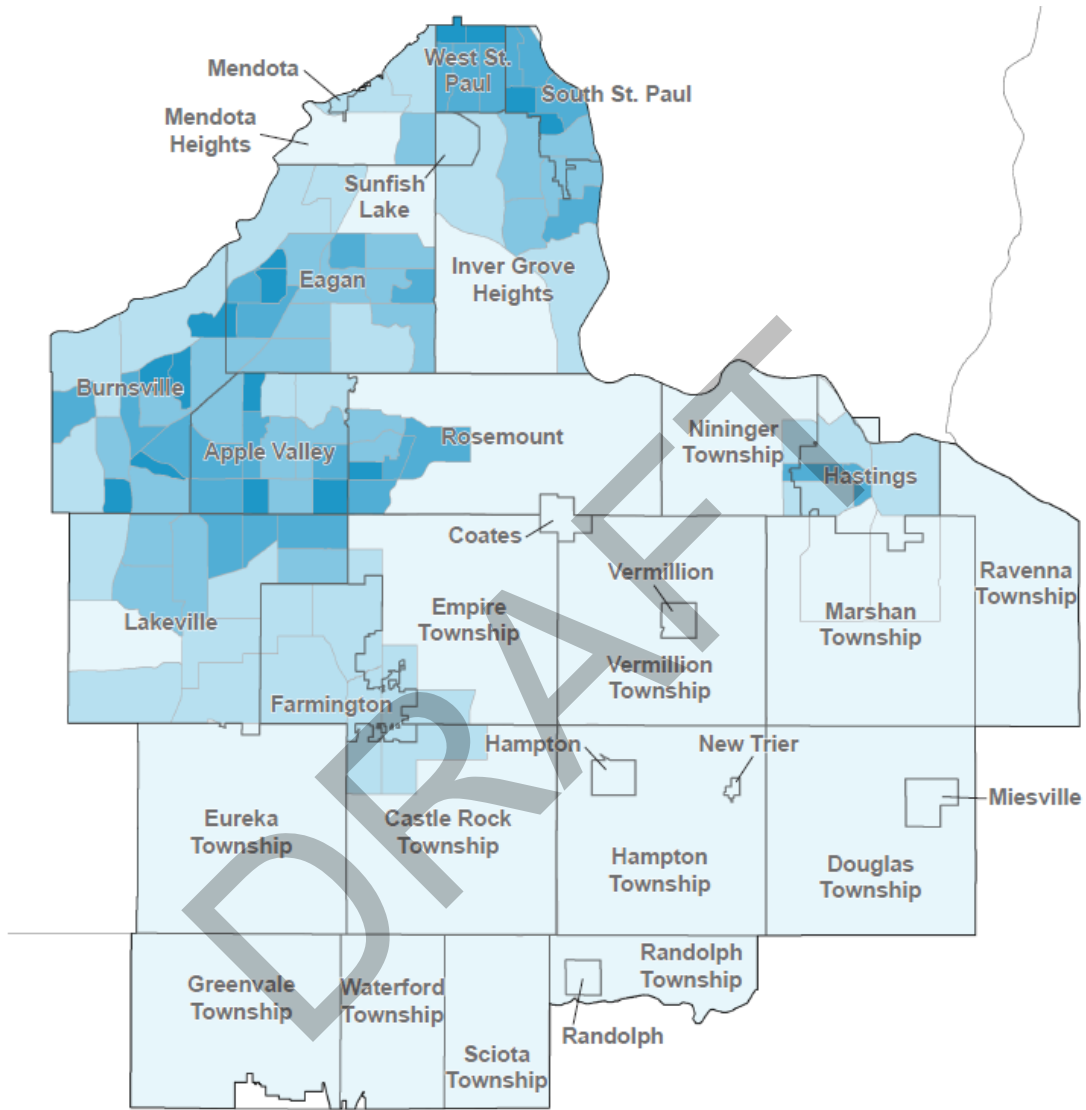


Southeast Metro subregion chapter and action plan



Water supply planning context and current conditions

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

The Southeast Metro subregion spans communities in Dakota County, ranging from highly developed older suburbs, to newer suburbs that have experienced significant growth in the last 30 years, to rural agricultural communities dotted with smaller town centers. Generally, as you move from north to south across the county, density decreases and the landscape becomes more rural.

Water supply is provided by a combination of municipal or public water suppliers and private wells. Agricultural and commercial entities use water from the same aquifers for irrigation and industrial processes. Groundwater quality and quantity challenges exist throughout the county.

Communities in the Southeast Metro subregion rely almost exclusively on groundwater sources from the Prairie du Chien and Jordan aquifers for their water supplies. Many communities in this subregion operate public water supply systems that provide residents and businesses with water, but some communities do not have public water supply systems. In these communities, which are often more rural, residents get water from privately owned and operated wells. One community, Burnsville, uses a combination of surface water from a nearby quarry and groundwater and provides treated water to the neighboring community of Savage. Additionally, 27 of the 32 communities in the Southeast Metro subregion have some land that has been identified as a Drinking Water Supply Management Area, and source water protection is an important goal for public and private wells alike. Fertilizer and pesticide residuals have been detected in many wells in rural communities.

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.

With the region as a whole expected to grow by more than 650,000 people between 2020 and 2050, the Southeast Metro subregion will also continue to see growth. Preliminary estimates, which are being evaluated with community input through spring of 2024, suggest that approximately 88,000 more people, 44,000 more households, and 79,000 new jobs will be added to the area by 2050 compared to 2020. As the Southeast Metro subregion continues to grow, more people will rely on municipal/public water supplies for their water needs. To deliver service to more homes and businesses, communities may need new infrastructure like additional wells and new service lines. Expansion of water supply systems comes with costs and is not without financial, social, or environmental risk. As the region continues to grow and develop, more land conversion to impervious surface is likely.

Communities rely on water supply for health, prosperity, and the function of local ecosystems. As growth occurs, and climate change continues to amplify risks for both quality and quantity, 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 [Southeast Metro chapter of the Water Supply Planning Atlas](#) contains more details in the description of current challenges.

Definition of success for water supply planning in the southeast metro

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

- There is an adequate supply for people and ecosystems—one does not compromise the other
- Water is clean, safe, and drinkable.

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

- Communities proactively and collaboratively manage water in an integrated fashion. For example:
 - New development preserves open space for infiltration and incorporates reuse.
 - There is regional collaboration to support water sustainability.
 - Norms have shifted to low-input crops and turf that support conservation.
- All people understand water-related issues and take action to protect and conserve water.
- Sound science informs decision-making.

Issues and opportunities

In the Southeast 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.

Climate change

Climate change, mixed with land use changes, will increase challenges already impacting water supply: more runoff and less infiltration, heat island impact.

Contamination

Water supply faces several quality-related concerns, with greater concern expressed for PFAS and chloride management and response, but concern exists as well for nitrate. Technical and financial support for communities as well as private well users are needed, as are cost effective solutions to reduce inputs and remove pollutants. Additionally, there is also a need for guidance and support to respond to stricter maximum contaminant level requirements and changing regulations.

Land use and development

Land use is changing as farmland is developed. Population growth has put pressure on water supply, with some communities already exceeding permits or looking to drill new wells. As planning for new development takes place, there is a need and opportunity to manage open space and infiltration opportunities and promote conservation. Opportunities to set development standards for soil health and depth, irrigation, pervious surface, turf grass and other elements can also be used when that upfront collaboration is not available.

Change of behaviors and social norms

Everyone both impacts water and has a role they can play to protect water. Yet, that role is not fully understood. Education for a variety of audiences (including decision makers, developers, and schools) is needed, as is the development of trust in government, encouragement of behavior change, and the evolution of social norms regarding water use and contamination (for example, green lawns, fertilizer).

Funding

Funding to incentivize practices that benefit water quality and quantity, promote reuse, support and expand staffing, and maintain and repair systems is needed. Whether through adjusting rate structures

and fees, statewide or regional grants, or other funding sources, existing funding is not sufficient for the work needed.

Governmental collaboration

Agencies: Agencies can enhance their coordination within and across their organization, and increase transparency about the ways they do work together. The wellhead protection process is a specific opportunity to improve interagency coordination.

Jurisdictional coordination: Partnerships, resource- and knowledge-sharing, collaborative planning, and aligning goals across jurisdictional boundaries can lead to sustainable water outcomes. As such, there is value to subregional collaboration, planning, and technical assistance to support local action, though funding to support subregional collaboration would be needed.

Asset management

Asset management to take care of the infrastructure we have should be encouraged, while taking into account the variety of challenges aging infrastructure produces (emerging contaminants, extension of pipes, etc.).

Water quantity

Addressing water quantity concerns will require conservation, reuse (including stormwater and wastewater), and recharge. Each of these approaches has its own challenges which need to be addressed as well, including changes in codes or policies, developing certified training for practitioners, planning for land protection, research, and (in some cases) assessment of feasibility.

Workforce

Staffing limitations impact the ability to apply for and track grants, enforce laws or policies, develop plans, create and implement programming, and more. Beyond just the number, there is a challenge with hiring qualified candidates while also facing a loss of institutional knowledge. There is a need to support existing staff, expand staff, provide certification and training, and create space for thoughtful planning and collaboration.

Agricultural systems change

The current corn and soybean paradigm is the result of market pressures. New, lucrative cash crops with lower water and fertilizer demand are needed—for both industrial as well as family farmers. Aquaponics, hydroponics and urban agriculture should be considered for their impact on water supply, as well as new crops such as marijuana and hemp.

Prioritized focus areas and draft action plan

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

Workforce

- There will be adequate staffing and expertise at state, county, municipal, and regional levels to sustain plans and to operate systems.
- Work toward grant funding

Contamination

- There will be financial/technical support for source water and private well testing
- Contaminants of concern will be prioritized based on location

- Maximum Contaminant Limits (MCLs) will be set for manganese
- There will be cost effective approaches for contaminants (contaminants of emerging concern, PFAS, chlorides)

Water quantity

- There will be clear reuse guidance
- Summer-to-winter use ratio will be reduced
- We will have a dynamic model to give an accurate representation of sustainable/available groundwater
- We will understand sustainability of groundwater on a very localized basis
- Water rates will appropriately reflect the value of the water

Agricultural systems change

- Lower nitrogen and phosphorus and biosolids applications to agricultural land
- Lower water consumption or alternative uses from data centers, large water consumers, Niagara bottling
- New and emerging agricultural systems are considered (aquaponics and hydroponics and urban agriculture, as well as new crops such as marijuana and hemp)

Land use and development

- Infiltration rates are equal to predevelopment
- Use is maintainable/sustainable
- Better understanding of water use of land use type (use versus surface water impact)

Asset management

- Potable water leakage is reduced
- Aging treatment plants/piping/pumping systems are replaced
- The right maintenance at the right time
- Planning and funding of replacements
- Coordination between utility and surfacing (for example, conditions assessments)

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

- Funding
- Governmental collaboration
- Changing behaviors and social norms
- Climate change

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 (figure 14).

Figure 14. The framework for action to achieve MAWSAC goals includes four general steps. Actions identified to address Southeast Metro subregion focus areas generally fall across the framework steps.



DRAFT

Actions to support success

Table 1. Subregional water supply stakeholders proposed several actions to work on over the next 10 years (and in some cases, 25 years) to set the subregion up for long-term success in the priority focus areas discussed in this chapter. The action plan includes possible roles for leads, Met Council, subregional groups, and local entities. This action plan is intended as a high-level, long-term, collaborative planning tool. The details may change as collaboration gets underway and on resource availability.

ACTION	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	POSSIBLE LEAD(S)
COLLABORATION AND CAPACITY BUILDING								
Develop marketing resources for water supply field to create awareness with diverse audiences and address misconceptions/misunderstandings	Workforce	Water Sector Workforce	x	x	x	x	x	Public works (water)
Enhance connections/partnerships between employers and educators to support youth outreach, scholarships, and college coursework to promote interest and build expertise in the water supply/water utility field and understanding about the true value of water	Workforce; Asset Management	Water Sector Workforce	X (start soon!)	x	x	x	x	Professional organizations, public works and cities, government agencies, schools (secondary, vocational, colleges), parents/society
Highlight region to prospective employees/graduates of related programs	Workforce	Water Sector Workforce	x	x	x	x	x	Met Council and agencies/industry leaders
Address/accommodate education/training/transportation needs to enable workforce	Workforce	Water Sector Workforce	x	x	x	x	X	Public works (water)
Implement technology to assist work, enhance safety	Workforce	Water Sector Workforce	x	x	x	x	X	Public works (water)
Advocate with elected councils for funding and legislative actions	Asset Management	Conservation & Sustainability	X					Public works (water)
Collaborate across departments on asset management (water utility, planning, finance, and others)	Asset Management	Conservation & Sustainability	X					Public works (water)
Build support from other groups to be team players and convince city councils to support asset management recommendations	Asset Management	Conservation & Sustainability	x					Public works (water)
Provide education about contaminants of concern by geographic location, with action steps	Contamination	Pollution Prevention	x	X				Met Council, local governments, MDH
Convene work groups to determine what types of re-use are feasible (small scale versus large scale, potable versus non-potable)	Water Quantity	Reuse						Met Council
Increase understanding, education for school-aged children regarding the value of water	Water Quantity	Conservation & Sustainability						Schools, state agencies
SYSTEM ASSESSMENT								
Use new technologies for asset management, including accurate GIS data and systems that produce high quality outputs based on high quality inputs	Asset Management	Monitoring/ Data/ Assessment	x					Public works
Secure funding for improved and dynamic metro groundwater model	Water Quantity	Monitoring/ Data/ Assessment	x	x				Met Council with DNR
Research the capacity/sustainability of aquifers	Land Use and Development	Monitoring/ Data/ Assessment	x	x				DNR, Cities, Met Council
Coordinate with area labs to inventory the different analyses available at each and make it easier to pickup/drop-off water samples	Contamination	Monitoring/ Data/ Assessment	x					Met Council with local support from cities
Conduct a technical review of biosolid applications and impacts to groundwater	Contamination	Pollution Prevention	x					Met Council, MPCA
MITIGATION MEASURE EVALUATION								

ACTION	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	POSSIBLE LEAD(S)
Seek funding from LCCMR to study effective water conservation messaging/campaign, document success stories (what is the best bang for the buck?), and make recommendations for targeted, crafted outreach	Water Quantity	Conservation & Sustainability	x	x				U of MN, Locals with DNR, Met Council
Make recommendations and advocate for local businesses to sell drought-resistant grass seed and sod, to get away from a culture of thinking that green grass equals status	Water Quantity	Conservation & Sustainability, Climate Change Resilience		x				U of MN Turfgrass, farmers
Promote crop choices and best management practices that are more sustainable, such as timing fertilizer applications (don't apply when plants won't use them)	Ag Systems Change	Pollution Prevention		x				Farmers, townships, SWCD, MDA
Increase funding for drainage water (tile) management of nitrogen and phosphorus	Ag Systems Change	Pollution Prevention	x	x				Met Council funding to watersheds, SWCDs
Outreach to change mindsets to embrace science-backed approaches to lower water use and chemical applications (example: irrigation management – low plow heads, good transition implementation)	Ag Systems Change	Conservation & Sustainability, Pollution Prevention	x	x				MDA, County, SWCD, U of MN, all partners
Use Met Council owned lands as demo projects of sustainable agriculture	Ag Systems Change	Pollution Prevention, Conservation & Sustainability	x					Met Council, MDA, U of MN, SWCD
Develop regional low-salt design guidance (less chloride, de-icing)	Contamination	Pollution Prevention	x	x				Met Council, MPCA
Provide guidance and standard messaging on treatment design/development for emerging contaminants such as PFAS	Contamination	Pollution Prevention		x				MDA, MPCA
Develop and communicate clear criteria on water permitting limits, to inform water supply-related decisions about new industries or changes in industry technology (data center mining, water bottling, etc.)	Land Use and Development	Conservation & Sustainability	x	x				DNR, Cities
Provide technical and financial support for private well testing and treatment	Contamination	Pollution Prevention	x	x				MDH
PLANNING AND IMPLEMENTATION								
Streamline and revamp water supply plans to make them more of a useful document	Water Quantity	Conservation & Sustainability						DNR, Cities, Public water suppliers
Include a description of the water needs of different land use types in local comprehensive plan updates	Land Use and Development	Conservation & Sustainability, Water-centered Growth & Development		x				
Recommend and support changes to statutes and rules regarding Home Owners Association requirements related to irrigation and landscaping	Land Use and Development	Conservation & Sustainability	x	x				Cities (lobbying), DNR, Extension?
Develop opportunities for urban agriculture and access to fresh food, such as zoning guidance for urban farms	Ag Systems Change	Water-centered Growth & Development						Met Council, U of MN, NRCS

ACTION	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	POSSIBLE LEAD(S)
Utilize existing tax credit programs to further incentivize conservation	Ag Systems Change	Conservation & Sustainability	x					Met Council
Address funding thinking about the utility (can they afford to build needed infrastructure?) to the customer (to defray cost). Consider the true "cost of water"	Affordability	Conservation & Sustainability						

DRAFT