

# Minnesota Department of Natural Resources

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December 8, 2009

Mr. David Naftzger  
Executive Director, Great Lakes-St. Lawrence River Basin Water Resources Council  
Secretary, Great Lakes-St. Lawrence River Water Resources Regional Body  
c/o Council of Great Lakes Governors  
35 East Wacker Drive, Suite 1850  
Chicago, Illinois 60601

Subject: Water Management Program Report and Water Conservation and Efficiency  
Program Report Submitted on behalf of Minnesota

Dear Mr. Naftzger:

On behalf of the State of Minnesota, please find enclosed a Water Management Program Report; and, a Water Conservation and Efficiency Program Report being 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.

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

Sincerely,

A handwritten signature in black ink that reads "Kent Lokkesmoe".

Kent Lokkesmoe

Director

Minnesota Department of Natural Resources, Division of Waters  
Alternate of Governor Pawlenty, Member, Great Lakes-St. Lawrence River Basin Water Resources Council

cc: Peter Johnson, Program Director, Council of Great Lakes Governors



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

## Agreement Article 300 – Compact Section 3.4

### Water Conservation and Efficiency Program Review

#### State of Minnesota

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

Minnesota Department of Natural Resources, Division of Waters (DNR), [mndnr.gov/waters](http://mndnr.gov/waters)

- Kent Lokkesmoe, Director
- Jim Japs, Assistant Director

#### 2. Status of how water conservation and efficiency goals and objectives consistent with the Basin-wide goals and objectives.

- Minnesota's water law and its implementation currently encompass the Goals and Objectives identified in the Basin's Water Conservation and Efficiency Initiative. The laws cited and programs described in Item 3 a) and b) provide a framework for sustainable water management that promotes efficient use of the state's water resources. State-wide [monitoring systems](#) track water demands and monitor groundwater and surface water supplies

#### 3. Water Conservation and Efficiency Program Overview.

##### a) 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, sections 103A.001-103A.301 Water policy and information](#)
- [Minnesota Statutes, sections 103G.001-103G.101 Water law, definitions, conservation](#)
- [Minnesota Statutes, sections 103G.255 -103G.315 Water allocation priorities, water supply management & permit procedures](#)
- [Minnesota Statutes, section 103G.293 Statewide drought plan](#)
- [Minnesota Statutes, section 103G.298 Landscape irrigation system shutoffs](#)
- [Minnesota Statutes, section 103G.801, Great Lakes – St. Lawrence River Basin Water Resources Compact](#)
- [Minnesota Rules, parts 6115.0010-6115-0120 Permit, inspection and monitoring](#)
- [Minnesota Rules, parts 6115.0600 – parts 6115.0600 – 6115.0810 Water appropriations and use permits and use management plans.](#)
- [Minnesota Rules, part 6115.0770 Water conservation must be employed](#)

##### Related:

- [Minnesota Statutes, section 103B.235 Local water management plan](#)
- [Minnesota Statutes, chapter 103H. Groundwater Protection](#)
- [Minnesota Statutes, section 116B.01 Environmental Rights](#)
- [Minnesota Statutes, chapter 116D. Environmental Policy](#)

## **b. Summary of program elements both mandatory and voluntary.**

Minnesota's water conservation program is integrated with permitting and planning requirements.

### **Mandatory:**

- 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 promoted through the permitting process ([Minnesota Rules, part 6115.0770](#)).
- Water users must measure water volumes appropriated. Flow meters are required but other methods can be approved.
- Public Water Suppliers must meet demand reduction and conservation rates:
  - Public water suppliers serving more than 1000 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 2006 plan format had a strong emphasis on water conservation.
  - [Benchmarks](#) for public water suppliers were developed in consultation with the Minnesota Section of the American Water Works Association. The benchmarks, which include standards for unaccounted water, per capita use, and peak demand, are used in reviewing water supply plans and for water appropriation permit review.
  - Before requesting approval to construct a public water supply well or to increase authorized water volumes, demand reduction strategies must be employed by the public water suppliers. Required demand reduction measures include the use of a conservation rate structure and a public education program for water conservation.
  - [Conservation rates](#) are required by January 1, 2013 for public water suppliers in the Basin which serve more than 1000 people.
- [Landscape irrigation systems](#) that operate automatically are required to have technology that inhibits or interrupts operation during periods of sufficient moisture.
- Minnesota Statutes establish water use priorities for the allocation of waters during periods of limited supplies. Non-essential uses are the lowest priority and are subject to restrictions prior to other higher priority uses [Minnesota Statutes, section 103G.261](#).
- Minnesota's [Statewide Drought Plan](#) provides a framework for preparing for and responding to droughts including steps for public water suppliers to take for water conservation.
- Applicants for water appropriation permits may be required to provide alternatives to proposed actions, including conservation measures to improve water use efficiencies and reduce water demand [[Minnesota Statutes, section 103G.301](#), subd. 1 (b)(3)]
- Applicants for wastewater discharge permits are required to evaluate potential reuses of the discharged wastewater [[Minnesota Statutes, section 115.03](#), subdivision 1, item (e), subitem (10)].

### **Voluntary:**

- A number of public water suppliers provide water conservation information to customers.
- Minnesota Statutes that require demand reduction measures for new public water supply wells or increased water volumes also provide consideration for voluntary programs to retrofit water fixtures. Some local governments have partnered 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 discharge permits.

**c. Identify how the State/Provincial program is consistent with the regional objectives:**

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

- The framework for sustainable management of Minnesota's water resources is described in an attached document titled Minnesota DNR Programs for Water Sustainability.
- Public water suppliers include demand forecasting in ten year water supply plans and water efficiency benchmarks are used for evaluating water supply plans and permit requests.

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

- The DNR in cooperation with the owners of water supply systems may analyze water use practices and may require more efficient water use practices to be employed.
- Public water suppliers implement demand reduction measures before requesting approvals for new wells or increases in authorized water volumes.
- Reuse of water is encouraged and funding was provided by the legislature in 2009 for projects that reuse municipal wastewater for the conservation and protection of water resources.

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

- Minnesota continues to work with the other Great Lakes states and provinces on strategies to share data and procedures for data collection.
- Minnesota tracks the effectiveness of water conservation measures through annual water use reporting. Public water suppliers report water use by customer categories and unaccounted water volumes. Information on water rates and peak use volumes is also requested

**Develop science, technology and research.**

- DNR is in the process of merging the divisions of ecological resources and water into one division with shared goals. It is anticipated that this organizational change will foster increased understanding of the linkage between water use, conservation and ecological services.
- DNR encourages innovative management practices by promoting aquifer [water use management planning](#). This concept involves the definition of a management area and the involvement of a wide range of interests in the development of these plans.
- DNR has undertaken studies to map, monitor, and manage areas of complex groundwater and surface water hydrology and ecology, multiple watersheds and diverse water uses. These studies will be used to understand how implementation of conservation practices improves water use efficiency and result in a positive ecologic response.
- 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.

## **Develop education programs and information sharing for all water users.**

- 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.

## **4. Description of the State promotes Environmentally Sound and Economically Feasible Water Conservation Measures.**

Minnesota promotes environmentally sound and economically feasible water conservation measures as part of environmental review and permitting processes. Public water suppliers evaluate demand reduction alternatives prior to requesting approvals for new wells or increases in authorized water volumes. The DNR maintains a web page with [water conservation information](#) and links to other resources.

## **5. Description of conservation and efficiency program implementation timeline and status.**

Minnesota has a number of water conservation measures that are currently in place and integrated with the water appropriation permit program. Water supply plans for public water suppliers must be updated and approved every ten years and the DNR is currently reviewing the second generation of these plans. The 3<sup>rd</sup> generation of Water Supply Plans will be due in 2016. Water conservation rate structure implementation is in progress. Water conservation rate structures for public water suppliers within the Basin must be implemented by 2013.

### Attachments

Related legal citations

Minnesota DNR Programs for Water Sustainability

## WATER CONSERVATION & EFFICIENCY PROGRAM

### Description of Related laws

#### Minnesota Statutes, section 103B.235 Local water management plan

Minnesota's Board of Water and Soil Resources provides guidance, plan review, and financial assistance for local water management plan development. These plans link many land-use decisions with local goals for surface and groundwater protection and management. These are the key concepts of local water management programs:

- Make local water management a high priority;
- Build local expertise and management capacity;
- Identify future problems and prevent them;
- Engage citizens and community leaders;
- Lead responsibility is at the local level;
- Foster state and local partnerships.

#### Minnesota Statutes, chapter 103H. Groundwater Protection

It is the goal of the state that groundwater be maintained in its natural condition, free from any degradation caused by human activities. Under this statute, each state agency that has a program affecting activities that may cause or contribute to groundwater pollution is to identify and develop best management practices to ensure that the program is consistent with and is effective in achieving this goal. For those activities which may cause or contribute to pollution of groundwater, but are not directly regulated by the state, best management practices are to be promoted through education, support programs, incentives, and other mechanisms.

#### Minnesota Statutes, section 116B.01 Environmental Rights

Minnesota declares that each person is entitled by right to the protection, preservation, and enhancement of air, water, land, and other natural resources located within the state and that each person has the responsibility to contribute to the protection, preservation, and enhancement of these. Minnesota also declares its policy to create and maintain within the state conditions under which human beings and nature can exist in productive harmony in order that present and future generations may enjoy clean air and water, productive land, and other natural resources with which this state has been endowed. This statute provides a procedure for pursuing a civil remedy to protect air, water, land and other natural resources located within the state from pollution, impairment, or destruction.

#### Minnesota Statutes, chapter 116D. Environmental Policy

The purposes of this chapter are to declare a state policy that will encourage productive and enjoyable harmony between human beings and their environment; to promote efforts that will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of human beings; and to enrich the understanding of the ecological systems and natural resources important to the state and to the nation.

Minnesota state agencies are directed to:

- Use a systematic, interdisciplinary approach to ensure the integrated use of the natural and social sciences and the environmental arts in planning and in decision making which may have an impact on the environment.
- Identify and develop methods and procedures to ensure that environmental amenities and values, whether quantified or not, will be given at least equal consideration with economic and technical considerations in decision making.
- Study, develop, and describe appropriate alternatives to recommended courses of action for any proposal which involves unresolved conflicts concerning alternative uses of available resources.

- Make available to federal and state government agencies, counties, municipalities, institutions and individuals, information useful in restoring, maintaining, and enhancing the quality of the environment, and in meeting the policies of the state set forth throughout the Environmental Policy Act.
- Initiate the gathering and utilization of ecological information in the planning and development of resource oriented projects.

# Minnesota DNR Programs for Water Sustainability

<p><b>Mapping</b> – understanding the distribution of the state's surface and groundwater resources to determine monitoring needs and provide information needed to manage the resource.</p>	<p><b>Monitoring</b> – measuring changes in water supplies over time and evaluating impacts from water withdrawals.</p>	<p><b>Managing</b> – planning and permitting to assure sustainable water resources for future generations.</p>
<p><b>County Geologic Atlas Program</b> – DNR and the MN Geological Survey (MGS) produce maps of geology, hydrology, and pollution sensitivity of groundwater resources.</p> <p><b>Aquifer Characterization Studies and Springshed Mapping</b> – DNR conducts studies that define aquifer properties, ground water flow paths, and interactions of surface water and groundwater.</p> <p><b>Watershed Delineations</b> – DNR creates detailed watershed maps used to develop surface water budgets and identify priority areas for restoration and protection efforts.</p> <p><b>Ordinary High Water Levels (OHW)</b> – DNR surveys land and water elevations to support technical studies and permitting decisions, understand water level changes over time, and determine local unit of government or DNR jurisdiction for shoreland and Public Waters.</p> <p><b>High Resolution Digital Elevation (LIDAR)</b> – DNR develops and uses data that improves the quality of hydrologic mapping and technical studies.</p> <p><b>County Biological Surveys</b> – DNR maps terrestrial vegetation and unique natural resource features, such as calcareous fens, to help assess ecological changes.</p>	<p><b>Precipitation</b> – DNR manages a volunteer network of gage readers that provide precipitation data for approximately 1,500 locations around the state. The DNR State Climatology Office develops precipitation data and maps that are used to assess flood and drought conditions.</p> <p><b>Stream Flow</b> – DNR maintains over 190 gages in cooperative efforts with state and local governments. Seventy state owned satellite telemetry gages provide real time stream stage and flow information for flood protection, water supply management, and recreational use.</p> <p><b>Lake Levels</b> – DNR manages a volunteer network of gage readers that provide water level data for approximately 1,000 lakes around the state.</p> <p><b>Groundwater Levels</b> – DNR maintains a network of approximately 750 observation wells that are used to determine resource trends and impacts from water withdrawals.</p> <p><b>Water Use</b> – DNR maintains a data base of 6,800 permitted water users and collects annual water use reports that include monthly water use volumes.</p> <p><b>Modeling</b> – DNR mapping and monitoring efforts provide data needed for surface and groundwater models. Resource level (aquifer) models inform management decisions.</p>	<p><b>Permitting</b> – DNR administers a permit program for water withdrawals that exceed 10,000 gallons per day or one million gallons per year. Provides the basis for resource management and the resolution of water use conflicts and well interferences.</p> <p><b>Resource Protection Limits</b> – DNR establishes protection levels for groundwater resources and protected flows and levels for surface water resources. Special protections are required for trout streams, calcareous fens and other resources of concern.</p> <p><b>Water Supply Planning</b> – DNR works with stakeholders to assure that water supplies are adequate and sustainable. DNR approves water supply plans, which public water suppliers must update every ten years. Other current planning efforts include the Metro Master Water Supply Plan, the Great Lakes Water Resources Compact, and other regional and resource specific plans.</p> <p><b>Water Conservation</b> – Using water efficiently is critical for balancing resource protection and use. DNR requires efficient use for approvals of permits, water supply plans and public water supply well construction. DNR is implementing new requirements for water conservation rate structures and is eliminating inefficient groundwater uses for once-through cooling and lake augmentation.</p>

