



WATER SUPPLY NOW AND FOR THE FUTURE

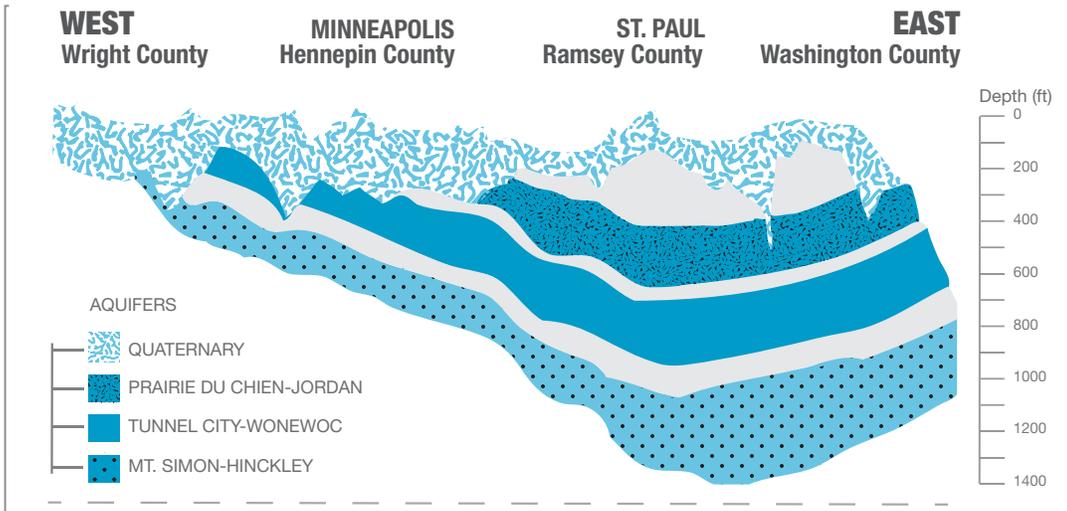
Steps toward sustainable water supplies



WE LIVE IN “THE LAND OF 10,000 LAKES”

So why worry about water supplies in the Twin Cities region?

Other parts of the nation face serious problems with their water supplies. While in the Twin Cities metro area, over 100 public suppliers draw from groundwater, the Mississippi River and treated stormwater and wastewater and deliver water to commerce, industry and almost 3 million people.



1.

Four extensive underground layers of rock, gravel and sand (aquifers) hold and transport billions of gallons of water for over two million people.

2.

Treated stormwater and wastewater could potentially provide water for nondrinkable uses such as cooling or irrigation.

3.

The Mississippi River supplies huge volumes of water for commercial, industrial and residential uses.

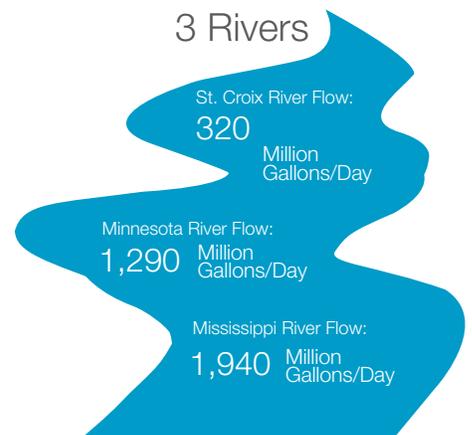
However, the region faces limits and increased risks that need attention and – in some cases – action

In the 1970s and 1980s, the region drew water equally from the Mississippi and from groundwater. But today, three out of four people use groundwater. That's because most of the region's development expanded to areas away from rivers.

With more development and aging water supply infrastructure, some communities face problems that affect their city budgets, homeowner costs, and economic growth.

- Groundwater levels have dropped in some areas due to pumping of shared aquifers. Lower levels can affect lakes and streams.
- Groundwater contamination has been found in several parts of the region.
- Some communities have limited water supplies and will need additional sources to meet increasing demands.

3 Rivers



An average home can collect over

600
GALLONS
OF WATER

during moderate rain

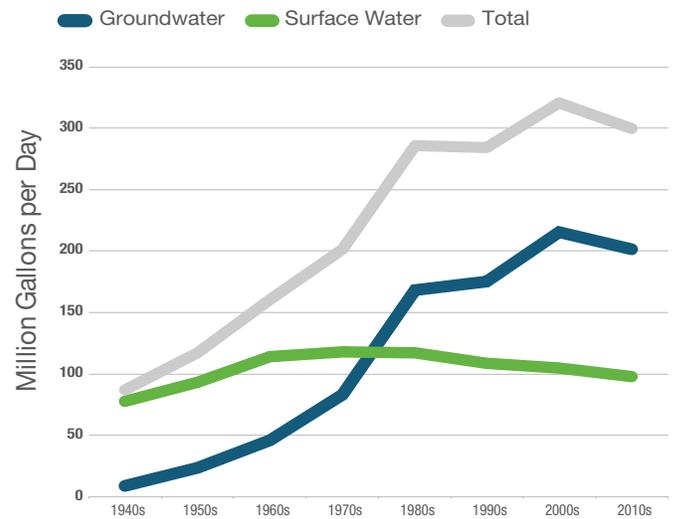


THE DEMAND FOR WATER HAS GROWN, BUT OUR BIGGEST SOURCES HAVE NOT

By 2040, the region is expected to need 450 million gallons per day - 100 million gallons more than used in 2015. At the same time, there are future risks to consider.

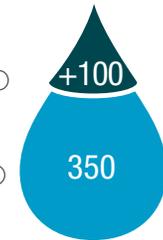
- Much of the region's future growth is expected to occur in areas that could have groundwater shortages.
- Our water supplies can be threatened by drought, extreme weather or contamination.

Now we use more groundwater compared to river water



2040 More Use:

2015 Water Use:



Million Gallons per Day

FUTURE WORK NEEDS SUPPORT

Work over the next five years will shape the update of regional policies to support more effective water supply planning. Currently, there is not permanent dedicated funding for this work; continuing leadership and support from regional and state decision-makers is needed.

For more details about this work, see Chapter 7 of the Twin Cities' Master Water Supply Plan at goo.gl/QcTtmY.

2017

2018

PROVIDE NECESSARY FUNDS TO PLAN AND COLLABORATE FOR CONSERVING, PROTECTING OUR WATER SUPPLY



Projects identified by stakeholders to achieve water supply outcomes - water conservation,

Funding recommendations for water supply planning and.....

BOOST EFFICIENCY AND WISE USE OF WATER SO THE REGION CAN GROW



Region-wide message supporting water conservation and efficiency

Grants and tools to help residents and industry reduce regional.....

SUPPORT WORK THAT LEADS TO WORKABLE SOLUTIONS



Water supply analyses that include groups of communities to improve technical information.....

Feasibility assessments of innovative approaches reuse, new.....

COLLABORATE TO PRODUCE BETTER RESULTS BY WORKING TOGETHER



Local governments and state agencies working through MAWSAC and intercommunity.....

Collaboration to improve the approval process for local water supply plans

Mapping potential partnerships to identify multiple benefits.....

WE DO NOT HAVE TO CHOOSE BETWEEN WISE WATER USE AND ECONOMIC GROWTH

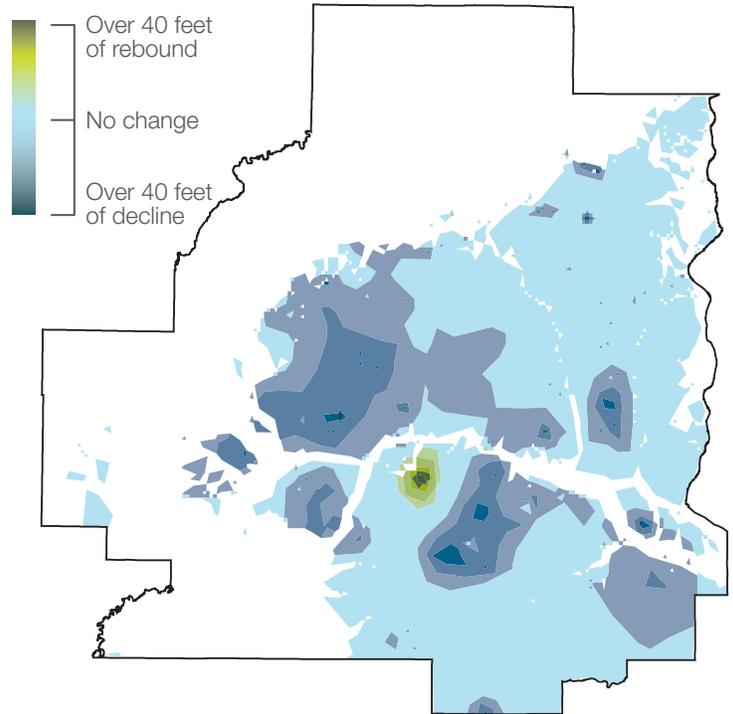
We can have both. There are practical ways we can be more efficient to meet future demand.

Regional Goal: Today, our average municipal water use is 125 gallons/person/day. If we reduce it to a realistic 90 gallons, our region could grow by almost 800,000 people without increasing water use above today's total.

It's doable. For example:

- In the summer months, some cities use over **3x** more water than during the winter. But other cities have shown they can substantially reduce summer water use, like irrigation, freeing up water for other needs.
- Industrial water use is high in many communities. By using water more efficiently, industries can also save energy and money. A project supported by the Minnesota Clean Water Fund shows how making relatively small changes in operations at only 10 industries could produce potential savings of **80 million gallons** and \$360,000 per year.

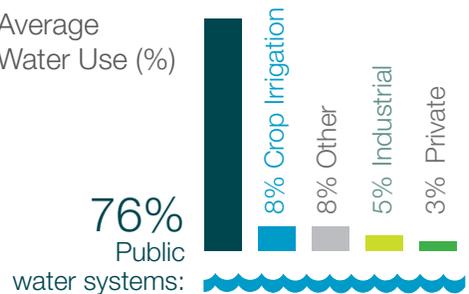
Change in Prairie du Chien-Jordan Aquifer Levels from 2040 Pumping



Growing population increases water use

30% Population ↑

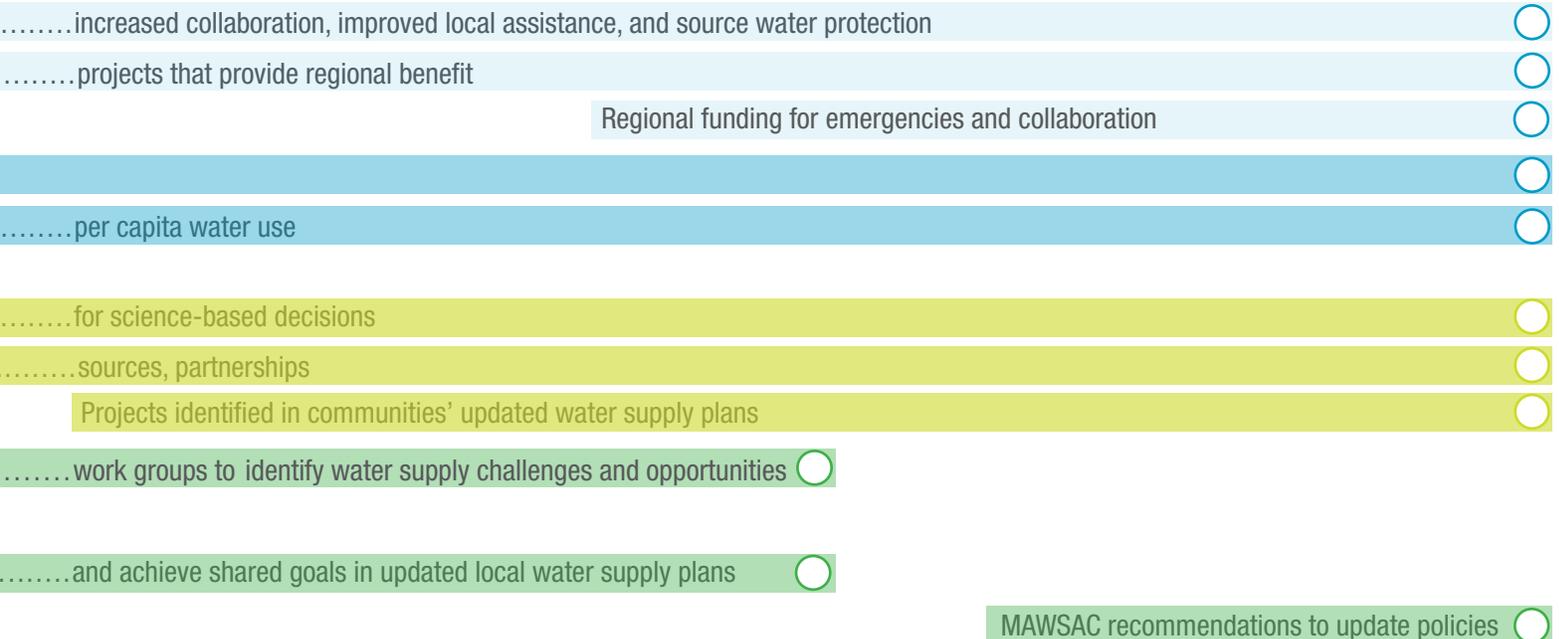
Average Water Use (%)



2019

2020

2021



By supporting local leadership and collaboration, our shared water supplies will sustain us through the challenges ahead.

Here's what some community leaders have done and said about their hopes and their work.

City of Woodbury • Conservation is our way to the future

"Woodbury is committed to serving as a regional leader in managing the water supply,"

said Jim Westerman, the city's Utilities Supervisor and Environmental Resource Coordinator.

"We must be responsible stewards of our water. Effective conservation efforts will be an imperative part of our future success."

Woodbury's water conservation program is resident and business-friendly. In a pilot program, six commercial sites estimated water and money savings from replacing irrigation controllers. The average yearly savings was just over a million gallons of water and almost \$2,000 per site.

Woodbury also received a Metropolitan Council grant for an incentive program to help reduce residential water demand by up to 3.8 million gallons each year. For more information, visit goo.gl/0Fv22W

Cities of Burnsville and Savage • Partnerships produce innovation

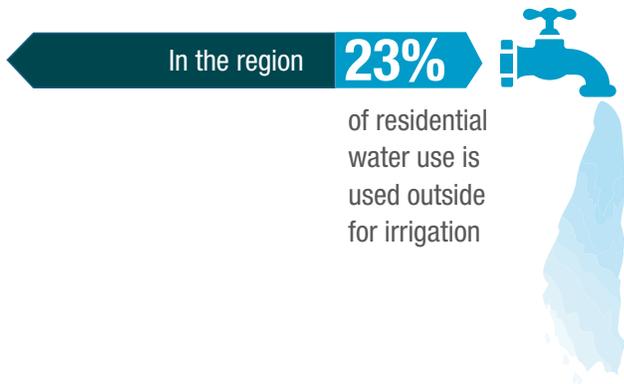
Since 2009, residents of Burnsville and Savage have been supplementing their drinking water with treated quarry water. The arrangement has been good for the cities, an area business, and the environment.

Years before, officials in the two cities were seeing water levels dropping in the Prairie du Chien-Jordan aquifer.

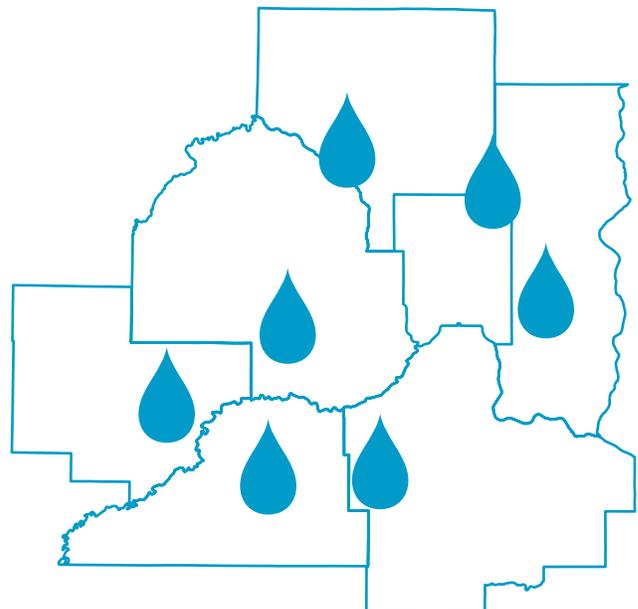
Plus, groundwater pumping was threatening a wetland protected under state law.

Meanwhile, Kraemer Mining and Materials had to pump groundwater from its Burnsville quarry into the nearby Minnesota River.

Kraemer executives worked with planners and local officials in the southwest metro, supported by a subregional water supply work group. Now the cities have adequate water for years to come. For more information, visit goo.gl/trE



Communities and agencies collaborate in 7 work groups to address water supply issues



METROPOLITAN AREA WATER SUPPLY ADVISORY COMMITTEE

Created by the Minnesota Legislature in 2005, the 18-member MAWSAC looks at the big picture of water supply over the long term, building on the capable planning and investments of local water suppliers. In 2015, legislation expanded the membership of MAWSAC and created a Technical Advisory Committee to advise MAWSAC.

Water supply issues involve a range of technical fields such as geography, geology, hydrology, soil science, finance, and engineering. MAWSAC's Technical

Advisory Committee provides perspective on issues and approaches based on sound science in these fields.

The Metropolitan Council supports both advisory committees with staff assistance and other resources. The Council is not a supplier of drinking water, nor does it plan to become one.

The 2015 Master Water Supply Plan provides more detail about MAWSAC's water supply planning activities. That document is online at: goo.gl/QcTtmY

BEFORE MAWSAC AND TAC

- There was no overall master water supply plan to deal with water supply issues that cross local boundaries.
- Local governments did not typically update their water supply plans at the same time as their community comprehensive plans. This meant that some communities had to spend extra time or money on adjusting either or both plans to coordinate them.
- There was no tool to evaluate the cumulative, long-term effects on groundwater of the region's many individual water supply decisions.
- There was no region-wide awareness of water conservation.

UNDER MAWSAC AND TAC



- A Master Water Supply Plan now provides a framework for coordinated planning and action.
- Work groups expand collaboration among agencies, local governments and water suppliers, improve water supply planning and strategies.
- A common base of technical information supports better decisions about water supply, such as:
 - Regional groundwater models
 - Databases and maps of hydrogeology, groundwater/surface water interactions, recharge areas
 - Feasibility studies of various subregional water supply approaches
- Support for water efficiency through grants, technical assistance, a Water Conservation Toolbox, and a Stormwater Reuse Guide.



390 Robert Street North
St. Paul, MN 55101-1805
Phone 651.602.1000

Fax 651.602.1550
TTY 651.291.0904
metro council.org