

Demand Reduction Measures



Public water suppliers have an important role in influencing the activities of their customers, which is why those serving more than 1,000 people are required to incorporate demand reduction measures in their [water supply plan](#). However, all communities, independent of size, can benefit by adopting conservation measures that save money and protect water resources for long-term economic growth, as well as public and ecological health. These measures focus on activities consumers can implement to reduce the total use of water, as well as target conservation during the warm and dry periods of summer, while saving users money by reducing water bills.

Water conservation practices can effectively reduce the demand placed upon groundwater and surface water sources as well as municipal water supply systems. Municipalities can reduce water and sewage treatment costs, and delay or eliminate expensive infrastructure improvements (e.g. new wells, water treatment plants and water towers) by encouraging customers to reduce water consumption.

What is a Demand Reduction Measure?

A demand reduction measure serves to reduce water demand, water losses, peak water demands, and nonessential water uses. Demand reduction measures must also include a conservation rate structure, or a uniform rate structure with a conservation program that achieves demand reduction.

Demand reduction measures including a conservation rate structure, or a uniform rate with a water conservation program, must be employed before public water supplier requests well construction approval from the Department of Health or before requesting an increase in permitted volume for a water appropriation permit.

Actions that may be considered a demand reduction measure include, but are not limited to the following activities:

Reducing Water Demand – actions that encourage water consumers to use less water

Time of day sprinkling regulations	Water efficient appliances
Billing on a monthly basis	Use of rain barrels
Conservation rates	Water audits of customers
Water efficient landscaping	Rain gauge regulations
Smart meters for automatic sprinkling systems	Recycling water or gray water reuse
Water efficient fixtures	Water conservation education efforts

Reducing Water Losses – actions that reduce the volume of water that is not consciously used for a particular purpose

Leak detection and repair programs	Meter testing and replacement/repair programs
Metering all connections	Home water audits (indoor and outdoor)
Commercial/industrial use water audits	

Reducing Peak Demand – actions that prevent the water use of a single day from being far greater than the volume used on other days

Water efficient landscaping program	Odd/even sprinkling ordinances
Smart meters for automatic sprinkling systems	Outdoor water use bans
Time of day sprinkling ordinance	

Reducing Nonessential Use – actions taken by consumers to reduce water that is not used for drinking, cooking, cleaning or sanitation (i.e. domestic water use)

Billing on a monthly basis	Water efficient appliances
Conservation rates	Water efficient fixtures
Water efficient landscaping	Rain gauge regulations
Smart meters for automatic sprinkling systems	Use of rain barrels
Time of day sprinkling regulations	Recycling water
Water audits of customers	Water conservation education efforts

What are Conservation Rates?

Any rate where the cost per gallon rises as the amount of water used increases, and that can be shown to encourage conservation, can be considered a conservation rate. Conservation rates are based on the premise that the use of water for domestic consumption is fundamental and should be protected. However, as water use increases, it is often for lawn, landscape or other nonessential uses, where opportunities for conservation are greatest.

Demand reduction measures must include a conservation rate, as described here, or a uniform rate with a conservation program, as described later in this document. The types of rates mentioned in law are defined as follows:

Increasing Block Rates: The cost per gallon increases as water use increases within specified “blocks” or volumes. The increase in cost between each block should be significant enough to encourage conservation.

Seasonal Rates: The cost per gallon increases in the summer to encourage the efficient use of water during peak demand periods (caused by outdoor water use). Seasonal rates can take the form of a surcharge added to the normal rate or a separate fee schedule for winter and summer periods. This rate is most effective if water is billed on a monthly basis.

Time of Use Rate: Rates are higher at times of the day when water use demands are high. This rate requires specialized meters that can monitor water use during specified segments of time, for instance every 15 minutes.

Individualized Goal Rate (Water Budget Rate): A rate with tailored allocations developed for each customer. The rate increases as the allocation is used or exceeded by the customer. The allocation is generally based upon winter or January use. This rate is most effective when water is billed on a monthly basis.

Excess Use Rates: Cost per gallon increases greatly above an established level in order to trigger a strong price signal that discourages excessive use. This rate is similar to an increasing block rate but with much higher charges for the larger volume blocks.

What is a Uniform Rate?

With a uniform rate, the cost per gallon is the same regardless of the volume used. When that rate is set at an adequate level, it can effectively promote conservation by encouraging users to limit how much water they use, thereby saving money.

To satisfy the demand reduction measure statute, this rate can only be used in conjunction with a conservation program.

What is a Conservation Program?

Water conservation programs are intended to reduce demand for water, improve efficiency in use, and reduce losses and waste of water. Water conservation programs can also help utility managers satisfy the ever-increasing demands being placed on water resources.

A conservation program is detailed in Part III of an approved [Water Supply Plan](#) and contains the following elements. To better understand the details of each, please refer to the referenced section:

A. Conservation goals, including

- a. Unaccounted water <10%
- b. Residential per capita demand <75 gallons per day
- c. Decreasing per capita demand
- d. Decreasing peak demands
- a. Metering connections and maintenance
- b. Reducing unaccounted water
- c. Conservation water rates
- d. Outdoor water use regulation
- e. Education and information programs

B. Water conservation program, including:

When a request is made for permission to drill a new well from the Department of Health, or for an increase in authorized volume of appropriation from the DNR, water suppliers that employ a uniform rate for residential use are required to submit a summary of the progress that has been made in implementing the demand reduction measures that were agreed to in the approved Water Supply Plan. In addition, the public water supplier will need to submit water use information that indicates whether the implementation of the demand reduction measures has effectively reduced water use. Public water suppliers without an approved Water Supply Plan, or a Water Supply Plan approved before October 15, 2006, do not have a conservation program.

The DNR welcomes efforts that a public water supplier makes to reduce water use, even if such efforts are different than traditional conservation measures. DNR staff will work collaboratively with water suppliers to tailor demand reduction activities to meet the needs of the community being served. Such measures will be taken under consideration when permission to drill a new well, or increase the authorized volume of appropriation is requested.

What about Multi-family Dwellings?

Multi-family dwellings may be at an advantage for conservation rate implementation and meeting conservation goals because they share a single yard, leading to more efficient use of water for lawn and aesthetic care, effectively making lower water use targets readily achievable. Multi-family dwellings with one customer meter are to divide the water used during the billing period by the number of units to determine the water use rate. Individual dwellings within a multi-family dwelling may be encouraged to better conserve water by metering each unit separately.

What about Industrial Customers?

The goal of conserving water applies to both residential and industrial customers. However, commercial and industrial water rates are not required to be the same as residential rates, and can consist of uniform rates that promote conservation by industry. For very large water users, the water supplier and user may have a contract that determines the rate used for that customer, with the goal still being to encourage the industry to use water wisely, apply water conservation technologies and limit outdoor water use for lawn irrigation.

Statutory Charge

Minnesota Statutes, section 103G.291, require public water suppliers serving more than 1,000 people to adopt demand reduction measures, including a water conservation rate, or a uniform rate with a conservation program:

Minnesota Statutes, section 103G.291, subd. 3. **demand reduction** (c) Public water suppliers serving more than 1,000 people must encourage water conservation by employing water use demand reduction measures, as defined in Subd. 4, paragraph (a) before requesting approval from the commissioner of health under section 144.383, paragraph (a), to construct a public water supply well or requesting an increase in the authorized volume of appropriation. The commissioner of natural resources and the water supplier shall use a collaborative process to achieve demand reduction measures as a part of a water supply plan review process.

Minnesota Statutes, section 103G.291, subd. 4. **demand reduction measures** (a) For the purposes of this section, “demand reduction measures” means measures that reduce water demand, water losses, peak water demands, and nonessential water uses. Demand reduction measures must include a conservation rate structure, or a uniform rate structure with a conservation program that achieves demand reduction. A “conservation rate structure” means a rate structure that encourages conservation and may include increasing block rates, seasonal rates, time of use rates, individualized goal rates, or excess use rates. If a conservation rate is applied to multifamily dwellings, the rate structure must consider each residential unit as an individual user.

(b) To encourage conservation, a public water supplier serving more than 1,000 people must implement demand reduction measures by January 1, 2015.

What if I Have Questions?

We are committed to working with public water suppliers to develop demand reduction measures that effectively meet the needs of individual communities. Please contact [DNR staff](#) for clarification on any questions you have. You may work with your local staff or contact Carmelita Nelson, Carmelita.nelson@state.mn.us 651-259-5034.

Demand Reduction Measure Summary

Who? Public water suppliers serving more than 1,000 people are required to implement these measures. However, all communities, independent of size, can benefit by adopting conservation measures that save money and protect water resources for long-term economic growth.

What? Must adopt demand reduction strategies, including a water conservation rate or a uniform rate with conservation program

Demand reduction measures reduce:

- Water demand
- Water losses
- Peak water demands
- Nonessential water uses

Combined with:

Conservation rate is any rate where the cost per gallon rises as the amount of water used increases, including:

- Increasing block rates
- Seasonal rates
- Time of use rates
- Individualized goal rate
- Excess use rate

OR

Uniform rate has the same cost per gallon regardless of the volume used

Conservation programs must have:

- Conservation goals with reduction in demand and unaccounted water
- Conservation program that considers metering, rates, regulation and education

When?

- Before requesting well construction approval from the Department of Health
- Before requesting an increase in permitted volume for their water appropriation permit from the DNR
- No later than January 1, 2015