

**Great Lakes- St. Lawrence River Basin Water Resources Compact**

**Water Conservation and Efficiency Program**

**Annual Assessment**



**State of Minnesota, November 17, 2023**

## Lead agency and contacts

Minnesota Department of Natural Resources (DNR), [Ecological and Water Resources Division](#) (EWR) is the lead agency responsible for Minnesota's water quantity management and water conservation and efficiency programs. The primary contact is DNR Assistant Commissioner Jess Richards (email: [jess.richards@state.mn.us](mailto:jess.richards@state.mn.us), phone: 651-259-5025). Additional contacts are:

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## Status of Minnesota's water conservation and efficiency goals and objectives consistent with Basin-wide goals and objectives

Compact § 4.2.2 calls for each state to develop goals and objectives. Minnesota has adopted the Compact's goals and the Council's objectives and satisfies this aspect of Compact § 4.2.2.

**Water conservation goals** in Compact Section 4.2.1 have been adopted in Minnesota Statutes section 103G.801. These goals include:

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

**Water conservation objectives** in Compact Section 4.2.1 have been adopted in Minnesota policy. These objectives include:

1. Guiding programs toward long-term sustainable water use.
2. Adopting and implementing supply and demand management to promote efficient use and conservation of water resources.
3. Improving monitoring and standardizing data reporting among state and provincial water conservation and efficiency programs.
4. Developing science, technology and research.
5. Developing educational programs and information-sharing for all water users.

Minnesota is actively emphasizing water conservation through its current regulatory authority and plans for the future. The laws cited and programs described below provide a framework for sustainable water management that promotes efficient use of the state's water resources. Statewide programs that monitor and protect water resources are managed by several Minnesota agencies, including the [DNR](#), the [Pollution Control Agency](#), the [Department of Health](#), the [Department of Agriculture](#), and the [Board of Water and Soil Resources](#). The DNR applies an adaptive approach to its water management, so that expanding scientific knowledge and improvements in technology lead to improvements in natural resource use and protection.

## Legal basis for program

### Citations to implementing laws, regulations and policies.

The statutes and rules listed below are available at <http://www.leg.state.mn.us>

#### Primary

- [Minnesota Statutes, chapter 103A. Water Policy and Information](#)
- [Minnesota Statutes, chapter 103G. Waters of the State \(primary regulatory statute\)](#)
- [Minnesota Statutes, chapter 103G.271 Appropriation and Use of Water](#)
- [Minnesota Statutes, section 103G.801, Great Lakes – St. Lawrence River Basin Water Resources Compact](#)
- [Minnesota Rules, parts 6115.0600 – parts 6115.0600 – 6115.0810. Water Appropriations and Use Permits and Use Management Plans](#)

#### Related

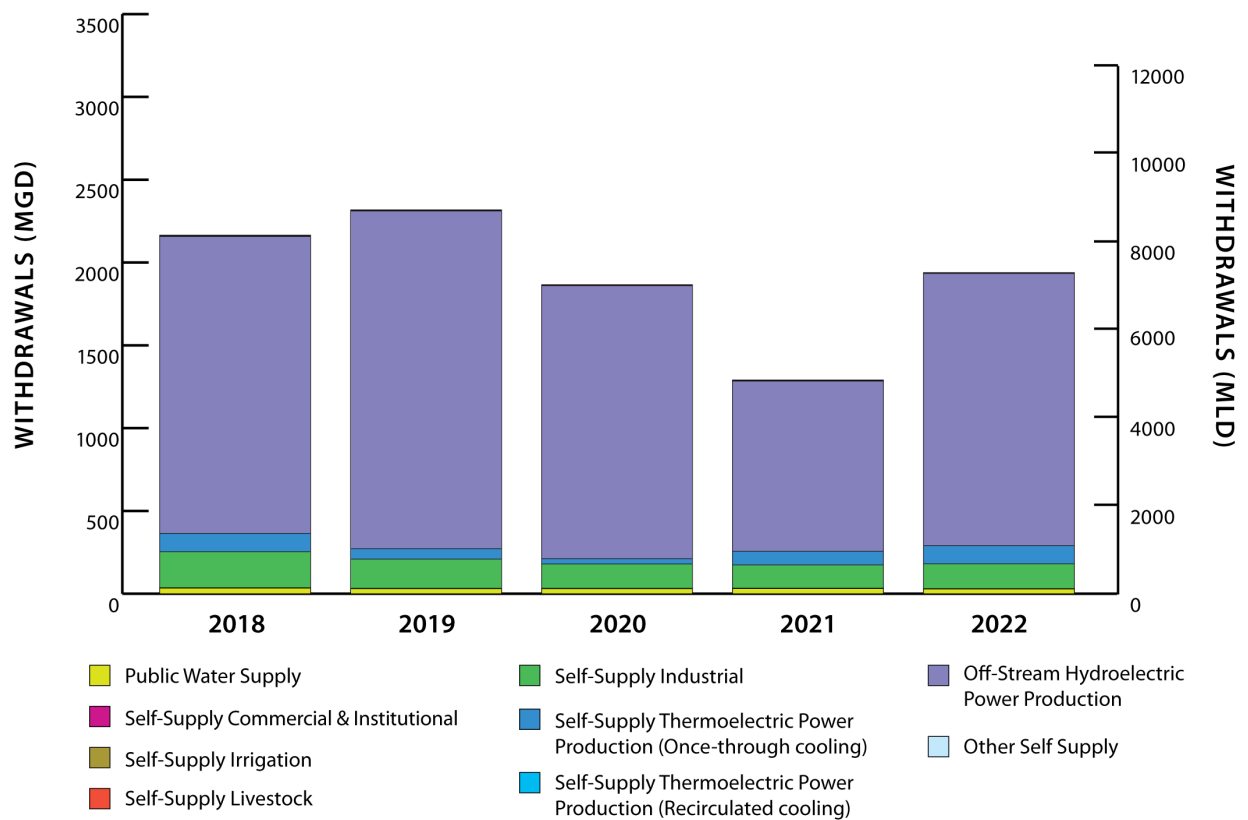
- [Minnesota Statutes, section 103B. Water Planning and Project Implementation](#)
- [Minnesota Statutes, section 103F. Protection of Water Resources](#)
- [Minnesota Statutes, chapter 103H. Groundwater Protection](#)
- [Minnesota Statutes, chapter 103I. Wells, Borings and Underground Uses](#)
- [Minnesota Statutes, section 116B.01 Environmental Rights](#)
- [Minnesota Statutes, chapter 116D. Environmental Policy](#)

### Summary of program elements, both mandatory and voluntary

Since 2015, the DNR has had a full-time Water Conservation Consultant developing and implementing the statewide water conservation program consistent with laws, the Great Lakes Compact, policies and management objectives. Minnesota’s water conservation program is integrated with permitting and planning requirements.

## State of water use and efficiency in Minnesota’s Lake Superior Basin

- At the time of this report, there are 160 active water appropriations in Minnesota’s Lake Superior Basin (10 more than at the time of the 2022 report).
- All facilities complied with requirement to report water use.
- Total water withdrawals from the Basin excluding in-stream hydroelectric water use were 1,939 MGD, or 50% higher than in 2021.
  - 1,643 MGD were used for off-stream hydroelectric power production.
    - The increase here returns the use to expected levels after drought-like conditions in 2021 required decreased use.
  - 110 MGD were used for once-through cooling.
    - The increase here is due to normal energy production fluctuations at two plants.
  - 150 MGD were used for self-supply industrial activities.
- Consumptive use was 20 MGD.
- Total interbasin diversions were 13 MGD, and almost exclusively for self-supply industrial activities.



Minnesota water withdrawals by sector over the past five years (excluding in-stream hydroelectric water use).

Many efforts are underway in all levels of government, educational institutions, nonprofit organizations, business and industrial sectors, and at the grassroots level to guide Minnesota toward long-term sustainable water use. As shown below, Minnesota’s program is consistent with the regional objectives in the promotion of environmentally sound and economically feasible water conservation measures.

### Minnesota’s work toward Compact objectives

Compact’s water conservation and efficiency objectives	Summary of Minnesota’s 2023 efforts
1. Guide programs toward long-term sustainable water use.	<ul style="list-style-type: none"> <li>• Continued water use trend analysis</li> <li>• The following statutory changes from the 2023 legislative session gave the DNR additional tools for water appropriation regulation and conservation:               <ul style="list-style-type: none"> <li>○ Greater administrative penalty authority for water appropriation violations.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ An increase starting in July 2023 to the summer water use surcharge from \$20 per million gallons to \$50 per million gallons</li> </ul>
2. Adopt and implement supply and demand management to promote efficient use and conservation of water resources.	<ul style="list-style-type: none"> <li>● The DNR sent water conservation notices to public water suppliers during the 2023 drought.</li> <li>● As of 2023, over 81% of the 16 cities in the Lake Superior watershed with populations over 1,000 have submitted their Water Supply Plan and had them approved.</li> <li>● The DNR provided spokespeople to the media to discuss the need for water conservation, especially, but not only during drought periods.</li> </ul>
3. Improve monitoring and standardize data reporting within water conservation and efficiency programs.	<ul style="list-style-type: none"> <li>● The statewide Water Conservation Reporting System has over five years of data for cities serving over 1,000 people and is now open for all 10,000 water appropriation permit holders to report yearly water conservation and efficiency improvements.</li> <li>● Availability of accurate water resource maps continues improving, aiding in all program management.</li> <li>● DNR is working with other state agencies to improve water supply plan data collection and data portability.</li> <li>● The Monitoring and Surveys Unit and Groundwater Unit provided robust monitoring reports that aided the response to the 2023 drought.</li> </ul>
4. Develop science, technology and research.	<ul style="list-style-type: none"> <li>● The 2023 Minnesota Technical Assistance Program intern program sponsored 13 young professionals to work on water conservation or wastewater loading reduction projects.</li> <li>● The Watershed Health Assessment Framework emphasizes ecosystem health.</li> <li>● The 2022 State of the Great Lakes report rates Lake Superior as fair to good in most categories.</li> <li>● Minnesota’s Legislative-Citizen Commission on Minnesota Resources has awarded grants to study issues including microplastics in Lake Superior, industrial waste source reduction, and treatment of PFAS in wastewater.</li> <li>● The Lake Index of Biological Integrity Assessment Tool rates lakes to help managers target protection and restoration efforts.</li> </ul>
5. Develop education programs and information-sharing for all water users.	<ul style="list-style-type: none"> <li>● The USEPA, MDH, DNR, and the Minnesota Rural Water Association provided a drought preparedness and water loss workshop that included strategies and solutions related to water conservation and water efficiency, as well as an introduction to water loss and leak detection.</li> <li>● Nature-Based Shoreline Protection demonstration sites help educate citizens on how to protect shorelines from coastal erosion.</li> <li>● “We Are Water,” a multiagency traveling exhibit continues touring the state.</li> <li>● The DNR is developing a water conservation communications plan.</li> <li>● The Sustainable Damage Playbook for Local Officials helps them understand their responsibilities and available resource after a natural disaster.</li> <li>● A learning toolkit on Water Equity and Climate Resilience is available for utility leaders.</li> </ul>

# Description of Minnesota’s conservation and efficiency program implementation timeline and status

Minnesota continues to explore opportunities to expand our water conservation efforts, empower and inspire people to save water, and seek new ways to conserve water in all sectors of society. Water conservation in Minnesota is built on a holistic foundation of knowledge about comprehensive water use. The DNR partners with other organizations to promote sustainable water use and provide clear information about how much water we have, how much water is used, and how to safeguard surface and groundwater availability.

The state has water conservation measures that are currently in place and integrated with the water appropriations permit program. Ten-year water supply plans submitted between 2016-2019 include requirements for water conservation, monitoring and management standards for public water suppliers serving more than 1,000 people. Since 2015, the state has required public water suppliers serving over 1,000 people to implement demand reduction measures including either a conservation rate structure or a uniform rate structure that in some way encourages conservation. The state is planning updates to the next round of water supply plans to improve coordination between agencies, improve the user experience, and create more accessible statewide data.

## Minnesota water conservation and efficiency program strategies

Timeline is until 2025 unless noted otherwise.

### Strategies for municipal water suppliers serving over 1,000 people

- Expand Water Loss Control education and outreach.
- Encourage improved metering and advanced metering infrastructure (AMI).
- Investigate time-based rates during peak demand periods.
- Support additional building codes and irrigation ordinances that promote demand reduction.
- Promote education and behavioral water efficiency strategies.
- Revise the Statewide Drought Plan to better align with the Water Supply Plan.

### Strategies for the commercial, industrial and institutional sector

- Advocate for advance metering and additional sub-metering.
- Encourage technology upgrades to most water efficient technology – greening the grey infrastructure.
- Support building and water management improvements to capture water efficiency opportunities.
- Encourage adoption of commercial building water BMPs and benchmarking.
- Work with partners to expand and improve water efficiency and water reuse options.
- Encourage integration of water storage and demand response where practical.

### Strategies for smaller public water suppliers

- Participate in the Water Conservation Reporting System.
- Expand Water Loss Control education and outreach.
- Provide water conservation educational resources.



- Revise the Statewide Drought Plan to better prepare and assist small communities.

### **Strategies for agriculture, irrigation and other sectors**

- Participate in the Water Conservation Reporting System.
- Promote agricultural water efficiency best practices.
- Promote golf course, sod production, and other irrigation efficiency practices and reuse.
- Encourage technology upgrades to most water efficient technology.
- Revise the Statewide Drought Plan to better prepare and assist the agricultural sector.
- Proactively engage with tribal nations regarding water appropriation permit applications from non-tribal entities within reservation boundaries.

### **Strategies for local planning, collaboration and action**

- Coordinate and promote water efficiency – showcase best practices.
- Continue to define local thresholds for surface and groundwater resources.
- Leverage sources of funding for implementation.
- Resilience Planning, Adaptation Training, and increased understanding of the implications of the Water-Energy Nexus and climate change.
- Advance local water conservation planning and implementation.
- Pursue near-term actions at the local level – rebate programs, etc.

Minnesota has developed and implemented a water conservation and efficiency program consistent with and in support of the Great Lakes-St. Lawrence River Basin Water Conservation and Efficiency Objectives. Minnesota is now improving the program, increasing accountability for water appropriators, and developing additional voluntary efforts and assistance options for public water suppliers.