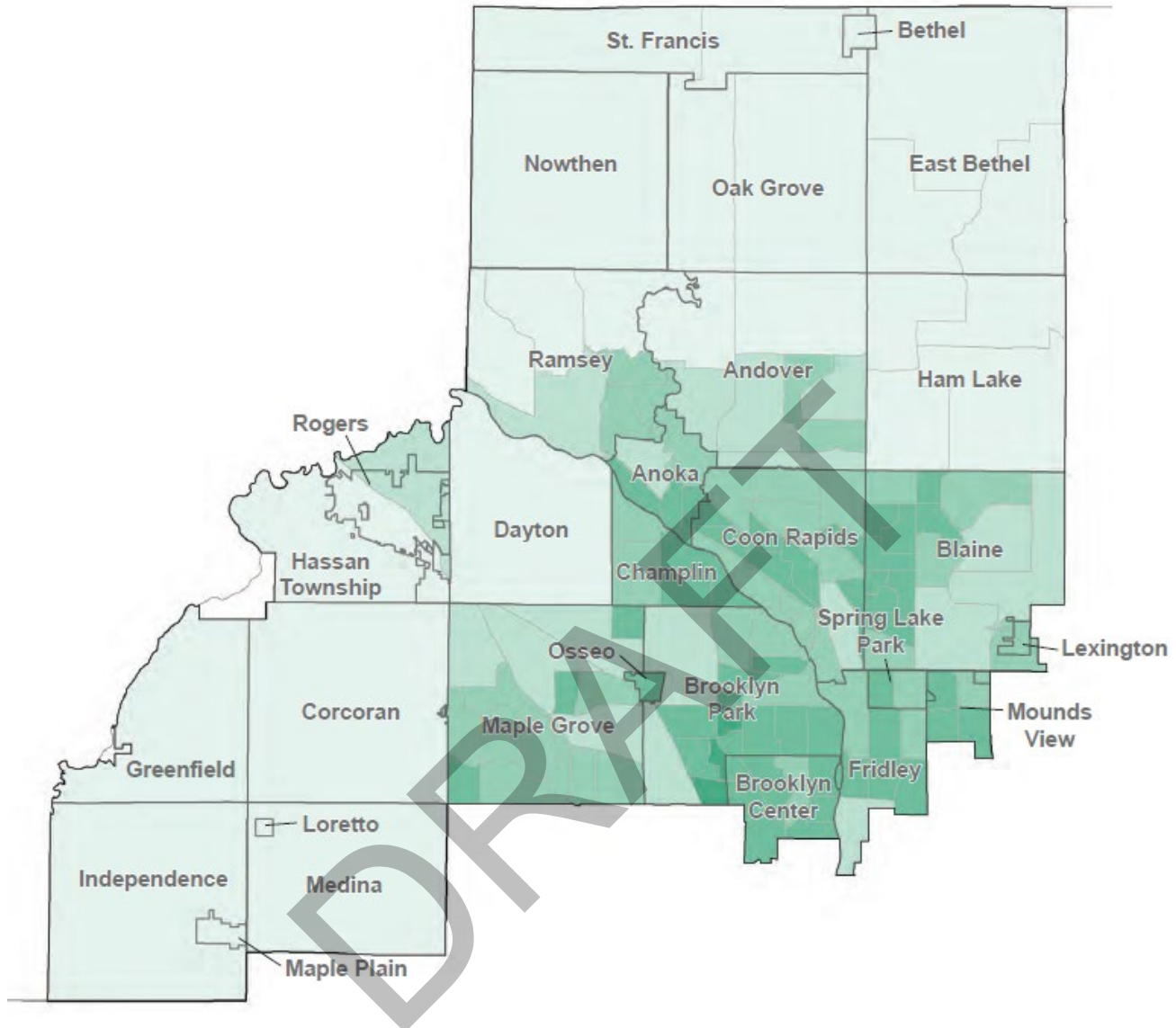


## Northwest Metro subregion chapter and action plan



### *Water supply planning context and current conditions*

Everything that happens on land impacts water, and water is all connected.

The Northwest Metro subregion covers a large portion of the metro with a variety of community types, ranging from urban to rural. In this part of the metro, a number of water quality and quantity challenges exist that are as diverse as the range of communities. Some resource limitations are related to the underlying geology. Other challenges relate to development, service needs, and water pollution.

Communities in the Northwest Metro subregion rely exclusively on groundwater for their water supply, and many communities do not have access to the most productive aquifers in the region. While most communities in this subregion operate public water supply systems, other communities do not have a municipal system. In those communities, residents and businesses pump water from private wells for drinking water. Additionally, 27 of the 29 communities in the Northwest Metro subregion overlap with or are adjacent to land that has been identified as a Drinking Water Supply Management Area.

Overall water use peaked in the mid-to-late-2000s. Since then, communities have continued to grow, but overall water use has been slightly less. Increases in efficiency and wetter summers have likely led to this demand reduction. However, recent droughts and growth have led to a significant increase in water use. Increased impervious cover, contaminants of emerging concern, groundwater/surface water interaction, and other quality concerns are also prevalent in the region.

With the region as a whole expected to grow by more than 650,000 people between 2020 and 2050, the Northwest Metro subregion will also see growth. Preliminary estimates, which are being evaluated with community input through spring of 2024, suggest that approximately 110,000 more people, 52,000 more households, and 79,000 new jobs will be added to the Northwest Metro subregion by 2050 compared with 2020.

Population growth, as well as corresponding growth in employment and employment centers, will increase water demand. At the same time, climate change serves as a risk multiplier, amplifying the impacts that drought and flooding can have on water supply. As growth occurs, and climate continues to change, it is important to plan and collaborate to ensure there is sufficient, reliable, and safe water supply for people, the economy, and the function of local ecosystems.

The [Northwest Metro chapter of the Water Supply Planning Atlas](#) contains more details in the description of current challenges.

#### *Stakeholder-defined vision of success for water supply planning in the Northwest Metro subregion*

Water supply planning for the Northwest Metro subregion is successful if the following outcomes are produced in the long term:

- There is adequate supply, and efficient use of that supply
  - Extraction does not exceed recharge or compromise surface water resources
  - Basic needs are met with clean, affordable drinking water for all
  - Infiltration is maximized in new development, and conservation is a norm
  - A diversity of supply is available—other sources, including reuse
- There is improved source water quality and reductions in contaminants of emerging concern (PFAS, chloride, microplastics)
- Climate resilience is increased

The following conditions are needed to successfully achieve those goals in the Northwest Metro subregion:

- Increased understanding
  - Connections between groundwater, surface water, and stormwater management
  - Individual awareness and ownership of the need to reduce impacts
- Sufficient, sustainable funding for infrastructure, staff, adapting to new treatment needs, etc.
- Enhanced coordination around aligned goals—between city departments, between cities, between and with agencies, within agencies

#### *Issues and opportunities*

In the Northwest Metro subregion, several issues and opportunities exist related to water supply planning, as identified through the stakeholder engagement done in 2023-2024. They are listed here in alphabetical order.

### **Asset management**

Asset management is important to take care of and extend the life and usability of existing infrastructure. To do so, though, requires sufficient funding, planning (inclusive of conservation planning to reduce needs), and trained staff to do upkeep and maintenance of water systems.

### **Climate change**

Climate change is occurring. This leads to concern about impacts from drought and flooding, as well as uncertainty about future conditions.

### **Changing behaviors and social norms**

Education and outreach to the general public is needed to increase understanding of groundwater management and the process of how water gets to the tap and all that entails. While the audiences may differ (ages, languages, public vs. private well user, decision-makers), there is a need for increasing the consistency of educational materials and messaging across the region to encourage personal action, shifting of social norms, and a view of groundwater conversation as a nonpolitical need to protect the finite resource for future generations. A coordinated education effort or programs (such as a K-6 outreach program, workshops for residents, private well user outreach, etc.) is needed to support this aim.

### **Funding**

The current funding structure isn't working. Water is cheap, but the work needed to ensure safe and sufficient water supply is not. As new requirements come out, they often do without a funding source to support compliance. Adjusting the rate structure to reflect the true cost of water and encourage conservation could support a more sustainable funding model, as would an increase in dedicated funding from the state to support compliance and system maintenance for all.

### **Governmental collaboration**

Local governments experience different expectations and conflicting requirements from different entities (MDH, DNR, MPCA, Met Council, City Councils, etc.). Differences across jurisdictional boundaries compound this to make regional water supply planning and plan implementation challenging.

#### **Agencies**

It would be helpful to see agencies align under shared goals, with roles and expectations clearly defined. As a part of this, reviewing and seeking adjustments where rules conflict with each other, sharing data, streamlining roles, and otherwise improving coordination within and across agencies would each make a difference for local communities. Additionally, there is desire to see increased collaboration between agencies and cities.

#### **Integrated water management**

Silos within water resource management can be broken down to pursuing multiple water-related benefits at once, rather than treating them as conflicting priorities or creating unintended consequences. Data to support a more integrated approach are needed, such as how to identify or monitor for ecosystem impacts.

#### **Collaboration into action**

Increased collaboration alone is not the goal. Rather, intentional collaboration – whether it is within cities, city to city, between cities and agencies, within agencies, or across agencies – can produce enhanced outcomes and action.

### **Growth and planning**

As development occurs, it is important that it happens alongside a comprehensive understanding of groundwater management so that economic development goals are in line with groundwater and

ecosystem protection. This could include more compact development or preserving space for parks and recreation infrastructure. Guidance for long-term population forecasting is also needed to support planning for appropriately sized growth.

### **Private well users**

Education and water testing for private well users is needed to protect public health and equip people with information to help them make informed decisions. Free private well testing should be expanded for low-income private well users.

### **Water quality**

Whether it is managing chloride (including legacy chloride in soil), addressing PFAS issues, keeping up with other emerging contaminants like microplastics, removing lead from the system, or engaging in research and education, groundwater contamination creates challenges for water supply. Sustained and increased funding is needed in order to keep water safe.

### **Groundwater quantity/water balance**

Groundwater is a finite resource, and in order to provide a good foundation for growth and to meet future needs, action must be taken now.

### **Conservation**

A decreasing trend for peak summer demand can help to reduce infrastructure needs, but will require more widespread adoption of conservation measures (and an increase in funding for these activities). For residents and businesses, this would include things like less lawn irrigation and a shift away from green turf grass as a norm. For higher water volume users, this may mean appropriation permits are more strictly reviewed. Construction dewatering is also more strictly reviewed, with incorporation of injection wells to retain shallow groundwater.

### **Reuse**

Stormwater reuse for practices like irrigation can reduce groundwater demand for nonpotable uses. Provision for grey water reuse in new buildings and developments could further reduce demand, though would require a change in plumbing codes.

### **Modeling**

Dynamic modeling of groundwater is needed to understand movement, quantity, demand, impacts of high-volume users, and what a sustainable water balance would look like. This kind of data would support informed decision making for growth as well as degree of action required to meet water supply needs.

### **Surface water sourcing**

As constraints on groundwater increase, investigating an expansion of surface water supply is warranted.

### **Workforce**

With recent and upcoming retirements of water operators and other experienced staff, there is a large hole in institutional knowledge that is only expected to increase in the coming years. There is a need for shared workforce planning and strategy to meet workforce needs, including mentorship programs, outreach to schools for recruitment, and introduction of water careers as options. Additionally, there is a need to fund existing and future staffing levels.

### *Prioritized focus areas and action plan*

As part of the engagement process, stakeholders identified areas the following priorities from the focus for the Northwest Metro subregion. Stakeholder-identified statements for what success looks like in 10 years are also included for each.

#### **Asset management**

- An understanding of quantity and quality of assets
- An ability to forecast replacement and upgrade costs

#### **Governmental collaboration**

- Required information into one location and government agencies are able to split out what it is that they need, or at least a reduction of duplicative work
- Full overarching model to see inputs and outputs is necessary for regional coordination to understand where conservation action or other action would be useful
- Within government, planners and engineers understand each other and can anticipate results of each other's actions

#### **Groundwater quantity and water balance (inclusive of growth and planning)**

- Understanding quality and quantity of supply (distinct aquifers)
- Communicate where recharge areas exist. Recharge areas will be outside Met Council authority so would need to address how/who would set policies in the recharge area.
- Define educational work plan—conservation and awareness of issues

#### **Water quality (inclusive of private well users)**

- Improved sampling methodologies (standards and locations)—individual well (raw water) vs. distributed
- Increased/required testing of private wells—make it available and affordable
- Adapting to whatever new standards and requirements there are

#### **Workforce**

- Robust asset management/GIS system to capture institutional knowledge
- Consistent pipeline of staff entering the field of water supply, distribution, treatment, and storage
- High schools, technical colleges, and universities actively promoting public works
- Succession planning for those retiring
- Get kids excited about water

It should be noted that, as a part of the workshop discussion, the following focus areas were identified as “implementation considerations,” in that they would be needed (either as a strategy or something to manage for) in order to support success for any of the other focus areas. As such, these were incorporated into the action plans to address priority focus areas:

- Changing behaviors and social norms
- Climate change
- Funding
  - Sustainability
  - Short term (grants)

The following pages reflect the action plan developed by participants at and following the second subregional workshop in order to address the priority focus areas. It is possible and expected that

actions not reflected here may emerge as important steps needed to be taken in subsequent years. This list, therefore, is a reflection of what was being considered in late 2023 and early 2024. They have been organized according to the Metro Area Water Supply Advisory Committee’s 2022 proposed framework to achieve progress on regional goals (figure 13).

Figure 13. The framework for action to achieve MAWSAC goals includes four general steps. Northwest Metro focus areas generally fall across the framework steps.



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Actions to support success

Table 1. The following pages reflect the action plan developed by participants at and following the second subregional workshop in order to address the priority focus areas. It is possible and expected that actions not reflected here may emerge as important steps needed to be taken in subsequent years. This list, therefore, is a reflection of what was being considered in late 2023. They have been organized according to the Metro Area Water Supply Advisory Committee's 2022 proposed framework to achieve progress on regional goals.

ACTIONS	RELATED FOCUS AREAS	CONNECTED REGIONAL WPP POLICY	10-YEAR PLAN		25-YEAR PLAN			POSSIBLE INVOLVED PARTIES
			2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	
<b>COLLABORATION AND CAPACITY BUILDING</b>								
Convene regional meetings of cities with appropriate agency staff for meetings to specifically collaborate between public works and city planners	Collaboration	Integrated Water	x					Regional planners (health), LGU planners, LGU public works, DNR Area Hydros, Met Council
Encourage more mechanisms for proactive financing rather than reactive funding	Collaboration, Asset Management	Conservation & Sustainability	x	x				MDH, MPCA, Legislature, LGUs
Increase understanding of the importance of a sustainable water supply among school aged children, pursue an educational standard	Water Quantity, Workforce	Conservation & Sustainability, Water Sector Workforce	x	x				Cities, Agencies, School District Administrators
Partner with organizations actively participating in STEM events	Workforce	Water Sector Workforce	x	x				Met Council
<b>SYSTEM ASSESSMENT</b>								
Model future needs for supply and distribution	Asset Management	Conservation & Sustainability						
Conduct an inventory of existing assets	Asset Management	Conservation & Sustainability						
Establish a workgroup involving agencies and local government representatives and Met Council to identify and recommend changes or removals to statutes/rules (Create a regional interest group of water supply professionals to advocate for us)	Collaboration		x					Met Council, Agencies
Define how current data is being used, and share for modeling purposes	Water Quantity	Monitoring/ Data/ Assessment	x					DNR, Met Council, Cities (pumping data)
Develop a comprehensive, dynamic model	Water Quantity	Monitoring/ Data/ Assessment						Met Council/DNR
Increase affordability of accurate testing—particularly for PFAS	Water Quality	Pollution Prevention	x	x				MDH
<b>MITIGATION MEASURE EVALUATION</b>								
Forecast challenges for water supply systems, assess implications and infrastructure needs	Asset Management	Conservation & Sustainability	x	x	x	x	x	Cities, Agencies
Improve treatment technologies to address contamination discovered, with appropriate policy backing and funding	Water Quality	Pollution Prevention		x				Private enterprise
Continue ambient monitoring for early detection and monitoring of new contaminants	Water Quality	Pollution Prevention						MDH, UMCR
<b>PLANNING AND IMPLEMENTATION</b>								
Seek funding for and implement changes to improve asset management and the quality/usefulness of existing assets	Asset Management	Conservation & Sustainability	x	x	x	x	x	Cities, agencies
Support a bill for groundwater modeling funding to create a regional dynamic model for shared use	Collaboration	Monitoring/ Data/ Assessment	x	x				
Continue work between agencies to streamline plans	Collaboration	Integrated Water	x	x	x	x	x	

Continue to improve in best practices that support effective virtual and in-person engagement	Collaboration		x	x	x	x	x	Agencies
Standardize water conservation best practices across the region and state	Water Quantity	Conservation & Sustainability		x				
Explore feasibility and needs for injection wells for deeper aquifers	Water Quantity	Conservation & Sustainability						
Seek funding for solutions to combat contaminants	Water Quality	Pollution Prevention						State/federal
Support peer to peer outreach like master gardeners for private well and subsurface sewage treatment system users	Water Quality	Pollution Prevention	x	x				UMN extension, Met Council, Nonprofits, private well owners
Continue education to realtors on private wells and subsurface sewage treatment systems	Water Quality	Pollution Prevention	x	x				UMN extension, MDH, MPCA, or a nonprofit
Enlist communications and behavior change professionals to support effective education and outreach campaigns, especially for private well users.	Water Quality	Pollution Prevention	x					Schools, cities, watersheds, media
Engage in an education campaign on local water infrastructure importance, challenges, and needs for learning institutions, the general public, and elected officials	Workforce	Water Sector Workforce						Operators, public works staff

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