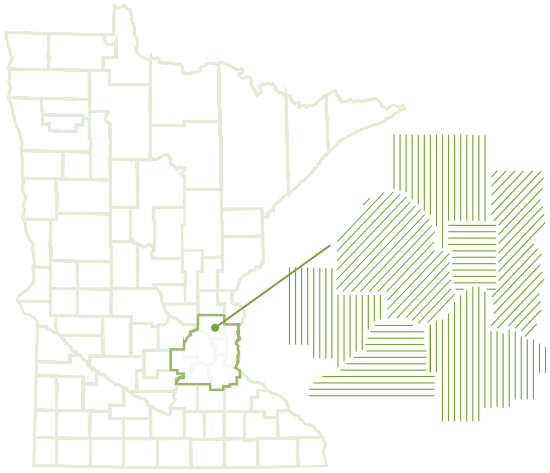
Water Supply Planning in the Twin Cities Metro

(2005-2020)

Highlights of a report to the Minnesota Legislature

September 2020

MORE THAN HALF OF MINNESOTA'S POPULATION LIVES, WORKS AND PLAYS IN THE TWIN CITIES METROPOLITAN AREA.



3.2 million people live here

1.8 million jobs (2019), 15 Fortune 500 headquarters

64 million visits to regional parks and trails

The region's people, businesses, and natural environment are all dependent on clean and plentiful water supplies.

OUR SOURCES OF DRINKING WATER

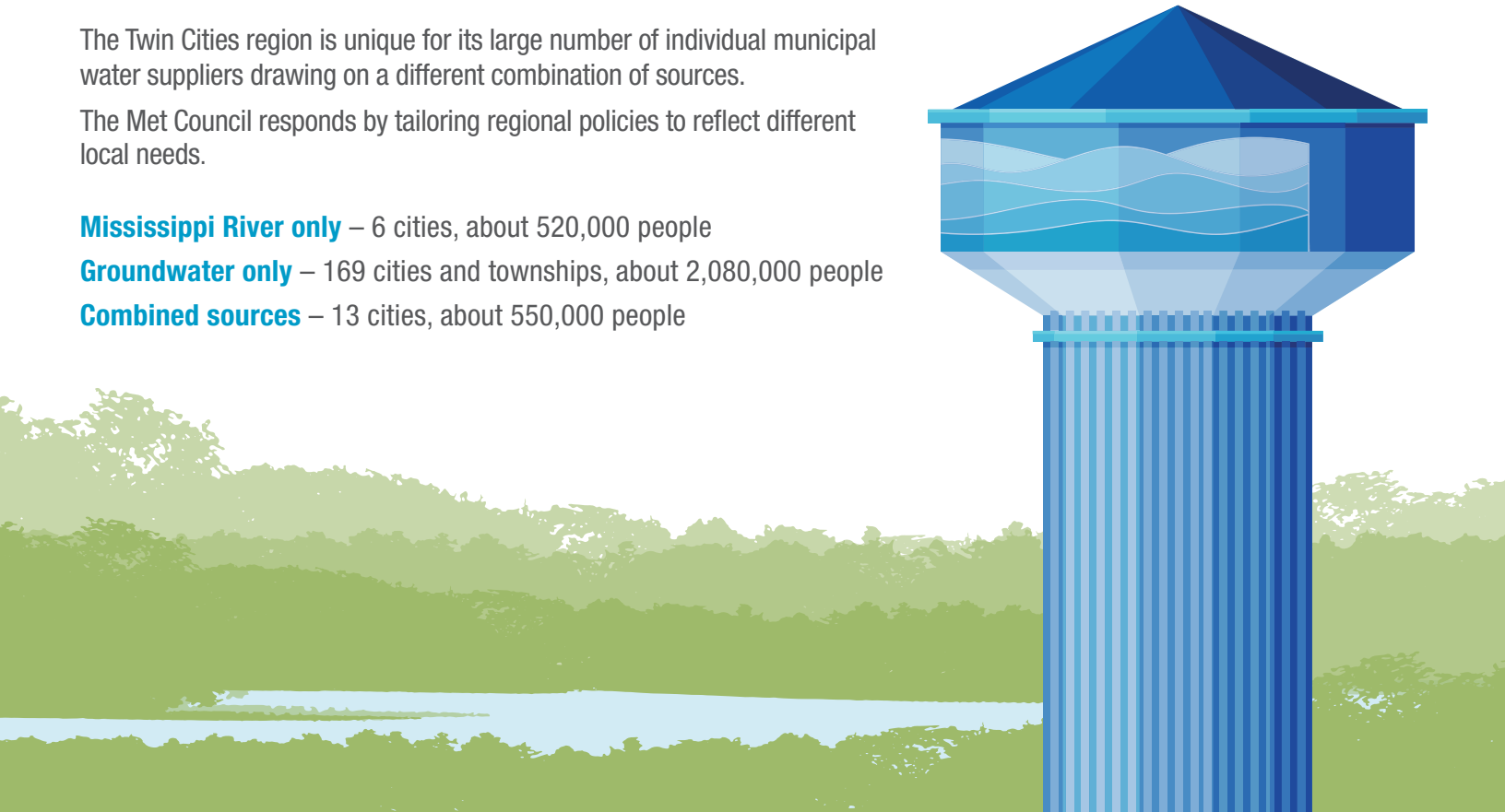
The Twin Cities region is unique for its large number of individual municipal water suppliers drawing on a different combination of sources.

The Met Council responds by tailoring regional policies to reflect different local needs.

Mississippi River only – 6 cities, about 520,000 people

Groundwater only – 169 cities and townships, about 2,080,000 people

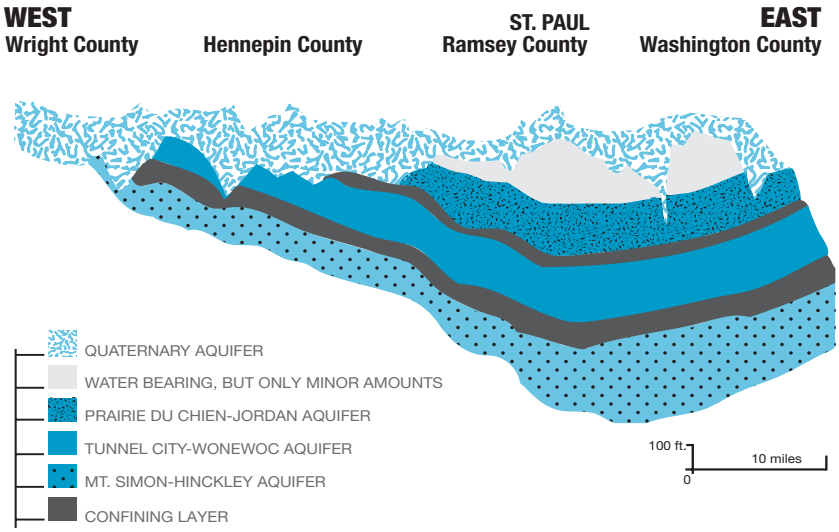
Combined sources – 13 cities, about 550,000 people



GROUNDWATER IS DRAWN FROM FOUR AQUIFERS —

QUATERNARY - supplies 24 city systems
PRAIRIE DU CHIEN-JORDAN - supplies 83 city systems
TUNNEL CITY-WONEWOC - supplies 30 city systems
MT. SIMON-HINCKLEY - supplies 35 city systems

THE MISSISSIPPI RIVER - supplies 19 municipal systems



WASTEWATER REUSE

Increasingly, stormwater and wastewater are reused for activities like irrigation and industrial processes.

STORMWATER REUSE

While water supplies in the seven-county metro area are relatively abundant, the region does face challenges that need attention and – in some cases – action.

WATER SUPPLY PLANNING CHALLENGES TO CONSIDER:

- Funding and finance to maintain and enhance infrastructure
- Variation in water source availability across the region
- Changing socioeconomic conditions and related land use and water demand
- Changes in climate and impacts on quantity and quality of water supplies
- Water quality and implications for public health and treatment costs
- Opportunities for water conservation and efficiency

> *"The greatest value in a partnered approach is that plans like the Master Water Supply Plan are informed by the real experiences and expertise of the local water suppliers that the public has come to trust."*
>
> **— Mark Maloney, Public Works Director, Shoreview**

2005 Minnesota Legislature gives Met Council charge for regional water supply planning

2006 Metropolitan Area Water Supply Advisory Committee, with state agency heads and local government representatives, begins to meet

2007-09 Data collection and analysis produce maps of shallow aquifers, groundwater contamination, and a new regional groundwater model

2010 Council adopts first Master Water Supply Plan

2012 Council collaborates with University of Minnesota MnTAP to support industrial water efficiency

OUTCOMES

THE MET COUNCIL ROLE

The Met Council collaborates with many partners to achieve outcomes as a planner – not a regulator; not a supplier

The Council's regional water supply work ensures local water suppliers retain control of and responsibility for their water supply systems. Through our work with partners, we help to bolster the livability of the region, foster economic growth and prosperity, and alleviate competition and conflict over water supply.

Since 2005, the Council has worked with our partners on many water supply projects and programs, focused in four key areas.

COLLABORATION

- Ideas and recommendations are shared in Metropolitan Area Water Supply Advisory Committees and subregional water supply work groups
- Policy and plan updates are shaped by hundreds of people
- Learning events build local capacity and expertise
- Since 2005, more than 70 communities in the region have participated in subregional work groups, supported by the Council, to address localized water supply issues.

Example: Northwest Metro Area Water Supply System Study

Met Council partnered with Corcoran, Dayton, Ramsey, and Rogers on a study of the relative costs and implementation of four different approaches to a multi-community water supply system.

TECHNICAL INVESTIGATIONS

- New data and analyses improve understanding of regional water resource conditions
- Subregional water supply groups identify and evaluate alternative water supply approaches
- Local and regional partners cooperate to investigate factors impacting water demand management such as efficiency, rates/budget

Example: Metro Model

Guided by a multi-organizational technical advisory group, Met Council developed a regional groundwater flow model. The model helps address a broad range of regional and local planning questions and scenarios. We regularly update it with the best available data. The model has served, for example, as a starting point for local wellhead protection planning and groundwater modeling in the northeast metro groundwater management area.

PLANNING AND POLICYMAKING

- Metro area master water supply plan guides regional policies and implementation to meet diverse community needs
- Local planning assistance programs and tools available to 188 municipalities in the region

Example: Met Council's Climate Vulnerability Assessment

The Climate Vulnerability Assessment is a tool that can assist regional and local planning efforts in preparing and adapting to climate change. The tool reveals system vulnerabilities to currently occurring and expected climate changes.

Met Council added water supply content to the assessment to identify areas around wells that are most at risk of flooding and potential strategies to improve management in these areas.

IMPLEMENTATION

- $12 million of Clean Water Fund leveraged to support work
- Technical assistance provided for local water efficiency and climate resiliency
- Track and report progress

Example: Water Efficiency Grant Program

With Clean Water Fund support, the Met Council makes grants to local governments to promote water conservation and efficiency. Residents are offered rebates on WaterSense-labeled fixtures and appliances.

2015-2017: 19 communities, 52 million gallons water saved per year.

2019-2022: 40 communities, savings to be determined.

2013 Water partners come together to envision a future of sustainable water supply at Our Water, Our Future workshops

2015 Council convenes new Technical Advisory Committee to tap into local expertise and deepen partnerships for water supply planning; Master Water Supply Plan updated

2017 Forum of all seven subregional water supply work groups

2016-19 Lawn irrigation research and demonstrations; water efficiency grants to communities

FUTURE WORK

Regional partnerships lead to positive outcomes

The result of all this work greatly benefits the region:

- Shared water resources are better managed and more resilient for the long-term.
- Local governments and others better understand regional water resources and challenges.
- More resources are focused on water supply challenges.
- Our region's successful subregional platform advances water sustainability.

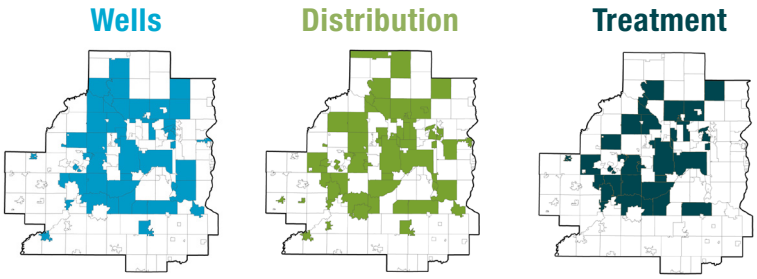
Looking into 2040

The region is expected to continue growing with impacts to land use and water demand and the systems that supply it.

2040 More Use: +100

2015 Water Use: 350 Million Gallons per Day

Cities plan to invest in their water supply infrastructure to continue to provide residents with clean, plentiful, and affordable water.



By 2040

more than 50 communities plan to drill new municipal wells

more than 60 communities plan to improve and/or expand their distribution systems

more than 35 communities plan to enhance their water supply treatment processes

Support efficiency incentives Promote sustainability efforts

Although the Council and its partners have accomplished much through the water supply planning work, new questions continue to emerge.

- How could equity be implemented in water supply activities?
- What is the impact of climate change on our resources and operation in the water supply sector?
- How can we strengthen land use and water supply planning connections?
- What can we do to prevent contamination of our water supply sources and respond more effectively to emerging contamination (recent examples: PFAS, chloride)?

> *"Council funding of studies and projects was important because it isn't always easy to get local city councils to commit funds to something that reaches beyond their borders."*
>
> **— Steve Albrecht, Former Burnsville Public Works Director**

> *"Groundwater doesn't know community boundaries. We can have a greater impact if we work together on water supply sustainability."*
>
> **— Russ Matthys, Public Works Director, Eagan**

CLEAN WATER LAND & LEGACY AMENDMENT

METROPOLITAN COUNCIL

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

Fax 651.602.1550
TTY 651.291.0904
metrocouncil.org

For more information,
contact ali.elhassan@metc.state.mn.us

Complete report at metrocouncil.org/Wastewater-Water/Publications-And-Resources/WATER-SUPPLY-PLANNING/Water-Supply-Planning-in-the-Twin-Cities-Metropoli.aspx