

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://metrocouncil.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
<p>Guide programs toward long-term sustainable water use.</p>	<p>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.”</p> <p>Relevant strategies to accomplish our water resources goal include:</p> <ul style="list-style-type: none"> • 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.
<p>Adopt and implement supply and demand management to promote efficient use and conservation of water resources.</p>	<ul style="list-style-type: none"> • 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. 103G.291</i>) • Water supply plans also require public water suppliers serving over 1,000 people to plan for conservation activities, education, and messaging. (<i>Minn Stat. 103G.291</i>) • 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.

<p>Improve monitoring and standardize data reporting among State and Provincial water conservation and efficiency programs.</p>	<p>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.</p> <p>Within the Lake Superior Basin, the DNR has 32 active stream gages and 23 active DNR observation wells.</p>
<p>Develop science, technology and research.</p>	<p>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.</p> <p>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.</p> <p>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</p>
<p>Develop education programs and information sharing for all water users.</p>	<p>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.</p> <ul style="list-style-type: none"> • 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,

	<p>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.</p> <ul style="list-style-type: none"> • 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.