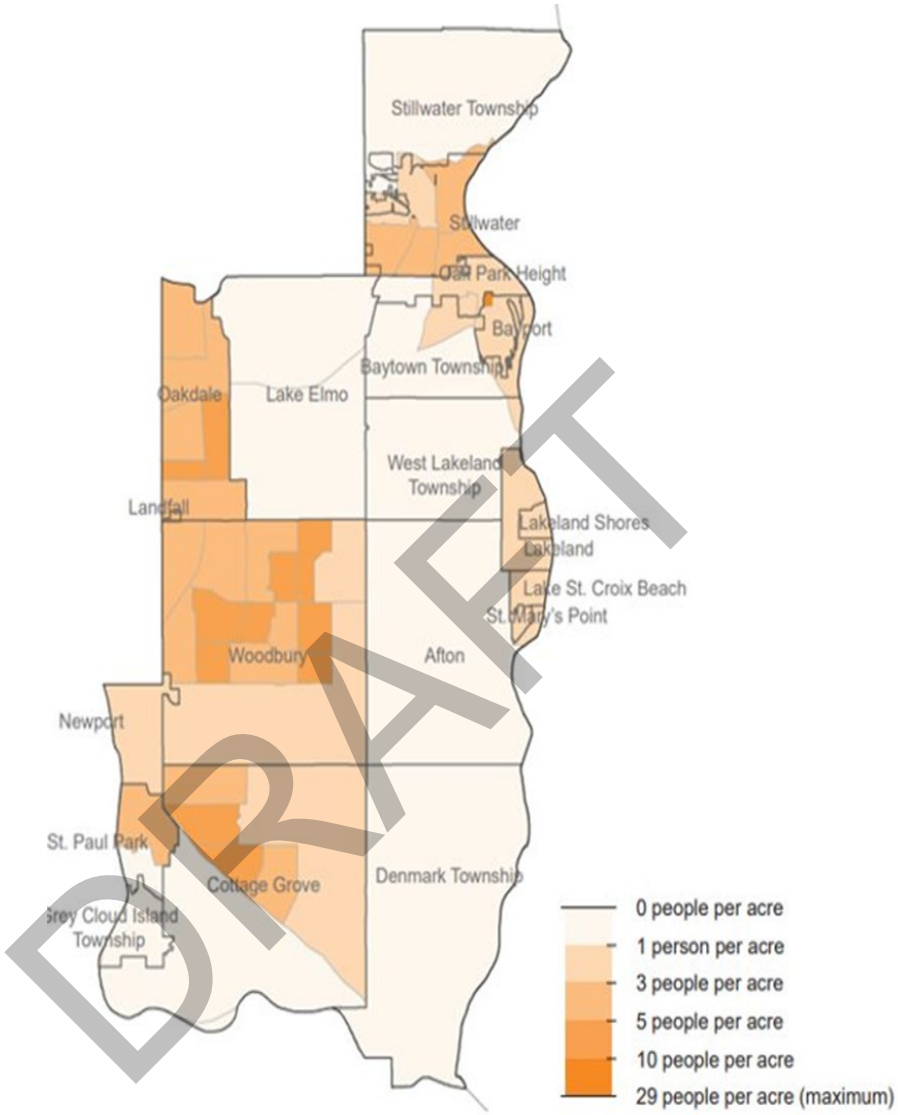
East Metro subregion chapter and action plan



Water supply planning context and current conditions

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

Communities in the East Metro subregion are almost exclusively sourced by groundwater from the Prairie du Chien and Jordan aquifers. Just over half the communities in the East Metro subregion have municipal public water supply systems, and the rest rely on private wells. About three quarters of the communities in the East Metro subregion have some land that has been identified as a Drinking Water Supply Management Area. Throughout, quality and quantity challenges already exist and already impact water supply.

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, and use in some areas is approaching, and periodically exceeding, water appropriation permit limits and/or aquifer recharge rates.

Increased impervious land cover, contaminants of emerging concern, groundwater/surface water interaction, and other quality concerns are also prevalent in the region. PFAS contamination is of particular concern, and the challenges with treatment add another wrinkle in considering water availability and the safety of water supply, especially for private well users. Additionally, 15 of the 20 communities in the East Metro subregion overlap with or are adjacent to land that has been identified as a Drinking Water Supply Management Area (DWSMA).

With the region as a whole expected to grow by more than 650,000 people between 2020 and 2050, the East Metro subregion will also continue to see growth. Preliminary estimates, which are being evaluated with community input through spring of 2024, suggest that approximately 50,000 more people, 26,000 more households, and 29,000 new jobs will be added to the East Metro subregion by 2050 compared to 2020.

Additionally, climate change serves as a risk multiplier, amplifying the impacts that extreme heat, drought, an extended growing season, and flooding can have on water supply. As growth occurs, implications of PFAS contamination are realized, and climate continues to change, it is important to plan and collaborate now to ensure there is sufficient, reliable, and safe water supply for people, the economy, and the function of local ecosystems.

The East Metro chapter of the Water Supply Planning Atlas contains more details in the description of current conditions and challenges.

Stakeholder-defined vision of success for water supply planning in the East Metro subregion

Water planning in the East Metro subregion is successful if it achieves these shared goals:

- Water supply planning and implementation includes considerations and strategies, as applicable, for conservation, reuse, and recharge
- Resources are protected and water quality is improved with no new contaminants
- All people have access to affordable, clean, safe water, regardless of personal income or community

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

- A mix of voluntary practices, regulation, and planning available
- There is public trust of water supply, and an understanding of its value, challenges and needs

Issues and opportunities

In the East Metro subregion, several issues and opportunities exist related to water supply planning, as identified through review of existing plans and studies or through the stakeholder engagement done in 2023-2024. They are listed in alphabetical order.

Agency coordination

Communication, data sharing, transparency, coordination, efficiency, and general partnership between and with agencies could be enhanced.

Agricultural contaminants
Agricultural contaminants and practices can negatively impact water supply as well as nearby surface water features. To support a sustainable water future as well as the ability to continue to grow food, it is important to increase implementation of best management practices that improve soil health and reduce pollution from nutrients and pesticides.

Chloride
Pursue limited liability legislation and support best practices to reduce chloride contamination from road salt and water softeners.

Climate change
Climate change needs to be factored into future planning for water use as well as resilience to extremes and climate impacts.

Communication
Communication needs to be proactive, targeted, and tailored to specific audiences, and across platforms. At the same time, it needs to be coordinated and consistent, relatable, and contain the "why," "what," and "how" to inspire both understanding and action at household and policy-making levels. This kind of intentional and strategic communications approach can increase the extent to which water supply is understood and prioritized by the public and public officials.

Contaminants of emerging concern (CECs)
The region's water partners need to address emerging contaminants already known and begin to prepare to respond to ones not recognized yet.

Data
Data are lacking to fully understand groundwater resources, including:

- The age and status of existing infrastructure
- Water quality
    - Ambient groundwater monitoring and point of sale testing
    - Emerging contaminants' presence, especially for those with low detection levels
    - Groundwater and surface water interaction
    - Approaches for stormwater and sewage treatment in areas with karst
- Quantity: A subregion-wide database, informed by groundwater level and use monitoring and modeling, should be explored and developed to help determine:
    - A water budget
    - Alternative drinking water supplies
    - Impact of high-capacity wells
    - Impact of patterns of precipitation
    - Impact of use on trout streams and lakes

Funding
The cost of testing and treatment of contaminated water is a challenge across scales. More funding is needed, particularly at the local level—beyond rate increases—for treatment at the municipal and

household levels. Grant awards are not high enough, are not communicated about enough, or are too complicated to pursue. Low-income funding assistance is needed for private well owners. Strategies that maintain affordability are also needed so that everyone has access to affordable and safe drinking water.

General contamination
Contamination from household hazardous waste, land spreading, leaky underground tanks, closed landfills, abandoned wells, mining, etc. must be reduced.

Jurisdictional coordination
Water planning and development can be better coordinated within and across jurisdictions, such as proactive instead of reactive collaboration and funding. This could include:

- Drinking Water Supply Management Areas:
    - coordinated management of drinking water supply management areas with overlapping jurisdictions (cities, watersheds, etc.)
    - coordinated management of non-municipal drinking water supply management areas within a jurisdiction
    - incorporating all drinking water supply management areas (municipal and non-municipal) in land use and development planning.
- Enhanced linkages between watershed and groundwater management
- Collaboration with agencies regarding internal and external use of reuse water
- Vertical coordination of water supply management from state to metro to county to city to household
- Plain language education campaign/materials across the region on groundwater and aquifer recharge/science for public, policy makers, and decision-makers
- Balancing competing interests. For example: Met Council growth/density requirements versus Department of Natural Resources limitations on water supply appropriations versus standard ordinances, etc.

Per- and Polyfluorinated Substances (PFAS)
PFAS contamination of ground and surface waters has created public health concerns and water treatment challenges. PFAS chemicals can be long-lived in the environment, requiring significant time and financial resources to remediate. Eliminating exposure to and remobilization of PFAS is a goal to strive for, but challenges exist with capacity to provide testing, requiring the sealing of wells when a resident is connected to municipal supply, understanding groundwater surface water interaction, and funding of long-term mitigation.

Private wells
There is a lack of protection, guidance, and assistance for private well users.

Public trust
Public trust can be lacking, and takes time to be built.

- Community members do not feel like they are being heard or that their concerns are being heard.

- As science has improved understanding of health risk limits, the communication about what is "safe" has changed, and that has created doubt about government's ability to keep residents safe.

Subsurface sewage treatment systems
Reduce contamination from subsurface sewage treatment systems through free testing, income- and non-income-based replacement assistance, and enforcement of performance rules.

Source water protection
Enhance source water and wellhead protection efforts for both known and emerging contaminants.

Testing capacity and supplies
Ensure capacity for water testing and treatment

Volatile Organic Compounds (VOCs)
Track and contain contamination plumes especially near public wells.

Water balance
- Loss of recharge areas impacts water supply. With development still occurring, there is an opportunity to protect recharge areas, especially near groundwater-dependent natural resources.
- Conservation efforts need to be able to keep pace with increasing population as well as climate change.
- Reuse should be supported in order to reduce groundwater demand

Workforce
There is a need to address workforce concerns, including retirements, technical training, and expertise, turnover and ability to attract and retain staff.

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

Agricultural Contaminants
- Delisting of surface water features
- There is no groundwater contamination from agricultural practices
- Sustainable agricultural practices do not compromise food availability

Chloride
- No new chloride impairments
- All drinking water wells are still useable
- Some form of limited liability legislation is in place as an incentive to reduce overapplication/unnecessary use of salt by private contractors
- Feasible/viable alternatives to salt are being developed
- Adoption of chloride-specific model ordinances by metro communities

Contaminants of emerging concern

- Public will be informed of existing emerging contaminants, fate in water supply and potential new/emerging contaminants
- State/local and regional leaders will have a plan for identifying emerging and potential contaminants, educate public about impacts and plans to address

Jurisdictional coordination (inclusive of source water protection)

- Met Council fills a gap in the system, after evaluating who does what
- Connect Met Council growth and MUSA planning to water use
- Jurisdictional work is coordinated—no duplication or contradiction
- Managing growth management with water supply, capacity, and natural resources
- Active communication—adaptive management

PFAS

- People have access to PFAS testing
- Eliminate non-essential uses of PFAS (follow the blueprint)
- Pragmatic approach to applying risk reduction techniques
- Prioritization of funding to mitigate risk to any degree
- PFAS-free drinking water for all
- Managing the most harmful as demonstrated by technology and studies
- There is funding for changing water quality regulations
- Changing science and effects on standards are addressed

Private wells and subsurface sewage treatment systems

- Owners know how to maintain systems and protect their health, supported by education of realtors about private wells and subsurface sewage treatment systems
- Consistent standards for private wells
- Private wells and septic systems are incorporated into the other focus areas
- Access to affordable or free testing for contaminants of interest to the owner through a centralized public well and water testing system that allows for centralized data

Water balance

- Aquifer levels are stable and managed, and there is sustainable water use for aquifers, ecosystems (no surface water impacts), and future generations (seven generations)
- Sufficient land for all uses, including recharge and reserved land for uses needed in the future
- Future flood storage accomplished
- Infiltration in the right locations
- Reuse
    - More support for reuse systems, including guidance for treatment and perhaps standards for residential reuse such as irrigation systems
    - Increase in its use, as well as more coordinated and more holistic efforts

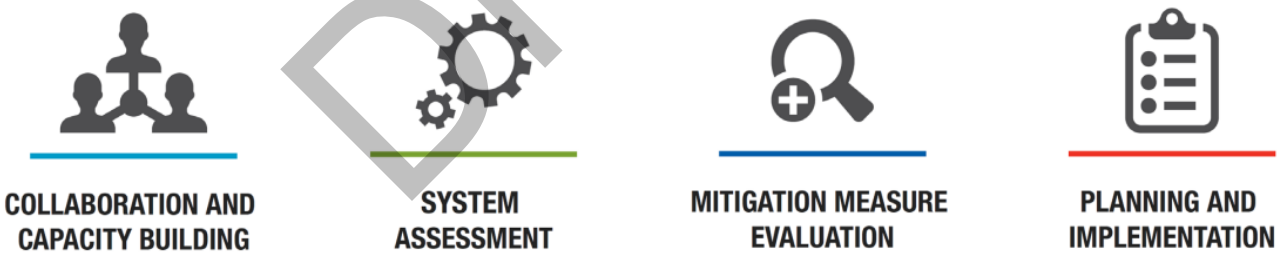
    - Understanding existing reuse of water and increasing that volume
- Reduce volume of groundwater water needed, with a numeric goal identified
- Perception change: people understand water is a finite resource

It should be noted that, as a part of the 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 in action plans for these priority focus areas:

- Agency coordination
- Climate change
- Communication
- Data
- Funding
- Public trust
- Workforce

The following pages reflect the action plan developed by participants 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 2023-2024. They have been organized according to the Metro Area Water Supply Advisory Committee's 2022 proposed framework to achieve progress on regional goals (figure 10).

Figure 1. The framework for action to achieve MAWSAC goals includes four general steps. East Metro subregion actions generally fall across the framework steps, as can be seen in the action tables beginning on the next page.



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.

ACTIONS	SUBREGIONAL FOCUS AREAS	RELATED REGIONAL WPP POLICY	10-YEAR PLAN		25-YEAR PLAN			POSSIBLE INVOLVED PARTIES
			2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	
COLLABORATION AND CAPACITY BUILDING								
Increase partnerships between public health, county agriculture staff, and trade organizations	Agricultural Contaminants	Pollution Prevention	x					County ag engineers/trade org/public health
Increase understanding of what motivates individual and political change	All		x	x				
Develop standard messaging and content regarding contaminants of emerging concern, private wells, subsurface sewage treatment systems, and water balance issues. Partner with local government units, watershed organizations, healthcare professionals, and others for regular communications in ways that effectively reach people.	CECs, Private wells, SSTS, Water balance	Pollution Prevention	x	x				LGUs, State, pharma
Advocate for changes to increase lifespan and repairability of products, as well as require proof of no future harm	CECs	Pollution Prevention						
Increase ability for consumers to know what is in the products they are buying	CECs	Pollution Prevention						
Reproduce tools such as No Salt/Low Salt regionwide	Chloride	Pollution Prevention						
Lead on addressing water softening from a wastewater treatment perspective	Chloride	Pollution Prevention						Met Council
Incorporate DWSMAs into land use planning through overlays and other tools for the next comprehensive plan update cycle	Jurisdictional coordination	Integrated Water, Land Use, Pollution Prevention	x	x				Met Council
Improve both horizontal and vertical communication and coordination between and within agencies	Jurisdictional coordination	Integrated Water	x					
Increase coordination within Met Council–transportation, planning, water, parks, etc.	Jurisdictional coordination	Integrated Water	x					Met Council
Support watershed-led education within and across cities	Jurisdictional coordination	Integrated water	x	x				
Increase coordination between wellhead and watershed management needs and efforts	Jurisdictional coordination	Pollution Prevention						
Develop sound policy options that take into account financial, social, and environmental needs.	Water balance	Conservation						
More consistent education across the region on groundwater and aquifer recharge science and how groundwater moves, in plain language and as an educational tool for public and policy makers/decision makers	Water balance	Conservation						
SYSTEM ASSESSMENT								
Require more thorough and ongoing testing of agricultural chemicals to reduce application of agricultural chemicals and contaminants of emerging concern.	Agricultural contaminants, CECs	Pollution Prevention	x	x				MDA, MPCA, DNR, MDH
Increase available funding for staff engaged in research for CECs	CECs	Pollution Prevention	x					
Empower regulatory entities to better collaborate with researchers, academia, and federal partners to identify and take action on CECs that exceed a common supercritical threshold of: - Toxilogical info - Presence data - Laboratory capacity to identify CECs Use this info to inform policy and legislative decision-makers (in a timely/efficient manner).	CECs	Pollution Prevention						

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			2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	
Conduct a trend analysis for detecting vulnerable water bodies and take action prior to impairment.	Chloride	Pollution Prevention						
Compile a database from all sources of info on wells	Private wells/SSTS	Pollution Prevention						
Establish permanent funding for private well and septic system repair and replacement	Private wells/SSTS	Pollution Prevention						
Develop a regional or statewide standard for flood storage beyond Atlas-14	Water balance	Climate Change Resilience	x	x				
Adaptively manage for regional water levels based on data collection and evaluation	Water balance	Conservation & Sustainability	x	x				
Reevaluate and update fee structure	Water balance	Conservation & Sustainability						Cities, water suppliers
MITIGATION MEASURE EVALUATION								
Evaluate and share cost/benefit ratios of different actions to reduce application of agricultural chemicals	Agricultural contaminants	Pollution Prevention	x	x				MDA, farmer trade organizations
Research alternatives to chloride use	Chloride	Pollution Prevention	x	x				Research community, road authorities
Develop a tool to assess the cost/benefit for city water suppliers to provide centralized water softening	Chloride	Pollution Prevention						
Determine the appropriate level of treatment needed for various uses of reused water	Water balance	Reuse	x					MDH
PLANNING AND IMPLEMENTATION								
Support the passage of limited liability legislation	Chloride	Pollution Prevention	x					
Identify 3 or more priority locations for demonstration projects showing ways to reduce chloride application	Chloride	Pollution Prevention	x					LGUs, watersheds
Engage rural communities with strategies and a training program for gravel roads and dust suppressants	Chloride	Pollution Prevention	x	x				MPCA
Provide education, outreach, and training to private property managers to reduce their application of chloride	Chloride	Pollution Prevention						
Provide education on water softening for private systems	Chloride	Pollution Prevention						
Review and propose changes to wellhead protection state statute to improve cross-jurisdictional planning	Jurisdictional coordination	Pollution Prevention						MDH, Met Council
Eliminate non-essential PFAS uses	CECs	Pollution Prevention		x				Legislature, industry
Increase funding available to address PFAS contamination	CECs	Pollution Prevention						Federal, State
Increase MDH source water protection grants to more accurately reflect the existing costs		Pollution Prevention	x					MDH
Advocate for legislative change to allow communities to charge rates which would help fund reuse and conservation investments	Water balance	Conservation & Sustainability, Reuse						
Advocate for expanded grant opportunities	Water balance	Conservation & Sustainability						Met Council
Encourage consideration of non-municipal water use (restaurants, apartments, mobile home parks, etc.) when developing comprehensive plans and making land use decisions	Water balance	Conservation & Sustainability, Integrated Water						

ACTIONS	SUBREGIONAL FOCUS AREAS	RELATED REGIONAL WPP POLICY	10-YEAR PLAN		25-YEAR PLAN			POSSIBLE INVOLVED PARTIES
			2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	
Establish a regional water conservation program to support universal conservation messages and efforts. Includes agencies developing shared goals and communicating a shared message.	Jurisdictional coordination	Conservation & Sustainability						
Support the development of regional guidance/goals and other resources to address climate change impacts of drinking water, including variability in groundwater resources and surface water	Climate change, Water balance, CECs	Conservation & Sustainability, Climate Change Resilience						
Need to focus more effort and energy on new development. Currently, we put all the responsibility on individuals to change. Lawn -> native, less irrigation. We need to create the right canvas to begin with. It needs to be systemic change. Start with 50% native yard and no in-ground irrigation.		Conservation & Sustainability						
Core need is to change ordinances and commit to rules. California and New Mexico provide examples where turf lawns were common 25 years ago and now it is only xeriscaping and ultra-efficient irrigation.		Conservation & Sustainability						