



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

MAWSAC was established by the Minnesota Legislature specifically to advise on the Twin Cities metro region's water supply. Representing state agencies, counties, cities, and water utilities - and informed by experts in water resources, hydrology, engineering, and planning - MAWSAC brings together the people responsible for managing the region's water resources and delivering its water supply. Its recommendations reflect a broad, cross-jurisdictional consensus on the actions needed to secure an adequate and sustainable water supply.

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, including the Twin Cities metropolitan region, is relatively water rich, clean and reliable water cannot be taken for granted.

The choices made in the next five years will determine how well the region can meet its water needs in the decades ahead.

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? Specifically:

- 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
- Everyone gets value from public investments in water, and no one bears unfair cost for that value

The big policy challenge: Improving today's policies to support tomorrow's water needs

The region cannot wait until water supply challenges become emergencies to address them. Decisions made today about infrastructure, land use, water use, source water protection, and public investment will shape the region's water security for decades. State and regional leaders should act now to ensure that the Twin Cities region is prepared to meet its water needs for decades to come.

As the region grows and changes, our laws, infrastructure investments, planning tools, and incentives must be strong enough to ensure safe, affordable, and sustainable water supplies.

Action is needed now

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 next five years are an opportunity to prepare for the coming decades. MAWSAC calls on the Minnesota Legislature and the Metropolitan Council to take action now.

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

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

- Protect water quality and source water to ensure public health and long-term resilience
- Sustainably balance water use to support current communities, natural resources, and growth
- Invest in resilient water systems to address aging infrastructure and new demands and challenges
- Improve understanding of groundwater and surface water connections to guide decisions
- Keep water affordable and resilient so communities can rely on their water supply over the long-term

By 2030, the region should have stronger tools, investments, and partnerships in place to address water supply risks before they become crises. Planning early costs less than reacting later.

Why will water supply be more challenging in the future?

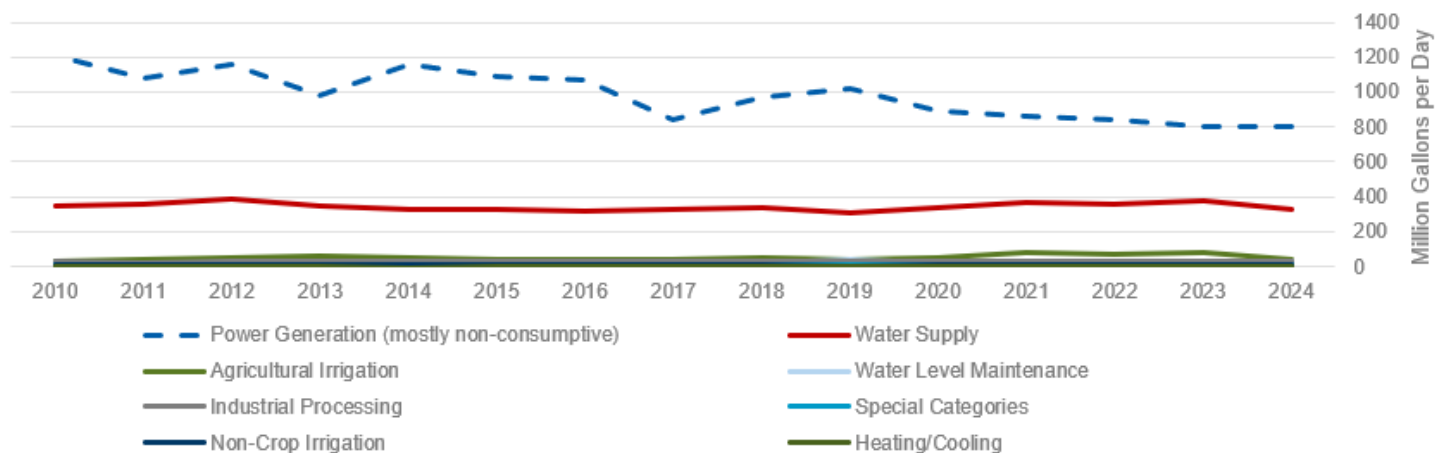
The Twin Cities region has substantial water resources that have supported its diverse and changing needs in the past. However, providing safe, reliable water to a growing region is becoming more complex. Emerging challenges will not affect every community in the same way, but planning ahead can help the region respond before challenges become emergencies.

Resources and demands have changed in the past

Water supply investments reflect how needs have changed in the past. While the region has grown, it has also made significant progress in using water more efficiently. Water use for power has decreased steadily over the past decade and half. And average municipal water use declined from about 125 gallons per person per day in 2003-2012 to about 100 gallons per person per day in 2013-2022.^{O-7}.

Figure 1. 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



Change is expected to continue into the future

More people, new economic trends, and changing demands will require careful planning

The region is expected to continue growing and, if current trends continue, municipal water use is expected to grow by roughly 60 million gallons a day by 2050. Water use by privately-owned domestic wells is expected to remain relatively constant or decrease slightly^{O-7}.

New development, redevelopment, and emerging large volume water uses may create additional demands in some areas^{O-7}. 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. Growth is an opportunity for the region, but it also requires communities to consider water supply as they make decisions about land use, development, infrastructure, and economic growth.

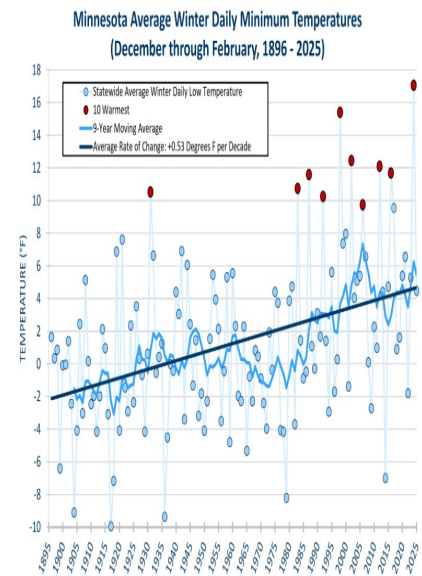
Changing conditions will put new pressures on water supplies and systems

Climate variability^{O-9} impacts water use and infrastructure. Climate can affect the start and end of the growing season^{O-9}, changing 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 most vulnerable.

Emerging contaminants and changing drinking water requirements can increase monitoring and treatment needs and add to the cost of providing safe drinking water (examples: PFAS and arsenic^{O-10}).

Aging infrastructure will require continued investment, while new technologies can improve treatment and system operations but also create new cybersecurity risks^{O-11}.

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



Providing reliable water will require continued investment

Meeting future water needs will require investment in infrastructure, treatment, source protection, conservation, and other strategies. Delaying investment can increase long-term costs and leave communities with fewer options when problems arise.

Water costs also vary across communities and households. Housing, water sources, rate structures, and other local conditions affect how households experience these costs. Maintaining affordable water service will require approaches that recognize local circumstances while supporting the region's shared goal of safe, reliable water for everyone.

Preparing for the future requires collaboration

The region has an opportunity to prepare now. Anticipating changing demands and conditions, protecting water resources, and making strategic investments will require action across jurisdictions and sectors. Water resources and challenges differ across the region and state, and while planning responsibilities are shared, costs and benefits of plan implementation are not always evenly shared.

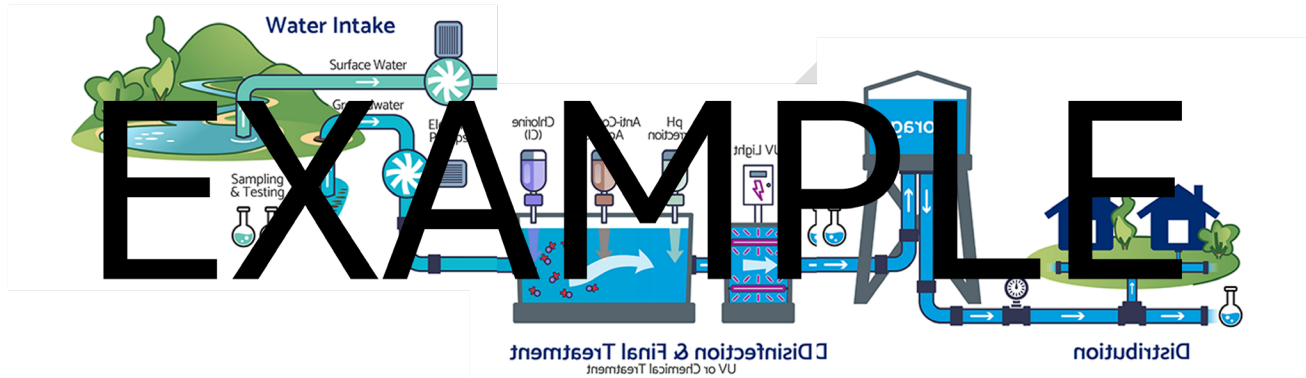
Working together, state and regional leaders, communities, water users, and others can help ensure that water remains a foundation for healthy communities, a strong economy, and a resilient region. Each has an important role to play:

- Legislators: policy and funding decisions
- State agencies: permitting, environmental protection, and technical assistance
- Metropolitan Council: regional policy and planning, system coordination, and technical assistance
- Cities and water utilities: development that shapes water resources, and local system operation
- Businesses and large water users: uses that support economic goals and ratepayers
- Residents and residential ratepayers: uses that support daily life
- Environmental stakeholders: environmental protection, research, advocacy, and technical assistance

The Twin Cities water system at a glance

Water starts as the snow and rain that moves across the landscape into the region's aquifers and surface waters. The region taps that water in multiple 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 2. Possible infographic - simplified system map of "source to tap back to source" diagram.



- There are more than 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}.
- More than 60,000 privately-owned wells supply water directly to over 100,000 residents^{O-5}.
- More than 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:



100+

PRIVATE WELLS:



60,000+

DISTRIBUTION PIPES:



10,000+
MILES

