



PREPARING THE TWIN CITIES REGION FOR A CHANGING WATER SUPPLY FUTURE: POLICY PRIORITIES FOR STATE AND REGIONAL LEADERS

The cover will include the report title, subtitle, and a colorful, page-sized graphic that illustrates where the metro area is and some key water supply factors (municipal service areas, areas with private wells, major rivers, and DWSMAs).

2027

REPORT OF THE METRO AREA WATER SUPPLY ADVISORY COMMITTEE
TO THE MINNESOTA LEGISLATURE AND METROPOLITAN COUNCIL

The region runs on water

Every day, millions of people rely on safe, reliable drinking water for their homes, schools, businesses, hospitals, and industries. Water also supports healthy lakes and rivers, thriving communities, and a strong regional economy. Although Minnesota, and the Twin Cities metropolitan region in particular, is relatively water rich, clean and reliable water cannot be taken for granted.

Population growth, aging infrastructure, changing water demands, evolving drinking water standards, and climate variability are creating new challenges that existing policies and investments were not always designed to address.

Proactive water supply planning helps communities prepare for future needs, but state policies, regional planning, and local investments all influence whether those plans can be successfully implemented.

Over half of Minnesota's population live in the Twin Cities region^{O-1}. When asked what they value most about water, they said^{O-2}:

- Safe and clean drinking water was most important
- Water is also important for cultural and religious practices, for watering vegetable gardens, for recreation opportunities, and for fishing

The region is also a major share of the state's economic activity. It is home to more Fortune 500 companies per capita than anywhere else in the world^{O-3}. These businesses depend on available, high quality and affordable water.

This report focuses on water supply, the part of Minnesota's interconnected water system responsible for providing safe, reliable water to homes, businesses, and communities while protecting the natural resources that sustain it.

Our shared goal: We are prepared for the future we are planning

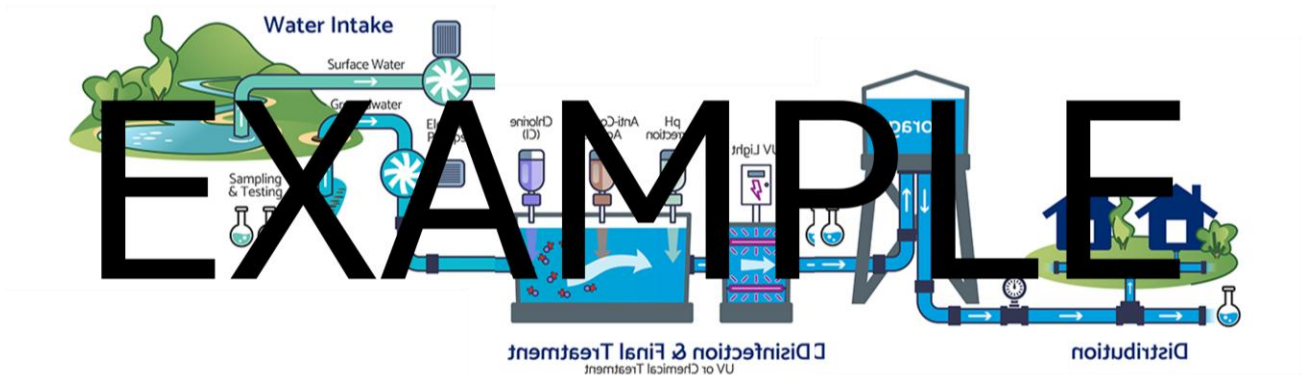
How do we ensure the Twin Cities region has safe, reliable, affordable, and sustainable water supplies for current and future generations:

- Drinking water is safe and affordable
- We have a competitive economy
- Our lakes, rivers, streams, and aquifers are protected
- We are resilient to climate change
- Costs and benefits of water supply are fairly distributed
- Everyone gets value from public investments in water, and no one bears unfair cost for that value

Where our water comes from

Water starts as the snow and rain that moves across the landscape into the region's aquifers and surface waters. We tap that water in different ways: reusing stormwater from ponds, drawing water from rivers, and pumping groundwater from wells. It is treated in different ways by public water supply systems and private well owners and piped to homes and businesses. Once used, the water is treated and put back into the environment to support natural resources and downstream users.

Figure 1. Possible infographic - simplified system map of "source to tap back to source" diagram.



- There are over 100 municipal water supply systems in the region, 10% of all public water supply systems in Minnesota. They supply water to over half of Minnesota's population^{O-4}.
- Over 60,000 privately-owned wells supply water directly to approximately 200,000 residents^{O-5}.
- Over 10,000 miles of distribution pipes carry treated water across the region^{O-5}.
- Because most communities in the region rely primarily on groundwater for their water supply^{O-5}, protecting aquifers today helps avoid future treatment costs, supply limitations, and impacts to connected lakes, streams, and wetlands.

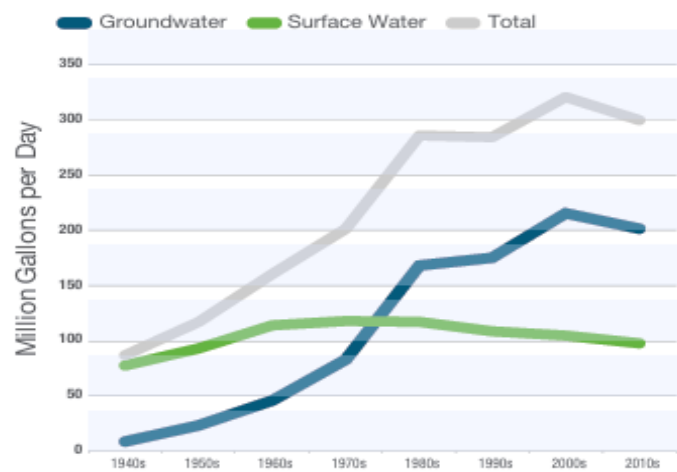
MUNICIPAL WATER UTILITIES:



PRIVATE WELLS:



DISTRIBUTION PIPES:

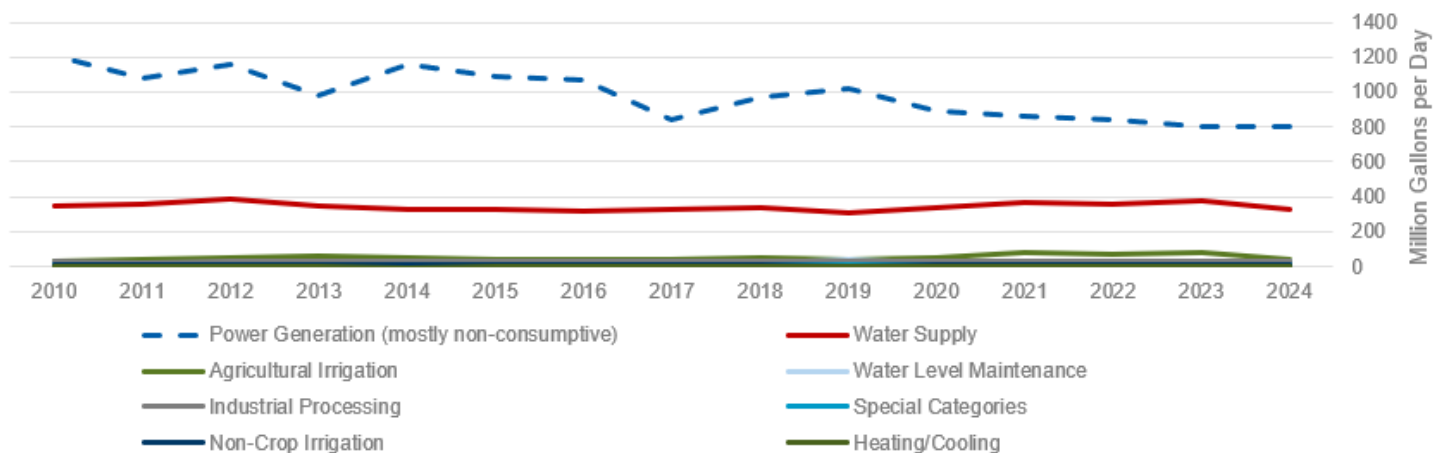


Why will tomorrow's water supply needs be different?

Resources and demands are changing

Figure 2. Water use information is recorded by the Minnesota Department of Natural Resources^{O-6}.

Major water use categories and change over time in the eleven-county metropolitan area



- The average 2003-2012 total municipal water use per person was about 125 gallons per person per day^{O-7}.
- The average 2013-2022 total municipal water use per person was about 100 gallons per person per day^{O-7}.

Change is expected to continue into the future.

Population growth

If current trends continue, municipal water use is expected to grow by roughly 60 million gallons a day. Water use by privately-owned domestic wells is expected to remain relatively constant or decrease slightly^{O-7}. Communities have already made significant progress improving water efficiency, but future growth will still increase overall water demand.

Economic development

New economic trends may be emerging. For example, Minnesota has recently seen an increase in interest from prospective large-volume water users^{O-8}. As new industries emerge in the state, this may bring increased water demand for power, agriculture, and other industrial sectors to areas that have limited availability.

Climate variability

Climate can affect the start and end of the growing season^{O-9}, impacting the volume of water used for irrigation. Outdoor water demand on public water supply systems and private wells also increases during heat waves and droughts, when ecosystems relying on those shared water sources are at their most vulnerable.

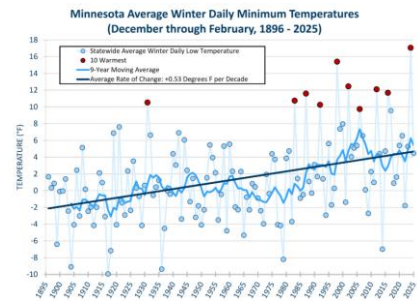
Water challenges are changing

Developing and redeveloping communities

More people and redevelopment can increase water demand^{O-7}.

Changing climate

More variable precipitation, changing growing seasons, drought, and extreme rainfall^{O-9} affect water availability and infrastructure.



New contaminants

Emerging contaminants can require additional monitoring and, in some cases, treatment. In some cases, new regulatory limits can impact water treatment needs and related costs. Examples: PFAS, arsenic^{O-10}.

Infrastructure is aging and technology is changing

Systems built decades ago require reinvestment. Pipes deteriorate; treatment may be inadequate to meet modern requirements. New technologies provide opportunities for better treatment and optimized system operation; they can also pose some cybersecurity risks^{O-11}.

Affordability

Rising infrastructure, treatment, and operating costs are increasing financial pressure on communities and households while creating difficult investment decisions.

Preparing for the future requires coordination

- Water supply resources and challenges are different across the region and state
- Responsibility is shared
- Costs and benefits are not evenly shared
- Coordination is essential but complex

With different roles to play, together we can tackle the work:

- Legislators (policy and funding decisions impacting water in the region and state)
- State agencies (permitting, environmental protection)
- Metropolitan Council (regional planning, system coordination)
- Cities and water utilities (local system operation)
- Businesses and large water users (uses that support economic goals, ratepayers)
- Residents and residential ratepayers (uses that support daily life, ratepayers)
- Environmental stakeholders (environmental protection, research, advocacy)

Five priorities for preparing the region's water future

The following are the key issues that MAWSAC recommends to legislators and Metropolitan Council members to focus on, described in more detail in the attached issue briefs.

- Protecting water quality and source water for public health and long-term resilience
- Balancing water use to protect our communities, natural resources, and future growth
- Water supply infrastructure: managing aging infrastructure and long-term investment needs
- Understanding groundwater and surface water interactions for long-term sustainability
- The cost of water: balancing affordability, resilience, and long-term sustainability

Water supply is connected to land use, water quality, infrastructure, natural resources, and economic development. Decisions in one area often influence outcomes in another.

The big policy question: Will today's policies support tomorrow's water needs?

As the region grows and changes, are our laws, infrastructure investments, planning tools, and incentives strong enough to ensure safe, affordable, and sustainable water supplies for the long term?

Direction for action:

The following are the high-level recommendations from MAWSAC to legislators and to Metropolitan Council members, described in more detail in issue briefs.

- Plan proactively rather than reactively, taking a more integrated water planning approach
- Invest before costs escalate
- Support collaboration across jurisdictions and sectors
- Use science and long-term planning to inform decisions
- Protect both people and natural systems

Planning early costs less than reacting later.