WATER CONSERVATION TOOLBOX: SUPPLIER FACT SHEET

Why are We Concerned About the Sustainability of Our Groundwater Use?

- Less than 10% of the annual rainfall in the Twin Cities replenishes the groundwater. The remaining 90% is used by plants, is lost through evaporation, or becomes runoff that is directed to lakes and streams.
- Since 1995 the groundwater elevation of the Prairie du Chien aquifer as measured in Withrow has decreased at an average rate of 3.5 inches per year. (DNR Well Data)
- Overconsumption of groundwater is contributing to a significant decrease in the level of some Twin Cities lakes, including White Bear Lake.

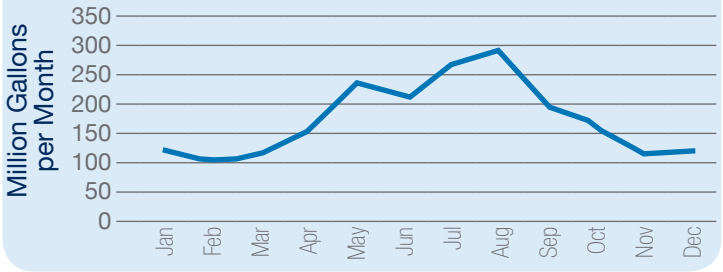
Water utility rates are not sustainable in an era of aging infrastructure.

- Nationally over 1/3 of all public water utilities have increased debt by 33% in the period between 2000 and 2010 (Columbia University).
- The average water rate increased by 90% between 1996 and 2010 (AWWA) and is rising faster than any other utility (Michigan State University Institute of Public Utilities Regulatory Research and Education).
- The average age of the water supply infrastructure in Great Lakes States is 50 years (Center for Neighborhood Technology).
- As much as 18% of water is lost each year due to leakage, meter inaccuracies, data errors, and unauthorized consumption (Center for Neighborhood Technology).
- Leaks = non-revenue water. Finding and eliminating leaks will increase utility efficiency. (Center for Neighborhood Technology)

Conservation rate structures can sustain revenue.

- Over the long term, a 10% increase in residential water rates may produce a 3.5% to 4.5% reduction in demand. (MIT Press, 2006).
- Rate increases take time to have an effect on consumers' behavior, including replacement of old appliances and reducing outdoor water consumption (MIT Press, 2006).
- Water conservation rate structures can create an increase in revenue that offsets the decline in water sales (Alliance for Water Efficiency).
- Common conservation pricing structures include:
  - ☑ Increasing block rates: unit price of water increases with quantity of water purchased
  - ☑ Seasonal rates: temporary increase in rates during peak season
  - ☑ Budget rates: tiered rates with surcharges if water budget is exceeded
- There is no one-size fits all solution. Each utility should conduct an audit to assess long-term capacity and operating requirements, seasonality, and conservation goals.

Typical Twin Cities Community Monthly Water Use (2010 data)



The typical Twin Cities community uses nearly 3 times more water in the average summer month than in the average winter month. The majority of this water is used on the landscape – lawns and gardens. In the 1990s less water was used on the landscape, and at that time the typical Twin Cities community used about 2 times more water in the average summer month than in the average winter month.

METROPOLITAN COUNCIL

How to implement water conservation in your community.

Adapted from Georgia Environmental Protection Division:

Step 1 – plan and adopt a community-based policy

- ☑ Consult with other utilities to assess successes in similar communities.
- ☑ Set overall program goals. Define the metrics that will measure success.
- ☑ Review alternative rate structure. Revise rate structure before establishing water conservation requirements of customers.
- ☑ Adopt water conservation ordinances.

Step 2 – conduct (and regularly update) a water audit. Implement recommendations.

- ☑ Search for and repair leaks at the water treatment plant and in the distribution system.
- ☑ Identify and replace inefficient and outdated equipment for long term savings.
- ☑ Identify other revenue losses such as unaccounted water or incorrect meters.

Step 3 – train managers and staff.

- ☑ Include information on why water conservation is important.
- ☑ Solicit ideas of how to conserve water on-the-job and in the plant.

Step 4 – develop and implement water conservation requirements, incentives, and public education.

- ☑ Offer rebates for water efficient appliances, fixtures, or landscapes. (commercial or residential) to be reimbursed by credit to future water bill.
- ☑ Encourage or require audits of residential and commercial lawn irrigation systems to diagnose leaks, sprinkler head adjustments, and conservation equipment upgrades.
- ☑ Require water conservation appliances or fixtures in new construction or as part of sale of property.
- ☑ Require minimum depth of topsoil and/or soil amended with compost before seeding or sodding new lawns (already required by many watershed districts in the Twin Cities).
- ☑ Consider demonstration projects for the public to visit.
- ☑ See the Toolbox for more water conservation program ideas.

Step 5 – track metrics and adjust.

Offering rebates for residents to purchase water efficient appliances is one method for conserving water in your community.

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