or operations. The analysis may include information from the water conservation plan prepared in compliance with s. NR 852.07, Wis. Adm. Code;
- An analysis of the impacts of the withdrawal over the next ten years on economic development, social development, and environmental protection taking into consideration other existing and planned withdrawals from the same source.
- The supply potential of the water source including quality, quantity, and reliability taking into consideration interconnected water sources and water dependent natural resources; and
- A description of mitigation measures that will be implemented to prevent or eliminate significant impacts.

Applicants must comply with all the above Compact decision-making standard requirements prior to the proposed withdrawal. Since the effective date of the Compact, no permit applications have been submitted in Wisconsin that required compliance with the Compact decision-making standard.

c. Exception standard for diversions

The Exception Standard for Diversions that has been integrated into Wisconsin's Compact-implementing legislation mirrors the Exception Standard in the Compact and Agreement with a few additions:

1. The proposal for a diversion must be consistent with an approved water supply service area plan under s. 281.348, Wis. Stat., that covers the public water supply system, unless the proposal is to provide water to a straddling community that includes a designated electronics and information technology manufacturing zone. § 281.346(4)(c)2m. and (e)1.em., Wis. Stat.
2. The place at which the water is returned to the source watershed must be as close as practicable to the place from which it is withdrawn, unless that place is not economically feasible, not environmentally sound, or not in the interest of public health. § 281.346(4)(f)3m., Wis. Stat.
3. If the water will be returned to the source watershed through a stream tributary to one of the Great Lakes, the physical, chemical, and biological integrity of the receiving water will be protected and sustained, considering the state of the receiving water before the proposal is implemented and considering both low and high flow conditions and potential adverse impacts due to changes in temperature and nutrient loadings. § 281.346(4)(f)4m., Wis. Stat.
4. Wisconsin has defined "reasonable water supply alternative" to mean "a water supply alternative that is similar in cost to, and as environmentally sustainable and protective of public health as, the proposed new or increased diversion and that does

not have greater adverse environmental impacts than the proposed new or increased diversion.” § 281.346(1)(ps), Wis. Stat.

4. Overview of State reporting and database of Withdrawals, Consumptive Uses and Diversions including implementation status and database elements and capabilities, and reporting mechanisms (e.g., electronic submission, etc.). The overview should include methods of measurement (e.g., flow volume or rate meters, flow gauging, timing devices, etc.) approved by the State/Province for measuring Water volumes.

Registered water users must annually report monthly withdrawal amounts for each calendar year by March 1 of the following year. § NR 856.30(2), Wis. Adm. Code. Each report contains monthly withdrawal amounts, the primary use of the water and the method used to measure or estimate the water use, consistent with requirements for reporting to the Great Lakes Commission (GLC). See § NR 856.30(2), Wis. Adm. Code. Registered withdrawers can report water use through a web-based application or using paper forms which are entered into the WDNR’s Water Use database.

In accordance with ss. NR 812.39(2), NR 820.13 and NR 856.31(1), wells with a pumping capacity of 100,000 gallon per day (70 gallons per minute) or more shall be equipped with a means of accurately measuring water withdrawal, typically an hour meter or totalizing flow meter. Unless otherwise specified in approval conditions, wells with a pumping capacity of less than 100,000 gallons per day (70 gallons per minute) may either be equipped with means of measuring water withdrawals or water use may be estimated using a method approved by WDNR. Surface water withdrawals are measured by totalizing flow meters or estimated using the [measurement instructions](#) provided to water use reporters. Other methods can be used if approved by WDNR if none of the existing methods is sufficient. § NR 856.31(1)(a)5. and (b)6., Wis. Adm. Code. WDNR provides [measurement instructions](#) to water use reporters.

Information about the primary use of the withdrawn water enables WDNR to assign water use codes. Water use codes are detailed codes specifying public water supply uses (municipal systems, community water systems, non-transient, non-community systems, transient, non- community systems and K-12 schools), industrial uses, commercial and institutional uses, power generation, irrigation, other agricultural uses, domestic supply and fire protection. Each WDNR water use fits under a more general Great Lakes Commission water sector for annual reporting to the Great Lakes Commission. A list of the water use codes can be found in the [Water Withdrawal Report Guidance](#).

WDNR has determined water loss coefficients for each water use code based on various sources such as USGS published values, ch. NR 142, Wis. Adm. Code, or assumed general practices.

In addition to reporting monthly withdrawal data to WDNR, persons with approved Great Lakes basin diversions are required to report the monthly volumes diverted and the volume returned to the Great Lakes basin. Withdrawal, diversion, and return flow volumes are tracked and reported to the Great Lakes Commission annually.

All water use data is housed in a dedicated geographic information system database that is updated by WDNR staff through a web-based application. Water use data is used to support WDNR decision-making and serves as the basis for annual withdrawal report summaries and sector specific studies. Water use data is available to the public through the [Water Quantity Data Viewer](#) and the [Water Withdrawal Query Tool](#). Governmental partners, university researchers, businesses and private individuals may also request data to be delivered in tabular or spatial formats.

- 5. Include a web link to the State or Province’s Withdrawal application form(s). In addition, include a section on web access to additional information on the program, link to any application forms and links to tools for improving the management of water resources or sharing information about water withdrawals.**

Throughout this document, WDNR has provided links to water use program web pages, applications, tools and program information related to water withdrawals.

- 6. Summary description of the State’s or Province’s initiatives to support an improved scientific understanding of the Waters of the Basin and an improved understanding of the groundwater of the Basin and the role of groundwater in Basin water resource management. A description of State or Provincial initiatives or mechanisms to support an improved understanding of individual or cumulative impacts of Withdrawals, Consumptive Uses and Diversions on the Basin ecosystem should also be provided.**

WDNR has supported a variety of projects to improve the understanding or management of groundwater and surface water quantity in Wisconsin. WDNR has continued or developed the following projects in the past 5 years:

- Wisconsin’s Long-Term Groundwater Level Monitoring Network –WDNR partners with the USGS and the Wisconsin Geological and Natural History Survey (WGNHS) to continue [monitoring water levels](#) in aquifers across Wisconsin with a network of approximately 100 monitoring wells. Data collected from this network are used for monitoring local water resources, assessing aquifer response to drought or flooding, calibrating groundwater flow models, and measuring the effect of pumping on groundwater levels.
- WDNR continues to maintain the [Water Quantity Data Viewer](#) and the [Water Withdrawal Query Tool](#) for the public to search water withdrawal data and related water quantity monitoring data. The WDNR’s water quantity data view shows the location and water levels associated with the statewide groundwater monitoring network.
- Following on the 2019 [Wisconsin Springs Inventory](#) of approximately 400 springs with flows greater than 0.25 cfs, WDNR continues to revisit and identify additional springs across the state. In addition, eight reference springs are monitored quarterly to develop a long-term record on spring flow variability and water chemistry. A summary of the springs inventory has also been published in a [final report](#).
- [Central Sands Lakes Study](#) – The Wisconsin legislature instructed WDNR to

evaluate and model the hydrology of Pleasant Lake, Plainfield Lake and Long Lake to determine whether existing and potential groundwater withdrawals are causing or are likely to cause a significant reduction of the lakes' water levels below their average seasonal levels. This area of Wisconsin straddles the Great Lakes Basin divide. The three-year study, in partnership with USGS, WGNHS, and the University of Wisconsin, found significant impacts to two of the three study lakes. WDNR issued findings and recommendations to state legislators in June 2021.

The study included a calibrated groundwater flow model of the designated study area that simulates the water budget associated with the three lakes and to evaluate their interactions with groundwater withdrawals. As part of the study, WDNR partnered with University of Wisconsin and the agricultural community to directly measure evapotranspiration, a critical component to consumptive use. The approach for determining significant impacts to the three lakes may be applicable throughout the Great Lakes basin for determining impacts to surface waters based on groundwater withdrawals.

WDNR developed several story maps in the past five years to communicate about Wisconsin Water Use and Management. These include:

- [A Decade of Wisconsin Water Withdrawals](#)
- [Wisconsin Groundwater](#)
- [Working Together to Collect Wisconsin Water Quantity Data](#)

Water Conservation and Efficiency Program Report

1. Status of the State or Province's Water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives. If developed, include State or Provincial goals and objectives or link to electronic version.

Wisconsin adopted water conservation and efficiency goals and objectives that are consistent with the Basin-wide goals and objectives. The goals and objectives, which were first adopted in 2008 and most recently revised in 2011, can be found on the Department website at: [Wisconsin Statewide Water Conservation and Water Use Efficiency Goals](#) WDNR reviews these goals and objectives every five years.

2. Water Conservation and Efficiency Program Overview

1. *Citations to State Water Conservation and Efficiency Program implementing laws, regulations, and policies.*

The Wisconsin Legislature ratified the Great Lakes—St. Lawrence River Basin Water Resources Compact (Compact) in 2007 Wisconsin Act 227. Wisconsin adopted additional water conservation and efficiency requirements that go beyond the minimum required by the Compact. These requirements are codified in s. 281.346(8), Wis. Stat., and ch. NR 852, Wis. Adm. Code. For Tier 1,⁶ these requirements include programs such as water use audits,

⁶ Ch. NR 852, Wis. Adm. Code, includes a three-tier process for water conservation and efficiency requirements, depending on the type of withdrawal, diversion, or water loss.

leak detection and repair programs, information and education programs, source measurement. For Tier 2, additional requirements are dependent on the water sector. For Tier 3, an analysis and implementation of all cost-effective water conservation and efficiency measures must be implemented.

2. *Summary description of Wisconsin's Water Conservation and Efficiency Program including what elements are voluntary and mandatory.*

The Water Use Section of WDNR's Bureau of Drinking Water and Groundwater developed a statewide water conservation and efficiency program that is based on Wisconsin's adaptation of the Great Lakes Regional Conservation and Efficiency Objectives. The program requires mandatory water conservation and efficiency measures for new or increased withdrawals in the Great Lakes Basin, for any new or increased diversions from the Great Lakes Basin, and for any new or increased withdrawals—statewide—that will result in a water loss averaging more than 2 million gallons per day in any 30-day period. Voluntary water conservation and efficiency measures are encouraged for all existing water users throughout the state. Water conservation measures are required through municipal water systems through the Public Service Commission of Wisconsin water loss control program. This program includes requirements to meter all sales, maintain and verify the accuracy of meters, identify and repair leaks in the distribution system, control water usage from hydrants, maintain records of system pumpage and consumption and conduct an annual water audit.

The conservation and efficiency program is implemented through administrative rules, water use permits, and guidance developed in cooperation with the Public Service Commission of Wisconsin and the Wisconsin Department of Safety and Professional Services. Rules implementing the program, primarily ch. NR 852, Wis. Adm. Code, outline the necessary conservation and efficiency measures. Under ch. NR 852, Wis. Adm. Code, conservation and efficiency measures vary depending on the withdrawal amount and calculated water loss:

- For new or increased Great Lakes basin withdrawals averaging 100,000 gallons per day or more in any 30-day period but less than 1 million gallons for any 30 consecutive days, Tier 1 water conservation and efficiency requirements apply. § NR 852.04, Wis. Adm. Code, including Table 1.
- For new or increased Great Lakes basin withdrawals equaling 1 million gallons per day or more for any 30 consecutive days, Tier 1 (see above) and Tier 2 water conservation and efficiency requirements apply. § NR 852.05, Wis. Adm. Code, including Table 2.
- For new or increased withdrawals (statewide) resulting in a water loss averaging more than 2 million gallons per day in any 30-day period; or for new or increased Great Lakes diversions, in addition to Tier 1 and Tier 2 requirements, Tier 3 water conservation and efficiency requirements are required—including an analysis to determine whether additional cost-effective conservation and efficiency measures are available (other than those in Tier 1 and Tier 2). § NR 852.06, Wis. Adm. Code.

The Public Service Commission of Wisconsin also relies on administrative rules (chs. PSC

184 and PSC 185, Wis. Adm. Code) for authorizing and monitoring voluntary water conservation programs for municipal water systems. For other withdrawals subject to mandatory water conservation and efficiency, requirements increase as the volume of withdrawal increases.

In addition, water supply service area plans for public water supply systems must consider water conservation alternatives when identifying options for supplying water. These plans are required by 2026 for all public water systems in Wisconsin serving populations of 10,000 or more. Plans are required immediately for any Great Lakes Basin public water systems serving populations of 10,000 or more that are seeking a new or increased withdrawal, and for applicants for diversions of Great Lakes water, except that a water supply service area plan is not required for a proposed diversion to a straddling community that includes an electronics and manufacturing technology zone.

- 3. For each of the regional objectives, identify how the State/Provincial program is consistent with the regional objective, and a description of how the State or Province promotes Environmentally Sound and Economically Feasible Water Conservation Measures. More details for each objective are available at http://www.glsregionalbody.org/Docs/Resolutions/GLSLRWRRB_Resolution_6-Conservation-Efficiency.pdf and can be provided in the table below.**

As shown in the table below, the Wisconsin program is consistent with the regional objectives in the promotion of environmentally sound and economically feasible water conservation measures.

OBJECTIVES	LEGISLATIVE OR PROGRAM DESCRIPTION
Guide programs toward long- term sustainable water use.	▪ Adoption of Water Conservation and Water Use Efficiency Rules. ch. NR 852, Wis. Adm. Code (1/1/2011). ▪ Mandatory water conservation plans and conservation and efficiency measures for new or increased Great Lakes Basin withdrawals, all diversions of Great Lakes water, and withdrawals with a water loss of more than 2 million gallons per day. ▪ Water Supply Service Area Planning. § 281.348, Wis. Stat.; ch. NR 854, Wis. Adm. Code.
Adopt and implement supply and demand management to promote efficient use and conservation of water resources.	▪ The Public Service Commission of Wisconsin rules include requirements for all public water utilities to meter customer water use, test meter accuracy, conduct annual water audits, and identify and repair leaks. ▪ Required water conservation plans are in place for approximately 200 water use permittees. ▪ Drought management and conservation webpage.

Improve monitoring and standardize data reporting among State and Provincial water conservation and efficiency programs.	▪ Developed a new database for water use data. ▪ Developed an on-line registration and reporting system, with ongoing system refinement. On-line reporting is available for all registered water users and reporting forms are mailed to those who choose not to report on-line. On- line system automated quality checks continue to improve reporting quality. ▪ Water use data by source and aggregated is available on the WDNR water use webpage. ▪ WDNR is implementing a USGS Water Use data and research grant 2023-2025 to improve water use data quality and pilot developing a water supply service area geographical information systems layer.
Develop science, technology, and research.	▪ Co-funded a project with the Public Service Commission of Wisconsin titled “Water Efficiency Potential Study for Wisconsin,” which was completed in late 2011. ▪ Funded a project titled “Ecological Limits of Hydrologic Alteration” focused on understanding stress to fish populations due to reduced stream flows. ▪ Funded a project to develop a hydrogeologic data viewer for Wisconsin hydrogeologic data. ▪ Funded a “proof-of-concept” hydrological model to optimize stream flow, withdrawals and crop rotations in a small watershed in central Wisconsin. ▪ Funded a project entitled “Impacts of potato and maize management and climate change on groundwater recharge across the Central Sands” to better understand impacts of groundwater dependent agro-ecosystems. ▪ Funded a project to compile groundwater and lake level data for Wisconsin and develop statistical models to understand linkages between groundwater, climate and water levels of seepage lakes. ▪ Conducting a study authorized by the Wisconsin legislature to evaluate and model the potential impacts of groundwater withdrawals on three specific lakes in Central Sands region of Wisconsin. ▪ Evaluated remote sensing evapotranspiration models for use in Wisconsin and evaluated differences in evapotranspiration rates relative to agricultural practices. ▪ Partially installation and operation of eddy covariance towers to directly measure evapotranspiration. ▪ Ongoing delivery of spatial water use data to governmental and university partners for use in modeling projects and scientific research. ▪ Funded a pilot groundwater flow model that allows for incorporation of management objectives in a groundwater stress area of Wisconsin. ▪ Updated inventory of 400 springs in Wisconsin with flows greater than 0.25 cubic feet per second. Recently published by the Wisconsin Geological and Natural History Survey – An inventory of Springs in Wisconsin. ▪ Worked with the USGS Upper Midwest Water Science Center to develop Python tools for streamflow depletion and aquifer drawdown analysis that allows for more flexibility and efficiency in high-capacity well application reviews.

Develop education programs and information sharing for all water users.	▪ Promotion of EPA <i>WaterSense</i> Fix-a-Leak, including webpage, promotional video, social media posts. ▪ Initiated a program of water use benchmarks for geographic and sector specific withdrawals. ▪ Promoting irrigation conservation at Farm Technology Days. This includes promotion of irrigation scheduling tools developed by the University of Wisconsin.
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4. Description of the State or Provincial Water conservation and efficiency program implementation timeline and status.

Wisconsin completed its Water Conservation and Efficiency Goals and Objectives in 2008 and updated these Goals and Objects for statewide application in 2011. Wisconsin’s administrative rules for Water Conservation and Efficiency, ch. NR 852, Wis. Adm. Code, became effective in January 2011. A Water Conservation and Efficiency webpage is available at the [WDNR website](#) and at the [Public Service Commission of Wisconsin website](#). Wisconsin promotes “Fix a Leak Week” annually. Water conservation plan requirements are integrated into the water use permit review and issuance process.

5. Consultation with Wisconsin federally recognized Tribes and public comment period

Wisconsin DNR accepted comments on the draft Wisconsin Water Management and Water Conservation and Efficiency Program Review between October 3, 2024 and November 15, 2024. Wisconsin offered a virtual meeting with federally recognized Tribes in Wisconsin on October 30, 2024 to discuss the draft program review. Comments received are incorporated into this revised draft.

Appendix A

Comment and Response to the 5-year water management program review

Comment: Require rain barrels in every home and business in Waukesha before increasing diversion.

Response: Comment noted. Waukesha is required to have a [water conservation and efficiency plan](#) that they report on annually and revise every 10 years that meets the requirements of Wisconsin's Water Conservation and Efficiency Rule (Wis. Admin. Code ch. NR 852). The Rule requires implementation of the following water conservation and efficiency measures: water audits, leak detection and repair program, information and education outreach, source measurement, distribution system pressure management, residential demand management programs, commercial and industrial demand management programs, evaluation of water reuse, and implementation of water conservation and efficiency measures that are environmentally sound and cost effective.

Comment: Wisconsin water conservation goals and objectives are lacking.

Response: Comment noted.

Comment: Concerns over impacts to the Root River from the City of Waukesha wastewater discharge of treated effluent such as phosphorus, chloride, total suspended solids, pharmaceuticals, pathogens, micro-plastics, personal care products and flooding. The Environmental Impact Statement for the City of Waukesha diversion should be rewritten.

Response: The City of Waukesha's wastewater discharge to the Root River must meet the limits and conditions of their [Wisconsin Pollution Discharge Elimination System permit](#). Additionally the City of Waukesha is required to [conduct monitoring](#) of the Root River for flow, water quality and biological impacts for a minimum of 10 years from the start of the diversion.

Comment: Commentor provided article "A Test of the Great Lakes Compact: Environmental Justice and the Waukesha Diversion Return flow plan" – Cornell Policy Review. Commentor provided an annotated bibliography of articles discussing the impacts of wastewater effluent on impaired waters.

Response: Comment noted.

Comment: No additional diversion should be approved.

Response: Comment noted.

Comment: Current communities that have received diversion approvals under the Great Lakes Compact should submit annual plans for water conservation.

Response: The Cities of New Berlin, Racine, Waukesha, and the Village of Somers are all required to annually submit a report to the DNR on the implementation of the conditions of their approval. These reports include information on the implementation of their required water conservation and efficiency plans. These reports are available at the DNR Water Use webpage on the [Great Lakes Compact](#).

Comment: Caps should be placed on existing diversions so that no additional water is diverted.

Response: All diversion approvals include a maximum diversion amount.

Comment: Concern over water use permit and water loss approval thresholds and potential for incentivizing withdrawing water from a river rather than a Great Lake.

Response: Water Use Permits apply to any withdrawal in the Great Lakes Basin from groundwater, inland surface water or the Great Lakes. In addition to water use permits, water loss approvals are required for projects with consumptive uses of 2 million gallons per day or more.

Comment: Concern that there is a “state decision-making standard” and a “Compact decision-making standard” for different water volume thresholds.

Response: These standards and application of the standards are specified in Wis. Stat. § 281.346 (5) and (6). The department has received applications for water use permits requiring review under the state decision making standard for fewer than 20 permits and has not received any applications that meet the criteria for a review under the compact decision making standard. The thresholds for applying the compact decision making standard vary significantly in approach among the states.

Comment: The bullets on page 15 of the 5-year water management program review are confusing and should be rewritten.

Response: These bullets are the exact wording in Wis. Stat. § 281.346 (6) and the Great Lakes Compact and are included as written in statute and the Compact.

Comment: The commentor opposes the exemption of a water supply service area plan requirement for an electronics and information technology manufacturing zone.

Response: Comment noted. This is a statutory exemption included in the Wis. Stat. 281.346 (4) (c) 2m., and any changes would need to come through the legislative process.

Comment: “...When a permit is granted and the conditions change (who is using the water, to what end, and job creation) that the Department should have a way to reexamine a water diversion approval...”

Response: A diversion approval is issued to an applicant with the requirement that the applicant complies with all terms and conditions of the diversion approval. If circumstances change, a person with an approved diversion may request an amendment of the diversion under the requirements in Wis. Admin. Code ch. 851. Additionally, the department may take enforcement action for violations of terms of the diversion approval conditions.

Comment: Concern that “if the ‘state of the receiving water’ is poor that it is not required that the physical, chemical, and biological integrity of that stream should be protected.”

Response: All wastewater discharges are required to be treated to meet the conditions of their WPDES permit.

Comment: Commentor states that they do not agree with the Department’s interpretation of the Compact definition of “public water supply purposes” and that a diversion approval should be only for diverted water being served to residential uses.

Response: Comment noted.

Appendix B - Public Comments

From: [Lou Davit](#)
To: [DNR Compact Program Review](#)
Subject: Water diversion efficiency
Date: Wednesday, October 23, 2024 1:19:33 PM

**CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Gentlemen

10/23/24

I would strongly encourage the requirement of rain barrels by every home and business in Waukesha before increased diversion of Lake Michigan water.

Lou Davit 4508 N. Woodburn St. Shorewood, WI

From: [David Fulwiler](#)
To: [DNR Compact Program Review](#)
Subject: These DNR proposals are lacking
Date: Tuesday, October 15, 2024 9:28:12 PM
Attachments: [A Test of the Great Lakes Compact Environmental Justice and the Waukesha Diversion Return Flow Plan.pdf](#)
Importance: High

**CAUTION: This email originated from outside the organization.
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Dear Department of Natural Resources,

The states water use, conservation and efficiency goals are in my opinion lacking. This lack of diligence and scientific rigor in pursuing an outcome that comes closest to the Great Lakes Compact's (GLC) intent is obvious. the implemented plan endangers much of the investment made by the City of Racine in beautifying their cities portion of the Root River and harbor.

Many down stream have a great number of things that they stand to loose. The root River was already impaired for phosphorus according to the Department of Natural Resources (DNR). The water coming from Waukesha's Waste Water Treatment plant "will not return to Lake Michigan with out increased amounts of contaminants and nutrients: an increase in phosphorus loading, higher concentrations of chloride, higher concentrations of total suspended solids , pharmaceuticals, higher concentrations of residual pathogens, and other emerging contaminants like micro-plastics and and personal care products. " Reports Dr. Dr. Sandra McClellan in a peer reviewed article 'A Test of the Great Lakes Compact: Environmental justice and the Waukesha Water Diversion Plan' ". in the Cornell Policy Review. <https://www.cornellpolicyreview.com/waukesha-diversion/>

All of the modeling for how the diversion will respond to flooding and increases in the amount of effluent due to what we may receive in heavy rains as a result of climate change are not taken into account in the 2019 Environmental Impact Statement (EIS).

The entire EIS needs to be redone using updated models including the latest data on how climate change influences this water returning to Lake Michigan via the Root River. The effluent is not all that clean and when it is put into the Root River which the DNR says is already impaired for phosphorus? That's a losing idea.

I haven't the time to include the rest of my thoughts on this issue but I am including an annotated bibliography of items that show the dangers surrounding putting effluent into an impaired (for phosphorus) river.

Much of the Root River I grew up next to and played around and in would go dry, with large pools of standing water. That still happens today. Will there be deadly algae blooms in the pools of effluent filled water. Because this program began under the Scott Walker Administration it never had a chance to be done correctly and scientifically.

Look at all the potential vectors for contamination that the Waukesha Waste Water Treatment Plant does not clean up. This annotated bibliography from scientific journals points to some of

the questions that should have been asked about and were not. Where is the 21st century modeling and question asking that should have been done and was not? What should have been done and wasn't. I think many of the questions for a new and accurate EIS lay in this bibliography.

Why wasn't the School of Fresh Water sciences asked to participate in this instead of UW-Parkside that in no way has the brain power or special focus that the UW-M School of Freshwater Sciences has? It seems like the city of Waukesha avoids UW-M.

The attached document from the school of fresh water sciences I would like to include for the record.

"Trout enjoy water that contains methamphetamine" – could this lead to them loitering around sewage pipes? British Broadcasting Service: London, U.K. July 18, 2021 <https://www.bbc.com/future/article/20210716-why-fish-are-becoming-addicted-to-illegal-drugs>

United Nations World Drug Report of 2021
<https://www.unodc.org/unodc/en/data-and-analysis/wdr2021.html>

The Guardian: Manchester U.K. July 1, 2020 "Water firms discharged raw sewage into England's rivers 200,000 times in 2019"
<https://www.theguardian.com/environment/2020/jul/01/water-firms-raw-sewage-england-rivers>

Journal of Experimental Biology: Czech Republic July 6, 2021
"Methamphetamine pollution elicits addiction in wild fish"
<https://journals.biologists.com/jeb/article-lookup/doi/10.1242/jeb.242145>

United Nations World Drug Report: New York, N.Y. 2015-17;
https://www.unodc.org/wdr2017/press/WDR17_Fact_sheet.pdf

Progress in Neurobiology: January 10, 2021 "Using zebrafish (Danio rerio) models to understand the critical role of social interactions in mental health and wellbeing"
<https://www.sciencedirect.com/science/article/pii/S0301008221000071>

Aquatic Toxicology: June 14, 2014 Vol. 151; "Effects of chronic, parental pharmaceutical exposure on zebrafish (Danio rerio) offspring"
<https://www.sciencedirect.com/science/article/abs/pii/S0166445X14000265>

Environmental International: August 2019 Vol. 129; "Biomonitoring of pesticides, pharmaceuticals and illicit drugs in a freshwater invertebrate to estimate toxic or effect pressure"
<https://www.sciencedirect.com/science/article/pii/S0160412019307160>

Chemistry and Ecology: October 18 1993, Vol. 8 " Estrogenic Effects of Effluents from Sewage Treatment Works"
<https://www.tandfonline.com/doi/abs/10.1080/02757549408038554>

Environmental Science & Technology: April 14, 2021, American Chemical

Society (C) 2021 "The Role of Behavioral Ecotoxicology in Environmental Protection" <https://pubs.acs.org/doi/10.1021/acs.est.0c06493>

Chemosphere: May 2017 Vol. 175, PP 401-410 "An evaluation of behavioural endpoints: The pharmaceutical pollutant fluoxetine decreases aggression across multiple contexts in round goby (*Neogobius melanostomus*)" <https://www.sciencedirect.com/science/article/abs/pii/S0045653517302370?via%3Dihub>

Aquatic Toxicology: September 2010 Vol. 99 Issue 3, "Anti-depressants make amphipods see the light Author links open overlay panel" <https://www.sciencedirect.com/science/article/abs/pii/S0166445X10002122>

National Library of Medicine, National Center for Biotechnology Information, National Institutes of Health: 2013 February; "Dilute concentrations of a psychiatric drug alter behavior of fish from natural populations" <https://pubmed.ncbi.nlm.nih.gov/23413353/>

Nature: May 23, 2012 Vol. 485, 441 "The Hidden costs of flexible fertility", Abstract: "Urgent public debate is needed over a European proposal to regulate environmental levels of the active ingredient in birth-control pills, say Richard Owen and Susan Jobling." <https://www.nature.com/articles/485441a#citeas>

This article originally appeared on The Conversation, and is republished under a Creative Commons licence. <https://theconversation.com/fish-hooked-on-meth-the-consequences-of-freshwater-pollution-163756>

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David Fulwiler
Milwaukee, Wisconsin
This email is digitally signed
to ensure data integrity

"Things that are equal to the
same thing are equal to each
other" -Euclid's first axiom

Source: Todd Bragstad/Biz Journals

Written by: Grace Barlow, Jose Basaldua, Leah Holloway and Angeline Koch

Edited by: Eghosa Asemota

The Great Lakes Compact, a legal contract between the states of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin, was created in conjunction with a similar legal agreement between the Canadian Provinces of Ontario and Quebec. This document, also referred to as the Compact, was signed into law in 2008 and outlines how states and provinces within the Great Lakes Basin will collectively manage the use of the Great Lakes' water supply. While the Compact has a wide range of goals, special emphasis is placed on ensuring that the Great Lakes' water remains within the natural basin boundaries and that it is used sustainably and responsibly.¹¹

As the authors of the Compact carefully crafted this document over seven years, they kept watch over a particular situation developing in southeast Wisconsin. The drafters believed, with good reason, that the City of Waukesha would present the first major test of the Compact. They were right. The ink on the Compact was barely dry before Waukesha, which lies just outside the Lake Michigan Basin, submitted its application to the Wisconsin Department of Natural Resources (WDNR) for a diversion of Lake Michigan water. After an eight-year battle, Waukesha received approval for their request to divert Great Lakes water to its municipality. However, Waukesha's gain is not without negative impacts to other communities. Parties involved in the decision-making process gave little to no consideration to the environmental justice implications of the diversion, despite expending hundreds of thousands of dollars for environmental and legal analysis during an eight year application process. This paper will outline the driving reasons behind the current state of the Waukesha diversion plan and analyze the environmental justice concerns for communities in Southeastern Wisconsin. The analysis will utilize two frameworks, Systems Thinking and Schlosberg's Dimensions of Environmental Justice, and will focus particularly on the impacts of Waukesha's return flow plan through the Root River. This case study describes how Waukesha changed its plan to return its wastewater from a river that flows through a largely White, middle class community, to one that flows through a largely minority, lower income community, after protest from the middle class community. The case study also identifies intervention points where Waukesha could make changes to minimize the impact of the diversion on certain communities and be a positive model for how Great Lakes Compact diversions could be done equitably in the future.

Dimensions and Systems Thinking

There are two frameworks for analyzing environmental justice issues: Systems Thinking and the Dimensions of Environmental Justice. These frameworks allow for a thorough examination of the environmental justice issues and provide methods to analyze potential intervention points and mitigate any injustices found. Systems Thinking, also referred to as DSRP, uses a holistic approach to ensure that all relevant pieces of a problem are considered. DSRP breaks problems down into four main components: distinctions, systems, relationships, and perspectives.^[2] This framework helps users to address multifaceted problems by approaching the problem from different angle which allows for a more effective assessment of potential solutions and stakeholders. The *distinction* rule of DSRP states that “any ‘idea’ or ‘thing’ can be distinguished from other ‘ideas’ or ‘things’ within the system.” This is achieved by designating specific ideas as “identities.”^[3] The *system* rule is defined as “any idea or thing that can be split into parts or lumped into a whole” and helps identify what aspects of a problem may be separated from the rest.^[4] The relationship and perspective rules take both the identities and systems defined by the *distinction* and *system* rules and relate them to each other, other system components, and relevant perspectives. DSRP is a helpful tool for working through environmental justice issues, where unconscious biases and marginalization are often central to the problem. For this discussion of environmental injustices and the Waukesha Diversion, a DSRP map (Figure One) was created to aid the analysis.

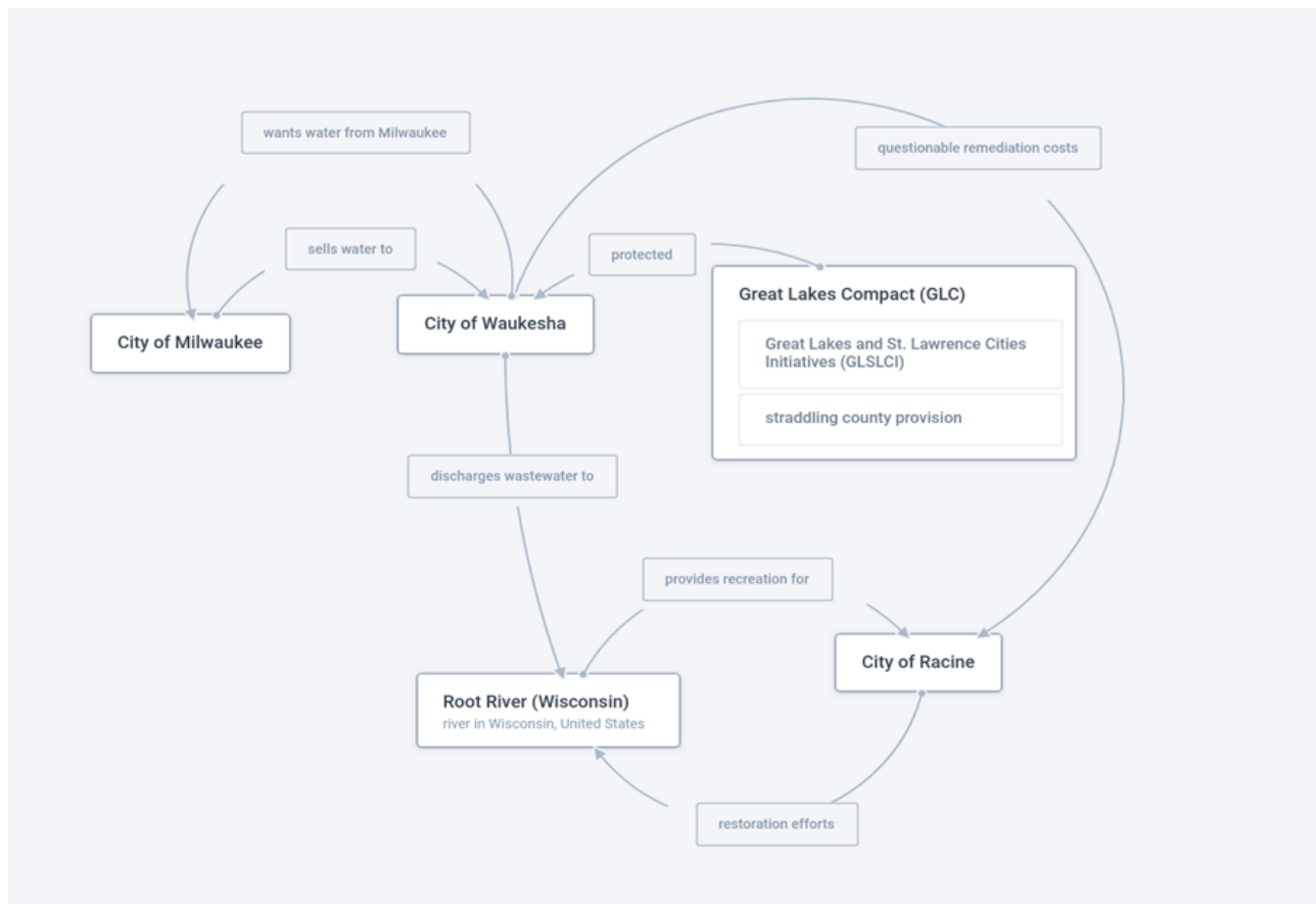


Figure 1: A DSRP/ Systems Thinking Map of the Waukesha Diversion Case

The DSRP map illustrates the important distinctions and the systems they create for the Waukesha diversion case. The map also portrays the relationships between Waukesha and Milwaukee as a transaction. Waukesha will obtain Lake Michigan’s water from the City of Milwaukee but has yet to finalize a route for returning used or treated wastewater to Lake Michigan. Initially, engineering consultants determined that the return flow from Waukesha

to Lake Michigan should be routed via Underwood Creek. After the return flow plan was published to the community, Waukesha changed its return flow route from Underwood Creek to the Root River, which flows through the City of Racine. The Racine community enjoys a long standing commitment to the ecological health of the Root River which winds through their city. Residents recreate on the river, have businesses that are connected to the river, and are vested in the river's ecological health and integrity. These areas of interest will be expanded further in later sections of this discussion, including an analysis of Waukesha's commitments regarding the level of water quality of the discharge effluent and Waukesha's potential lack of accountability for environmental impacts.

The second framework for analyzing environmental justice issues, "The Dimensions of Environmental Justice," is derived from David Schlosberg's 2004 essay "Reconceiving Environmental Justice: Global Movements and Political Theories." Schlosberg expanded the idea of environmental justice that traditionally looked at whether pollution was distributed equitably among racial and economic demographics to include the ideas of recognition and participation. In his paper, Schlosberg argued that part of the problem of traditional environmental injustice theory is the lack of recognition of differences among communities based on race, ethnicity, or economic status.^[5] An unacknowledged, marginalized community includes various forms of degradation and devaluation at both the individual and cultural level.^[6] While it is important to recognize that environmental injustices are often centered around unequal distribution of pollution with marginalized groups bearing the brunt of pollution, uneven access to environmental resources, or environmental policy that focuses solely on addressing uneven distribution of pollution, is not adequate to restore justice. Instead, when looking to address and analyze issues of environmental justice, the decision-making process should recognize and prioritize the participation of marginalized groups.

Distributional justice observes the apportionment of environmental burdens and benefits throughout society. Unfortunately, many impoverished communities and communities of color in the U.S. are allotted a disproportionate share of society's environmental burdens. One burden shouldered disproportionately by impoverished communities is the disposal of wastewater into their local waterways. The release of untreated wastewater has the very serious potential of contaminating and poisoning the public and of destroying local ecosystems.^[7] The situation can be made worse if an affected community relies heavily on local ecosystem services for sustenance and economic support. Not having a strong voice and not being allowed to participate in the decision-making process often results in distributive injustice. Communities of color and impoverished communities have lower property values as compared to middle-class communities with a White majority. As such, it costs less for industries to buy land in communities with depressed land value. In addition,

industries can set up operations with little to no opposition by residents who often have less access to information and are not often equipped to organize an opposition. In turn, these communities are exposed to a disproportionate amount of environmental pollution, including untreated wastewater. This situation was analyzed in a 2016 study in southern Texas that focused on the disproportional location of fracking wastewater disposal wells.^[8] The study found that most wells were located in closer proximity to residents of color and living in poverty than near non-Hispanic White communities.^[9]

The theory that recognition deepens the understanding and full impact of distributive injustice also establishes “the direct link between a lack of respect and recognition and a decline in a person’s membership and participation in the greater community, including the political and institutional order.”^[10] The dimensions of an environmental justice analytical framework provides an in-depth analysis for the potential environmental justice concerns raised by the Waukesha diversion plan.

Before addressing Waukesha’s need for a Lake Michigan diversion and the analysis of environmental justice issues, it is important to understand the legal basis and policy of the Great Lakes Compact and related Wisconsin Department of Natural Resource statutes. The main legislative components of the Compact include a ban on future diversions and a requirement that each participating state or province develop a water management program based on elements required by the Compact.^[11] The ban on future diversions provides that no community outside of the natural basin boundaries of the Great Lakes may move water out of the basin. However, because the political and the geological basin boundaries do not perfectly align, the Compact outlines two exceptions for communities that may apply for a diversion of the Great Lakes’ water. Communities whose political boundaries lie partly within the basin, such as New Berlin, Wisconsin, are referred to as “straddling communities.” Communities that are located in a county whose border lies partially on the basin line, such as Waukesha, Wisconsin, are referred to as “communities within straddling counties.” While both may apply for a diversion, the type of community plays a role in determining to which requirements a community must adhere. Both the Great Lakes Compact and the Wisconsin Department of Natural Resources outline requirements, summarized in Figure Two, for diversion approval. Requirements for communities within straddling counties, such as Waukesha, are more stringent.

Straddling Community

Per the Great Lakes Compact:

- Application must be from a public water supply system for public supply use.
- Community must put a water conservation plan into effect in order to maximize the amount of water returning to the basin.
- Community must return all water taken from the basin, save for consumptive use allowances, and minimize entrance of out of basin water.
- Wastewater will be treated to meet applicable permit requirements.

Community Within a Straddling County

- Must meet all above Great Lakes Compact requirements.
- Must prove that the community is without adequate water supply and that there is no adequate alternative for water supply.
- Must undergo formal technical review, regional review and approval, and receive approval from the Great Lakes Council to ensure that diversion will not have adverse ecological effects.

Per Wisconsin DNR Straddling County Requirements:

- Plans for use must be consistent with an approved water supply area service plan.
- Must meet wastewater return flow criteria: 1) water must be returned to the source watershed as close as practicable to where water is withdrawn, unless the applicant can demonstrate it is not economically feasible, environmentally sound, or not in the interest of public health, and 2) if water will be returned to the source watershed through a tributary, the biological, chemical, and physical, integrity of the water will be protected and sustained considering both low and high flow conditions.

Figure 2: Great Lakes Compact and Wisconsin Department of Natural Resource Requirements ¹¹²¹

The Great Lakes Compact and WDNR statutes are important components, vital to understanding the environmental justice issues surrounding the diversion. These requirements are the current framework for any community looking to access the Great Lakes' water, of which Waukesha is the first with a contentious application. The diversion requirements, whether they be from the Compact itself or from the WDNR, provide proponents and opponents of the diversion, the basis on which to argue the permissibility of Waukesha's request. This provides an interesting element to the discussion as both sides use the statutes and requirements to bolster arguments about the need to access safe drinking water, or their worry that the diversion will have negative ecological impacts on the Lake Michigan watershed and open the door for future diversions.

In particular, the WDNR requirement regarding the treatment and water quality standards of the return flow water- and the biological, chemical, and physical integrity of any waters

receiving this return flow water- is important to the Waukesha Diversion discussion. In the application, Waukesha stated that their withdrawal would not have negative environmental impacts on the biological, physical, and chemical integrity of the Root River, Lake Michigan, or other waters in the basin, and that their return flow “will be treated to meet applicable water quality standards” and “provide more, and higher-quality, functional in-stream habitat improvements to the biological integrity of the Great Lakes tributary receiving return flow.”^[13] The City has maintained this position in subsequent documents throughout the diversion process, with this stance being a major point of contention between Waukesha and opposing voices.

The Need for a New Source of Water in Waukesha

Another largely contested part of Waukesha’s application revolved around the Compact requirement for a community within a straddling county to demonstrate that it is “without adequate water supply and that there is no adequate alternative for water supply.”^[14] Waukesha, Wisconsin is a suburb of Milwaukee that sits seventeen miles west of Lake Michigan, and one and a half miles outside of the Great Lakes Basin. Waukesha has a population of just over 72,000, making it the seventh largest municipality in the state.^[15] It is seventy-eight percent White, twelve percent Hispanic, four percent Asian, four percent Black and two percent other.^[16] Its median household income is \$59,500, which is slightly higher than Wisconsin as a whole, and Waukesha has an eleven percent poverty rate.^[17]

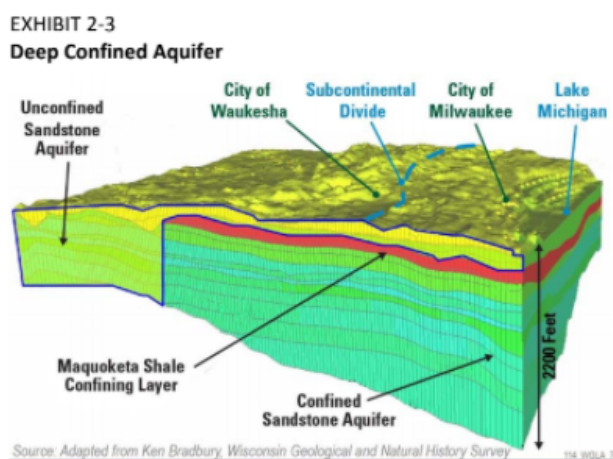


Figure 3: Geological Map of the Confined Aquifer

Currently, Waukesha uses seven deep wells in the St. Peter confined sandstone aquifer (Figure Three) that extend beneath Waukesha all the way east to Lake Michigan, and three

shallow wells in the Troy Bedrock Valley aquifer to the west, to obtain its public water supply.^[18] Some of the deep wells are over seventy-five years old, and draw water from up to 1000 feet below the surface; the shallow wells are newer, most of which are less than twenty years old, and were put online to help mitigate Waukesha's increasing radium problem.^[19]

As the population of the western Milwaukee suburbs began to grow, water withdrawals increased. Soon, more water was being drawn from the St. Peter Aquifer than could be replenished by annual precipitation, and water levels in the aquifer began to drop. Natural sources of radium became more concentrated the more the aquifer was drawn down, and this began to contaminate the region's drinking water supplies.^[20] In 2000, the U.S. Environmental Protection Agency (EPA) announced more stringent radium regulations in order to protect citizens from this known carcinogen in their drinking water. Waukesha's water had more than three times the allowable standard.^[21] Waukesha's initial response was to sue the EPA and discourage implementation of reduced radium restrictions.^[22] When that failed, Waukesha decided to dig wells in the Troy Bedrock Valley to dilute the water supply enough to reduce radium concentration. While these wells helped reduce the levels of radium in drinking water supplies, Waukesha still does not consistently meet the standard for radium concentration in its public drinking water supply, especially during periods of high water use.^[23] As such, Waukesha turned east toward Lake Michigan for relief.

Local environmental organizations hired the engineering firm GZA GeoEnvironmental to look at alternatives to a Lake Michigan diversion, including solutions neighboring communities employed to mitigate radium contaminated drinking water. GZA took into account not only Waukesha's trouble with radium, but also their concern that it did not have enough water capacity in their existing wells to meet the current and future needs of citizens and industry.^[24] One solution that GZA analyzed was a treatment system called "Water Remediation Technology (WRT) Z-88." Neighboring Wisconsin cities of Brookfield and Pewaukee, as well as six municipalities in Illinois and six additional American cities, use WRT.^[25] GZA opines that this system, in addition to digging two new wells to replace ones that Waukesha has already or plans to shut down soon, can solve all of Waukesha's water supply challenges for half the cost of diverting water from Lake Michigan. The current estimated cost of a diversion is \$334 million.^[26] Waukesha did not consider including different treatment alternatives, such as WRT, as part of the alternative options in its application for diversion. Instead, each of the options was a different source of water or combination of sources.^[27]

After more than a decade, Waukesha approaches a quickly looming EPA 2018 deadline to bring its public water supply system into year-round compliance. Now that its application

for a diversion from the Great Lakes has been approved, Waukesha is able to move forward with its preferred solution of a diversion. In accordance with the rules set forth by the Compact, Waukesha must return the water it borrows to Lake Michigan. The route they have chosen for this return flow is the Root River, which is where our environmental justice analysis is focused.

Environmental Justice Considerations of Waukesha’s Return Flow Plan via the Root River

The Root River flows southeast from New Berlin through the community of Racine before flowing into Lake Michigan. While treated wastewater discharging into a river can present challenges to any community through which the river flows, there are several features of the community of Racine and the Root River Basin that make Waukesha’s decision to return its wastewater via the Root River, as opposed to Underwood Creek, uniquely concerning from an environmental justice standpoint.

In 2016, the Great Lakes - St. Lawrence River Basin Water Resources Compact Council (“Compact Council”) granted a diversion of water from Lake Michigan to the City of Waukesha despite strenuous objections based on social and environmental justice grounds advanced by the ACLU of Wisconsin, the Sierra Club, the Milwaukee Inner City Congregations Allied for Hope, and the NAACP-Milwaukee Branch. These organizations argued that granting a diversion would contribute to Waukesha’s unchecked suburban sprawl to the detriment of communities of color residing in the City of Milwaukee who historically have lacked access to jobs and housing in Waukesha. The State of Wisconsin and the Wisconsin Department of Natural Resources endorsed the diversion application. Shortly after the Compact Council granted the diversion, the Great Lakes and St. Lawrence Cities Initiative (“Cities Initiative”) filed a petition asking the Compact Council to review the decision. In support of the review request, the Cities Initiative offered several reasons why the diversion should not have been granted or, in the alternative, should be modified. However, none of these reasons touched on environmental justice considerations. After reviewing briefs by the Cities Initiative and the City of Waukesha, and hearing oral arguments, the Compact Council unanimously denied the Cities Initiative’s request to reopen or modify the decision to grant the diversion.

While these environmental justice objections are not insignificant to a broader analysis of whether a diversion should be granted, because the Compact Council granted the diversion, the next most pressing environmental justice consideration surrounds the selection of the river through which Waukesha’s treated wastewater effluent will be returned to Lake

Michigan, i.e., its “return flow plan.” As stated above, the current plan provides that Waukesha’s treated wastewater will be returned to Lake Michigan via the Root River, which flows through the City of Racine, and not through the City of Wauwatosa via the Underwood Creek, as initially proposed. The communities of Wauwatosa and Racine are very different, such that an analysis of the decision to route the return flow through Racine, through the dimensions of environmental justice, is appropriate. The return of Waukesha’s treated wastewater via either river imposes significant environmental and economic risks to the surrounding community.

In May 2010, Waukesha initially committed to return 100 percent of Lake Michigan water (minus consumptive use) to Lake Michigan via Underwood Creek, which flows into the Menomonee River through the City of Wauwatosa near West Bluemound Road. However, after strenuous objections by the City of Wauwatosa, Waukesha amended its application and requested that its effluent be discharged back to Lake Michigan via the Root River. The effluent will be treated at the City of Waukesha sewerage treatment plant prior to discharge into the Root River. The proposed discharge point along the Root River is planned for at S. 60th St. in Franklin. Water treatment will include removal of chemical phosphorus, chloride, suspended solids, and organic materials; tertiary filtration; and ultraviolet light disinfection. The proposed phosphorus limits are below the water quality standard for the Root River. The City of Waukesha will be returning up to ten million gallons of treated effluent per day into the Root River. Based on prior review of Waukesha’s plan by the Wisconsin Department of Natural Resources and the Compact Council, the proposed quality of wastewater returned via the Root River by Waukesha will meet federal and state requirements.

In denying the Cities Initiative petition for review, the Compact Council concluded that the Cities Initiative failed to detail how the return flow, which must comply with federal and state water quality standards, would result in significant impacts on the basin, which is the standard of review required in the Compact. The Council’s conclusion seemingly ignores the scientists at UWM School of Freshwater Science and the City of Racine Dept. of Public Health, who have opined that there will be adverse environmental impacts on the Root River. While there are meaningful concerns about water quantity impacts to the Root River (flooding, erosion, sediment mixing), the most significant issue presented by the return flow plan relates to water quality. Specifically, the concentration of pathogens, pharmaceuticals, and other emerging contaminants that are not currently regulated and not treated via sewerage treatment facilities, will have a negative impact on the Root River. In addition, there are valid concerns about Waukesha’s ability to meet the proposed phosphorus and chloride standards, and Waukesha’s lack of financial liability for any negative impact for its failure to do so.

The WDNR identified elevated phosphorus and chloride levels in their Environmental Impact Statement and Technical Review of Waukesha's diversion plan.^[28] According to federal and state standards, discharge into the Root River cannot exceed a phosphorous standard of 0.075 mg/L or a chloride limit of 400 mg/L. Waukesha's discharge will be permitted (through the Wisconsin Pollutant Discharge Elimination System) and required to meet these standards. However, reports compiled by the WDNR provide that Waukesha cannot meet the recommended chloride limit of 400 mg/L. In addition, consultants for Waukesha stated that Waukesha will not be able to meet the phosphorus standards consistently.^[29] Excess phosphorus is a concern because it can speed up the process of eutrophication in a body of water, which in turn decreases ecosystem productivity. The inability to meet phosphorus standards consistently presents a significant challenge for downstream communities like the City of Racine. Furthermore, the Root River is already listed on Wisconsin's Impaired Waters list as the upper sections of the river (the Root River canal and the West Branch of the canal) currently have excessive phosphorus levels, decreasing dissolved oxygen levels below what is necessary to support aquatic life.^[30] Additional phosphorus inputs into the ecosystem will only exacerbate eutrophic conditions and increase the difficulty of implementing a remediation plan or Total Maximum Daily Load (TMDL) for the waterway.

In addition to increased nutrient and chloride levels within the Root River, Waukesha's discharge increases the likelihood of additional pathogens being introduced to the river. While Waukesha's return flow will meet state wastewater treatment effluent standards, there is still the potential for pathogens to persist beyond the wastewater treatment process. Wisconsin wastewater effluent standards are partially regulated using total coliform counts and fecal coliform counts, known as bacterial indicators.^[31] Bacterial indicators are conventional for wastewater treatment standards, however, research over the past several decades has demonstrated that these indicators do not adequately reflect the pathogenic contamination of wastewater.^[32] Total coliform and fecal coliform counts do not indicate the presence of other categories of pathogens that do not stem from fecal contamination. Further, pathogenic contamination does not always follow a proportional relationship to the level of indicator bacteria present in the water.^[33] Pathogenic concentrations have the potential to be high in wastewater, despite meeting effluent fecal and total coliform standards, as pathogens can persist beyond the reduction and inactivation methods used in treatment centers. This presents an environmental and public health risk as surface water containing wastewater discharge may pass the bacterial indicator standard, yet still contain harmful pathogens.

Concerns Remain after Granting Waukesha's Application for Diversion

Contrary to Waukesha's contention and the opinion of the Compact Council, there are several significant concerns with Waukesha's return flow plan. First, while the City of Waukesha contends that the return flow will benefit the Root River by adding volume during times of low flow, Waukesha fails to acknowledge that during times of low flow, seventy five to ninety percent of the water in the Root River will be "treated" wastewater effluent: effluent which has not been treated for residual pathogens, microplastics, pharmaceuticals or other emerging contaminants.^[24] This increased level of contamination will pose human health risks as well as risks to the riparian ecosystem. Waukesha also contends that the increase in flow to the Root River will improve Great Lakes fisheries. Waukesha, however, fails to appreciate the presence of unregulated contaminants in the return flow that will cause harm to fish and other organisms, including the people that recreate in and around the Root River.

Second, Dr. Sandra McLellan, a research professor at the UWM School of Freshwater Science specializing in environmental health, argues that the Waukesha effluent will contain increased amounts of contaminants and nutrients: an increase in phosphorus loading, higher concentrations of chloride, higher concentrations of total suspended solids, pharmaceuticals, higher concentrations of residual pathogens, and other emerging contaminants like microplastics and personal care products.^[35] The quantity of these contaminants, Dr. McLellan stated, will have a profound impact on the quality of water in the Root River (and the near shore area of Lake Michigan) on which people regularly kayak, boat, and fish. In addition to impacts on human health, it is believed that many of these contaminants will have a negative impact on the health of the aquatic ecosystem. For instance, scientists at the School of Freshwater Science, including Dr. Rebecca Klaper, are studying the impact the diabetes drug, metformin, is having on fish in Lake Michigan. Other studies are documenting the impact microplastics and microfibers are having on fish and other wildlife that consume these micro-contaminants. Neither the City of Waukesha nor the Compact Council meaningfully addressed concerns about emerging contaminants.

Another significant concern is whether Waukesha, after it sets high phosphorus and chloride standards in the WPDES permit in order to secure approval, will subsequently seek a variance arguing that it is not technically feasible to meet the limits in the permit. Nothing in the Compact Council's decision prohibits Waukesha from seeking such a variance. Therefore, Waukesha's unwillingness to recognize the concerns of the community through which it intends to send its wastewater effluent, will be compounded by further reducing the quality of the effluent with a subsequent variance.

In addition, there is no requirement that Waukesha monitor the Root River, pre- or post-diversion, for the emerging contaminants as previously outlined. Waukesha's Water Utility contracted with the University of Wisconsin-Parkside to begin monitoring the Root River's water quality and biological conditions, including fish health. However, the monitoring excludes analysis for emerging contaminants, e.g., residual pathogens, microplastics or any pharmaceuticals. Likewise, the post diversion monitoring required by the Compact Council (set for a minimum of ten years) does not include emerging contaminants. Therefore, key components for assessing the water quality of the Root River will not be monitored. As outlined by Dr. McLellan, monitoring only for certain contaminants, such as *E. coli* and phosphorus but not residual pathogens, does not provide an accurate or comprehensive assessment of water quality.^[36]

Furthermore, without accurate data, it will be difficult to assess whether the City of Waukesha's return flow has a negative impact, significant or otherwise, on the Root River. The Compact Council did give passing reference to the concern about emerging contaminants by pointing out that it did require the City of Waukesha to develop a comprehensive pharmaceutical and personal care products recycling program, to reduce the quantity of these products entering the City of Waukesha's wastewater, but the Council stopped short of requiring the City of Waukesha to monitor for contaminants not otherwise required to be monitored by federal or state law. Lastly, Waukesha is not required by the Compact Council to pay for any negative local, regional, or cumulative impact caused by its return flow. If the return flow does have a negative impact on human health, fisheries, or aquatic life, there is no provision in Waukesha's plan to pay for the damage, leaving the City of Racine to bear the economic burden.

In light of the considerations outlined above, it is clear why the City of Wauwatosa vigorously objected to Waukesha's initial plan to discharge its treated sewage via Underwood Creek (Figure Four). Clearly, the community of Wauwatosa understood that Waukesha's plan to distribute its wastewater effluent was not as simple or "clean" as alleged by Waukesha in its return flow plan. What is unclear is what motivated Waukesha to amend its diversion plan, to request that its treated wastewater be discharged through the community of Racine via the Root River instead of through Wauwatosa via Underwood Creek, especially since it costs less and crosses fewer streams than discharging to the Root River. According to Waukesha's 2010 application, the return flow through Underwood Creek had the lowest estimated capital cost of \$56M with an annual operations and maintenance cost of about \$120,000, as compared to the estimated costs for return flow via the Root River which were about \$76M with an annual operating and maintenance cost of \$145,000.^[37]

Return Flow Alignment to Root River (river shown only downstream of the return flow)

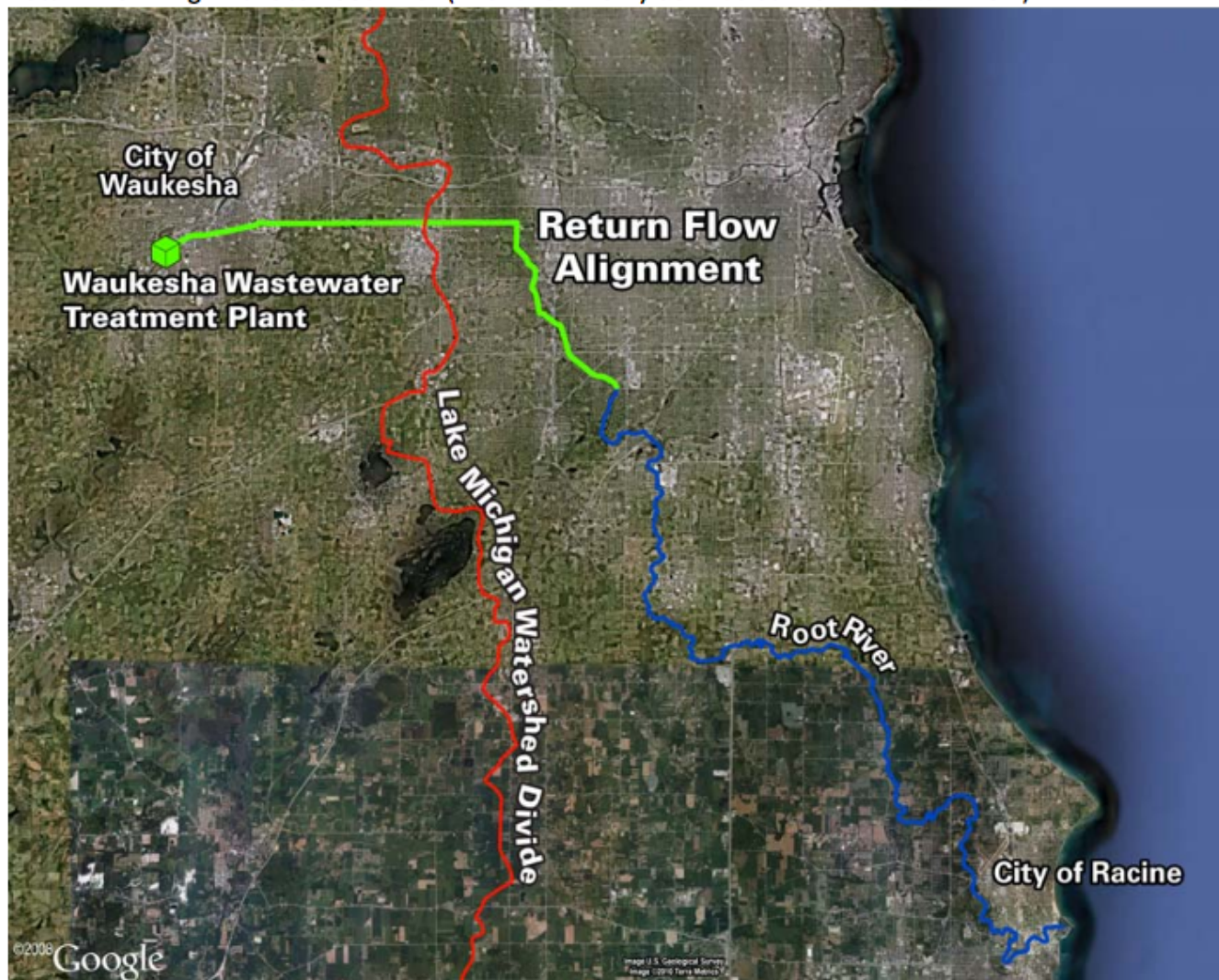




Figure 4: Maps Showing Return Flow Paths Through Underwood Creek and the Root River

A Tale of Two Communities

As mentioned above, the demographics of Racine and Wauwatosa are distinct. According to the latest demographic information from July 2016, the overwhelming majority of Wauwatosa residents are employed (seventy-one percent) and enjoy a median household income of \$70,000 with a median property value of \$220,000.^[38] By contrast, the median value of a home in Racine is \$110,000, the median household income is \$41,000, and sixty-four percent are employed with twenty-two percent living in poverty, as seen in Figure Five.^[39]

2016	Wauwatosa	Racine
Population:	47,000	77,000
High School Graduates	97%	82%
Bachelor's Degree or Higher:	60%	18%
Employed:	71%	64%
Median Household Income:	\$70,000	\$41,000
Persons in Poverty:	6.30%	22%
Median Property Value:	\$220,000	\$110,000
Home Ownership:	63%	52%
Caucasian:	87%	52%

Figure 5: Wauwatosa and Racine Census Information Comparison (United States Census Bureau, 2017)

The last few miles of the Root River through the City of Racine includes popular fishing spots and an area that the City plans to revitalize. The City is working with developers on a sixty-five million dollar plan to redevelop an aged steam engine plant along the Root River waterfront as a mixed-use building with apartments and retail shops. In addition, the City spent the last fifteen years cleaning up North Beach. Racine officials and residents voiced concerns about the viability of these projects and the continued clean-up of North Beach to Waukesha's planners, only to have them be rebuffed. The City of Waukesha rejects any concern by saying that the treated wastewater will be clean and that it will comply with all Federal and State laws. However as outlined above, the Federal and State standards do not adequately address issues of water quality like viruses and pharmaceuticals. In summary, Waukesha went from sending its treated wastewater through a middle class, predominantly White community, to discharging its treated effluent through an economically depressed community with a much higher population of minority residents.

Waukesha Planners Failed to Recognize the Concerns of the Community of Racine When Selecting a Route

Waukesha's decision to change return flow routes after the citizens of Wauwatosa objected, failed to recognize and value the concerns of the citizens of Racine to the same degree that it did the citizens of Wauwatosa. Waukesha fails to recognize the concerns of Racine in repeating the pat response that the return flow effluent will be in compliance with state and federal laws, ignoring their concerns about other contaminants and potential negative economic impact. The City of Waukesha maintains a website dedicated to its diversion plan but the website does not include any information about the environmental justice implications of its return flow plan on Racine.^[40] While there is a section about "myth" and "facts," none of the sections include a response to Racine's concern that its citizens will be fishing and swimming in Waukesha's wastewater. In addition to a lack of recognition, the citizens of Racine have not been provided the opportunity to participate meaningfully in the process of selecting a return flow route.

Over the past several years that Waukesha planned its diversion and return flow routes, Waukesha and the WDNR held only one meeting in Racine. It is possible that the City of Racine officials held meetings and that possibly some residents of Racine travelled to a meeting outside Racine or submitted an online comment, however, the fact remains that Racine residents have not been afforded the chance to participate meaningfully in the planning process. On March 23, 2018, the Waukesha Water Utility submitted to the WDNR

its 3-140 D2 Waukesha Great Lakes Water Supply Program WDNR Supplemental Environmental Impact Report-Redacted (SEIR). According to the SEIR, the WDNR conducted several meetings with affected communities, including two sets of public hearings and two public comment periods prior to submitting the Lake Michigan Diversion Application to the Compact Council in January 2016. The WDNR held three public “scoping” meetings on July 26, 27, and 28, 2011, in Pewaukee, Wauwatosa, and Sturtevant. The WDNR prepared a draft Environmental Impact Statement and invited the public to comment on it between June 25 and August 28, 2015. Comments were also received at three public hearings on August 17 and 18, 2015, in Waukesha, Milwaukee, and Racine. Meaningful efforts at recognition and participation would include holding more meetings with the residents of Racine to discuss their concerns, allowing a representative from Racine to participate in the decision-making process, and being amenable to offering solutions to Racine’s concerns about water quality and economic impacts. Waukesha would like people to empathize and support their quest for a sustainable source of drinking water but seem reluctant to recognize and validate the concerns of other communities affected by that quest.

Waukesha has the opportunity to improve its image and its return flow plan by addressing the environmental justice implications its plans have on the Racine community. Figure Six shows some potential points of interjection in the DSRP map created for this analysis. The WDNR can collaborate with Waukesha, Milwaukee, and Racine, and facilitate discussions about potential economic and environmental impacts from the diversion. The discussions can then be used by the WDNR to create stronger regulations that should not be a problem for Waukesha adherence. Further discussions will make Waukesha a stronger participant in monitoring the Root River as regulations are adapted to the new terms. Additional groups, such as the UWM School of Freshwater Science and the City of Racine Dept. of Public Health, will be included as consultants in creating new regulations, establishing a collaborative monitoring and remediation program, and experimenting with filtration methods. One concern over the treated wastewater is the additional input of emerging contaminants and residual pathogens. Waukesha can fix this concern by becoming a test candidate for new filtration technologies created to filter emerging contaminants. New regulations and standards can strongly motivate the research and development of new filtering methods. In addition, Waukesha should consider setting up a fund to help Racine pay for the damages likely to be caused by flooding and erosion resulting from the increased flow rate in the Root River. By taking these steps, Waukesha could become a model city for requesting and accomplishing the first major diversion that challenged the Great Lakes Compact, the very document created to prevent transfers outside of the basin.

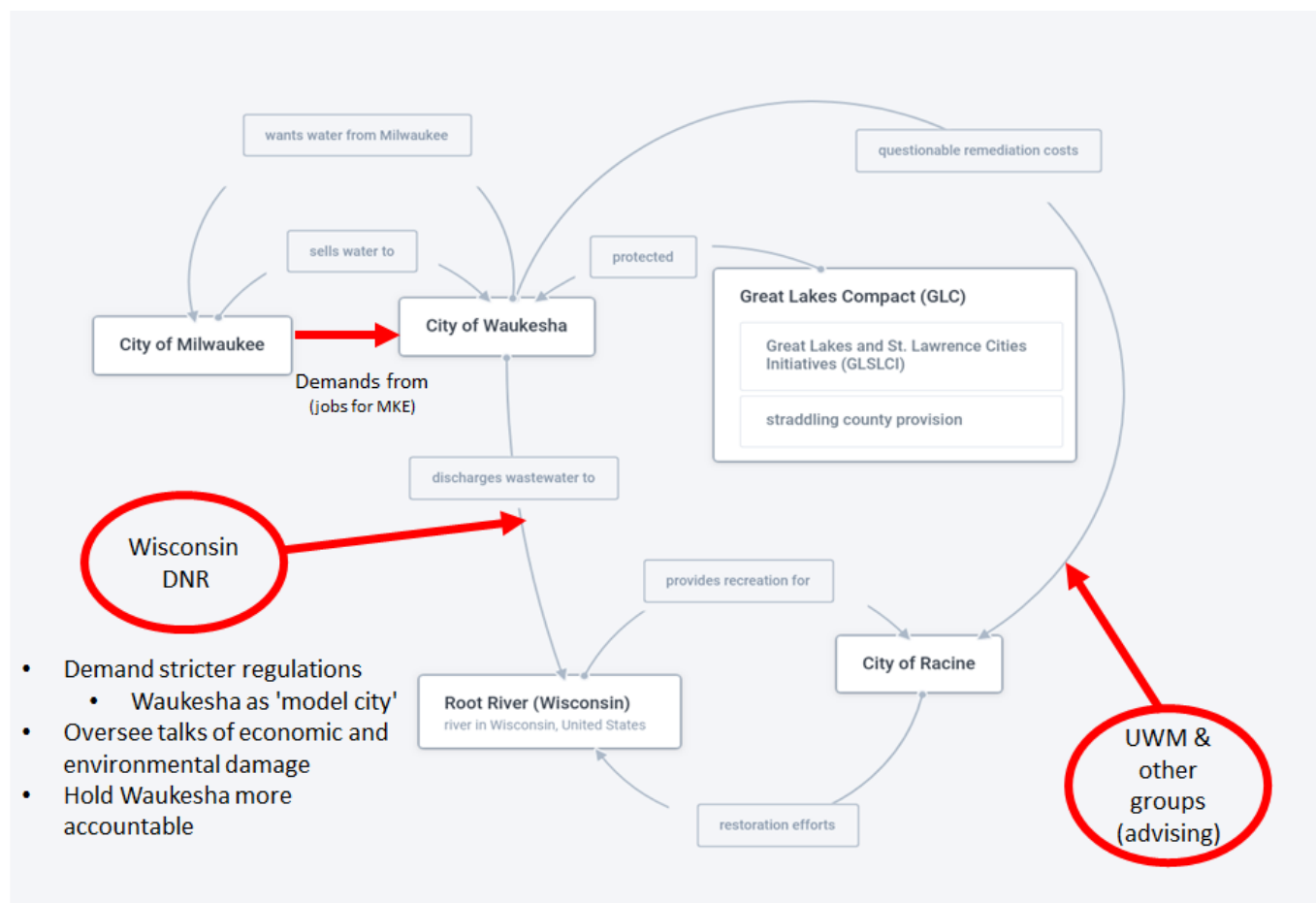


Figure 6: DSRP/Systems Thinking Map with Potential Interjection Points

It can be presumed that the Waukesha diversion is the first of many subsequent diversion proposals to be pursued within the Great Lakes Basin. To begin considering any future diversions similar to Waukesha, the current diversion case needs to set strict standards and regulations to follow in order to prevent any environmental injustice and economic impact. Of course, this is dependent on the success a new application has in getting approved to move forward with a proposal. Such decisions can benefit immensely by the inclusion of local residents, private entities, and government authorities, in deciding the fate of a new application. A pragmatic approach to these decisions can provide economic prosperity without the loss of environmental benefits or public safety. The Waukesha diversion will need a workforce for its construction, and big projects like this one can generate needed jobs. Milwaukee is currently in a position of requesting jobs for its residents, for construction of the infrastructure. The employment can be extended by establishing maintenance and monitoring protocols. Similar opportunities can be created in potential future diversion projects should they be considered.

Conclusion

As outlined above, there is no question that Waukesha's plan to return its wastewater to Lake Michigan via the Root River will introduce unregulated contaminants to the river and lake which will cause harm to those ecosystems and people who rely on them for drinking water, sustenance fishing, and recreation. It can be argued that Waukesha's plan to return the water used by its majority White, affluent residents, via a river that flows through a predominantly non-White, working class town, unfairly distributes health and economic risks to the City of Racine. In response, Waukesha's statement that its wastewater discharge will meet federal regulations rings hollow. In addition, Racine residents may lose access to the river, and local businesses dependent on the river may see a drop in customers and profit.⁽⁴¹⁾ These are all potential burdens suffered by Racine without any attendant benefits. The burden imposed on Racine residents will not be shared by the residents of Waukesha, as there is no requirement by the Compact Agreement or the WDNR approval that the City of Waukesha pay for any economic or ecological damage caused by the return flow. While Waukesha has already gained the permission it needs to divert water from the Great Lakes Basin, the plan to return the water via the Root River has not been finalized. In light of these serious concerns regarding the injustices imposed on the Racine community, it is recommend that Waukesha either select a different return flow route, or make a financial commitment to assist Racine in mitigating and/or remediating any damage caused by flooding or erosion. At a minimum, the WDNR should require the City of Waukesha to devise a plan that reduces the amount of contaminants sent to the water treatment facility, and require the sewage treatment facility to improve wastewater treatment and testing systems to reduce the amount of microplastics, pharmaceuticals, and other unregulated contaminants being discharged to the Root River.

References

1. Great Lakes- St. Lawrence River Basin Water Resources Council, "Great Lakes-St. Lawrence River Basin Water Resources Compact," December 2005, 1 - 27. ¹
2. Derek Cabrera and Laura Cabrera, "New Hope for Wicked Problems," in *Systems Thinking Made Simple: New Hope for Solving Wicked Problems*, (USA: Plectica Publishing, 2015), 12-20. ¹
3. Derek Cabrera and Laura Cabrera, "New Hope for Wicked Problems," in *Systems Thinking Made Simple: New Hope for Solving Wicked Problems*, (USA: Plectica Publishing, 2015), 12-20. ¹
4. Derek Cabrera and Laura Cabrera, "New Hope for Wicked Problems," in *Systems Thinking Made Simple: New Hope for Solving Wicked Problems*, (USA: Plectica

Publishing, 2015), 12-20. [↑](#)

5. David Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories," *Environmental Politics* 13, no. 3. (2004): 517- 540. [↑](#)
6. David Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories," *Environmental Politics* 13, no. 3. (2004): 517- 540. [↑](#)
7. Dalia Saad, Deirdre Byrne, and Pay Drechsel, "Social Perspectives on the Effective Management of Wastewater," *Physico-Chemical Wastewater Treatment and Resource Recovery*. (April 2016): 253- 262. [↑](#)
8. Jill E. Johnson, Emily Werder, and Daniel Sebastian, "Wastewater Disposal Wells, Fracking and Environmental Injustice in Sourthern Texas," *American Journal of Public Health* 106, no. 3. (March 2016): 550-556. [↑](#)
9. Jill E. Johnson, Emily Werder, and Daniel Sebastian, "Wastewater Disposal Wells, Fracking and Environmental Injustice in Sourthern Texas," *American Journal of Public Health* 106, no. 3. (March 2016): 550-556. [↑](#)
10. David Schlosberg, "Reconceiving Environmental Justice: Global Movements and Political Theories," *Environmental Politics* 13, no. 3. (2004): 517- 540. [↑](#)
11. Wisconsin Department of Natural Resources, "Great Lakes Compact Background," 2018. [↑](#)
12. Wisconsin Department of Natural Resources, "Great Lakes Compact Background," 2018. [↑](#)
13. Ch2mHill, "Application Summary: City of Waukesha Application for a Lake Michigan Diversion with Return Flow," October 2013, Volume 1: 1.1 - 5.1. [↑](#)
14. Great Lakes- St. Lawrence River Basin Water Resources Council, "Great Lakes-St. Lawrence River Basin Water Resources Compact," December 2005, 1 - 27. [↑](#)
15. United States Census Bureau, "Quick Facts," July 2017. Ch2mHill, "Application Summary: City of Waukesha Application for a Lake Michigan Diversion with Return Flow," October 2013, Volume 1: 1.1 - 5.1. [↑](#)
16. United States Census Bureau, "Quick Facts," July 2017. [↑](#)
17. United States Census Bureau, "Quick Facts," July 2017. [↑](#)
18. Ch2mHill, "Application Summary: City of Waukesha Application for a Lake Michigan Diversion with Return Flow," October 2013, Volume 1: 1.1 - 5.1. [↑](#)
19. Ch2mHill, "Application Summary: City of Waukesha Application for a Lake Michigan Diversion with Return Flow," October 2013, Volume 1: 1.1 - 5.1. [↑](#)
20. Ben Merriman, "Testing the Great Lakes Compact: Administrative Politics and the Challenge of Environmental Adaptation," *Politics and Society*, 45 no. 3. (June 2017): 441- 466. [↑](#)
21. Ch2mHill, "Application Summary: City of Waukesha Application for a Lake Michigan Diversion with Return Flow," October 2013, Volume 1: 1.1 - 5.1. [↑](#)

22. Ben Merriman, "Testing the Great Lakes Compact: Administrative Politics and the Challenge of Environmental Adaptation," *Politics and Society*, 45 no. 3. (June 2017): 441- 466. [↑](#)
23. Ch2mHill, "Application Summary: City of Waukesha Application for a Lake Michigan Diversion with Return Flow," October 2013, Volume 1: 1.1 - 5.1. [↑](#)
24. GZA GeoEnvironmental Inc, "Response to Comments on Non-Diversion Alternative," February 2016, 2-11. [↑](#)
25. GZA GeoEnvironmental Inc, "Response to Comments on Non-Diversion Alternative," February 2016, 2-11. [↑](#)
26. GZA GeoEnvironmental Inc, "Response to Comments on Non-Diversion Alternative," February 2016, 2-11. [↑](#)
27. Ch2mHill, "Application Summary: City of Waukesha Application for a Lake Michigan Diversion with Return Flow," October 2013, Volume 1: 1.1 - 5.1. [↑](#)
28. Great Lakes and St. Lawrence Cities Initiative, "Great Lakes and St. Lawrence Cities Initiative Reply to City of Waukesha's Response to The Cities Initiative Request for a Hearing," February 2017, 1-34. [↑](#)
29. Great Lakes and St. Lawrence Cities Initiative, "Great Lakes and St. Lawrence Cities Initiative Reply to City of Waukesha's Response to The Cities Initiative Request for a Hearing," February 2017, 1-34. [↑](#)
30. Wisconsin Department of Natural Resources, "303(d) Impaired Waters List," 2018. [↑](#)
31. Wisconsin Department of Natural Resources, "Wastewater Regulations," 2018. [↑](#)
32. Valerie J. Harwood, Christopher Staley, Brian D. Badgley, Kim Borges, and Asja Korajkic, "Microbial source tracking markers for detection of fecal contamination in environmental waters: relationships between pathogens and human health outcomes," *FEMS Microbiology Reviews* 38, no 1. (January 2014): 1- 40. [↑](#)
33. Valerie J. Harwood, Christopher Staley, Brian D. Badgley, Kim Borges, and Asja Korajkic, "Microbial source tracking markers for detection of fecal contamination in environmental waters: relationships between pathogens and human health outcomes," *FEMS Microbiology Reviews* 38, no 1. (January 2014): 1- 40. [↑](#)
34. Sandra McLellan, "Microbial Indicators" (class lecture, Water Law for Scientists and Policy Makers, UW-Milwaukee School of Freshwater Sciences, Milwaukee, Wisconsin, October 25, 2017). [↑](#)
35. Sandra McLellan, "Microbial Indicators" (class lecture, Water Law for Scientists and Policy Makers, UW-Milwaukee School of Freshwater Sciences, Milwaukee, Wisconsin, October 25, 2017). [↑](#)
36. Sandra McLellan, "Microbial Indicators" (class lecture, Water Law for Scientists and Policy Makers, UW-Milwaukee School of Freshwater Sciences, Milwaukee, Wisconsin, October 25, 2017). [↑](#)

37. Ch2mHill, "Application Summary: City of Waukesha Application for a Lake Michigan Diversion with Return Flow," October 2013, Volume 1: 1.1 - 5.1. [↑](#)
38. United States Census Bureau, "Quick Facts," July 2017. [↑](#)
39. United States Census Bureau, "Quick Facts," July 2017. [↑](#)
40. Waukesha Water Utility, "Myths and Facts about Waukesha's New Water Supply Program," 2016. [↑](#)
41. Wasim Ahmad and Marwan Ghanem, "Enhancing of Socio-economical Environmental Impact of the Wastewater Flow on Communal Level," *International Journal of Research In Social Sciences* 6, no. 2 (January 2016): 46- 52. [↑](#)



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The authors of this paper are all masters students within the School of Freshwater Science at the University of Wisconsin-Milwaukee. This article was prepared for a class focusing on Environmental Justice and the use of Systems Thinking to solve multifaceted problems.

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From: [Lucia Petrie](#)
To: [DNR Compact Program Review](#)
Subject: Compact
Date: Tuesday, October 08, 2024 11:31:08 AM

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The Great Lakes Compact is a comprehensive agreement to insure water remains in the Great Lakes. It is essential that no additional exceptions are made. In fact, I submit that communities that are current exceptions to the Compact must submit annual plans for water conservation. And I believe that a cap must be placed on these diversions so that no additional water is diverted.

From: cheryl_nenn@milwaukeekeeper.org
To: [DNR Compact Program Review](#)
Subject: MRK Comments on Water Management and Water Conservation and Efficiency Program Review
Date: Friday, November 15, 2024 6:13:06 PM

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Hi Shaili—

I have a few quick comments and questions on the Water Management and Water Conservation and Efficiency Program Review document, which is open for comment through today.

Per the Compact, the DNR requires permits for water use greater than 100,000 MGD or 1,000,000 MGD, and regional approval is required over 10 Million MGD. But I noted that for water loss approvals from surface waters, that permits aren't required until water loss averages more than 2 million gallons per day statewide. That seems concerning to me, as I would think impacts on inland creeks/lakes would be more significant than impacts on the Great Lakes, and it also just sends a conflicting message or may incentivize a utility or company to seek water from a river versus the lake, because they wouldn't need a permit. Does that make sense?

On page 9, when stating conditions for an inter-basin transfer, would impacts on water levels of streams be looked at (as ecosystem impacts)? Because only lake levels are mentioned—presumably for the Great Lakes.

I was also not aware of the condition (on page 14 of PDF) that states that the “state decision-making standard” would be applied instead of the “Compact decision-making standard”, where normally the latter would apply, if the entity applying shows that water loss would average less than 5 MGD over a 90 day period, versus averaging 10 MGD in a 30 day period. How many entities are in this bucket so to speak? And are other states managing these types of water uses in the same way? I understand the distinction but I'm not sure if that is a decision that WI should make in isolation because it is different than the Compact language.

On page 15, under the definitions of “reasonable use” for diversions, I find the bullets under “considerations” confusing as written b/c some are seeming written in the permissive and others in the restrictive tense. I think it would be clearer if written in a “thou shall not” type of frame. The second bullet is weirdly written in particular, like it's a reasonable use if “the proposal would result in an increased water loss”.

On page 16, under the exception standard for diversions section, I am opposed to number 1 language that states: “The proposal for a diversion must be consistent with an approved water supply service area plan under s. 281.348, Wis. Stat., that covers the public water supply system, unless the proposal is to provide water to a straddling community that includes a designated

electronics and information technology manufacturing zone. § 281.346(4)(c)2m. and (e)1.em., Wis. Stat.” That clearly was put in place for the sole purpose of allowing a water diversion for Foxconn, and I don’t see any distinction of why the electronics or information technology users should get special consideration. We do contend as well that when a diversion is granted, and conditions substantially change (who is using the water, and to what end, as well as socioeconomic considerations like jobs created), that the Department should have a way to reexamine a water diversion approval, and that these permits should not be permanent or evergreen to ensure that permittees don’t pull a “bait and switch.”

On page 16, under the third exception, I bristle at the part that states “considering the state of the receiving water before” in this paragraph:

“the physical, chemical, and biological integrity of the receiving water will be protected and sustained, considering the state of the receiving water before the proposal is implemented and considering both low and high flow conditions and potential adverse impacts due to changes in temperature and nutrient loadings.” I understand the intent of providing more detail, and wanting to know if there would be impacts based on a baseline condition for a stream. But as written, it also could be interpreted that if the “state of the receiving water” is poor, that it is not required that the physical, chemical, and biological integrity of that stream should be protected. I don’t think that is your intent. I also think factors like bacteria/pathogens are just as important as temperature and nutrients, especially when return flows, like the case with Waukesha, convert a stream to “effluent dominated” post-diversion.

And for the record, we still don’t agree with the Department’s interpretation that an exception to the prohibition on diversions should be granted if the entity seeking the water predominantly provides water for residential uses, when its clear the water being diverted is going to an industry, or fueling sprawl. In the case of the Foxconn diversion, people were forced from their homes and farms for that project, which has largely fallen apart. And now several of the areas in question are going to be redeveloped as subdivisions, which seems highly unfair to the Wisconsinites that lost their homes and had to move, compensated or not. Also, every city that is a water supplier along Lake Michigan can claim that they are predominantly serving residential uses (due to decline of industry), and if the “use” of the diverted water is not considered, I fear that it degrades the spirit and intent of the Compact that water should be provided for predominantly residential water uses and only when there is no reasonable water supply alternative.

Best,

Cheryl

Cheryl Nenn (she/her)

Riverkeeper

[Milwaukee Riverkeeper](#)

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