EAST METRO SUBREGIONAL WATER SUPPLY PLANNING CONSIDERATIONS

A CHAPTER OF THE METRO AREA WATER SUPPLY PLAN

SECOND DRAFT – MARCH 2024

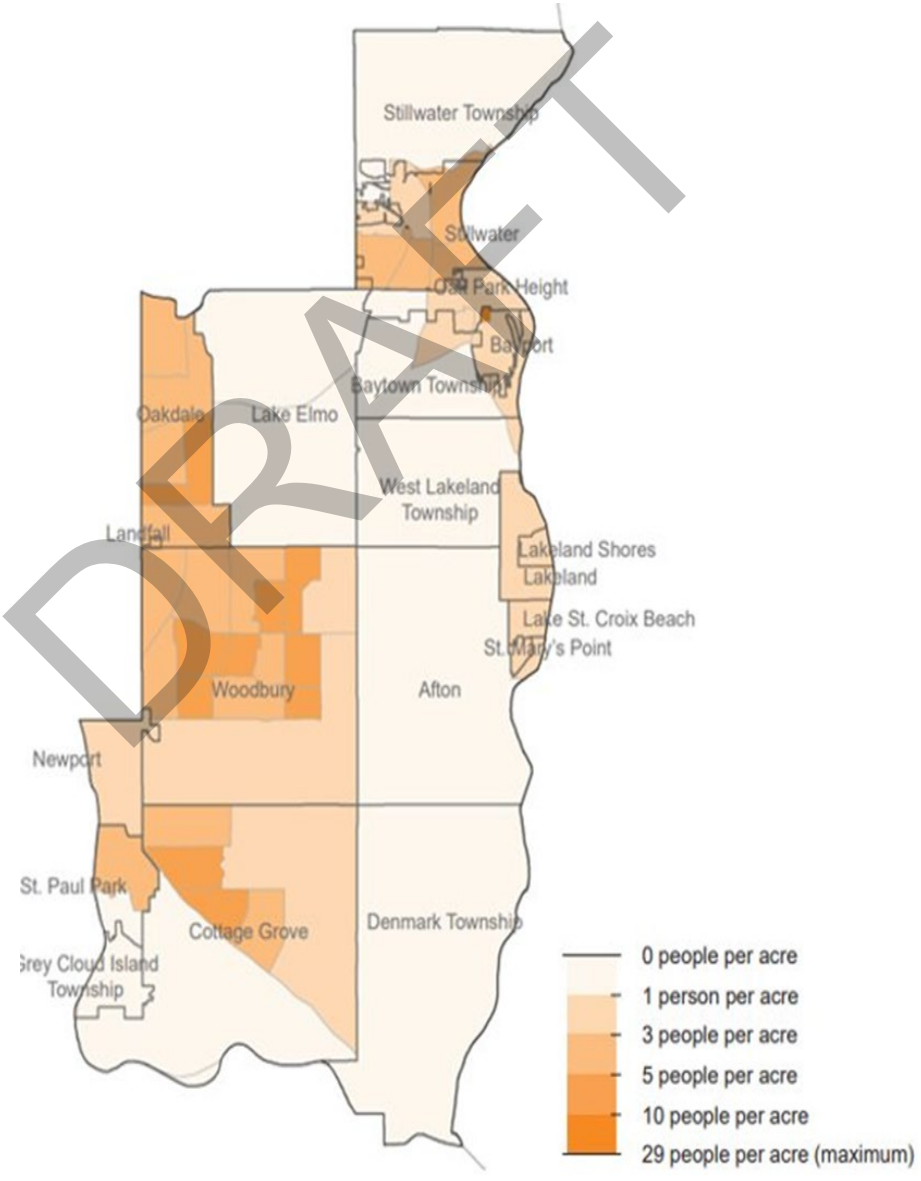

Table of Contents

Water supply planning context and current conditions

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

With the region as a whole expected to grow by more than 650,000 people between 2020 and 2050, the East Metro subregion will 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.

Quality and quantity challenges already exist and already impact water supply. Most notably, PFAS contamination and current use in some areas exceeding recharge are prominent concerns. Additionally, climate change serves as a risk multiplier, amplifying the impacts that drought and flooding can have on water supply. As growth occurs under a climate continuing 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 East 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 east metro

In defining what it would tangibly mean if the East Metro subregion were to achieve the outcome of a sufficient, reliable, and safe water supply, participants identified the following vision concepts as central to their consideration:

- Smart supply that is sufficient for existing and new users
    - Conservation
    - Balance of competing interests with water supply constraints
    - Wise use and reuse of water
    - Recharge happening with development
- Resources are protected, achieved through a mix of voluntary practices, regulation, and planning
- There is improved water quality, and no new contaminants
- All people have access to affordable, clean, safe water, regardless of personal income or community
- There is public trust of water supply, and an understanding of its value, challenges, and needs

They also noted a variety of programs or practices that are working well towards this vision that should be improved upon or supported into the future. These include:

- Smart supply
    - Municipal/LGU management of water supply and efforts to promote water conservation
    - Met Council water efficiency grants
    - Stormwater reuse
    - Building more efficient houses

    - Residential irrigation management
    - Conservation surcharges
    - Recent state legislation to increase penalties for violators
- Resource protection
    - EMWREP
    - MIDS standards for (re)development
    - Abandoned well sealing grant program
    - Source water protection grants
    - DNR preliminary approval for appropriation permits
    - DNR well interference rules
- Improved water quality
    - Deicing programs
    - Resident communications
    - State funding
    - MDH monitoring of groundwater quality
    - Technology to have good community septic systems
    - Legislation requiring point of sale septic test
    - Septic risk assessment in Washington County
    - Abandoned well sealing grant program
    - PFAS settlement work groups
- Access to clean, safe water
    - Municipalities supplying safe drinking water
    - Private well testing programs
- Public trust
    - Local control enhances trust

Issues and opportunities

Achieving the identified success will require addressing barriers as well as advancing opportunities. In considering the full water supply picture, participants offered their thoughts for what barriers would need to be addressed or opportunities could be pursued to achieve the identified success. Those comments were merged with issues, goals, and actions identified for in the Lower St. Croix Comprehensive Watershed Management Plan, the Washington County Groundwater Plan, and comments offered at the March 15, 2023, Subregional Workshop also hosted by Met Council. These were then summarized into the following focus areas, listed here 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.

Chlorides
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.
- Communication of scientific information needs to still be relatable, and contain the "why", "what", and "how" to inspire both understanding and action at household and policy-making levels.
- Increase the extent to which water supply is valued and prioritized by the public through intentional cultivation and strategic communications.
- Regarding changing behaviors and norms, consider:
    - Develop model ordinances that encourage low-mow/native landscapes
    - Need job force recruitment – lots of old guard/low paying/not many interested

Contaminants of Emerging Concern (CECs)
Address CECs known about already and begin to prepare to respond to ones not known about yet.

Data
Data are lacking to fully understand groundwater resources.

- Inventory of infrastructure
- Quality
    - Increasing free well testing, pursuing point-of-sale testing, and increasing ability to do ambient groundwater monitoring can all help to fill data gaps.
    - More labs for testing contaminants of emerging concern with low detection limits
    - There is a need to increase understanding of groundwater and surface water interaction.
    - There is a need for better understanding of how to do stormwater and sewage treatment in areas with karst.
- Quantity: A subregion-wide database, informed by groundwater level and use monitoring and modeling, should be 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
Cost of testing and treatment of contaminated water is a challenge across scales. More funding is needed, particularly at the local level, for treatment at the municipal and household levels that comes from more than just rate increases. 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.

- Consider affordability along with funding. Everyone should have access to affordable, clean, safe drinking water.
- Also consider asset management, particularly regarding:
  - Well closure – compatible information technology, well # versus x/y coordination
  - Some older communities have aging infrastructure. A detailed GIS inventory assists in future repair/replacement costs

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

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 (DWSMAs):
  - coordinated management of DWSMAs with overlapping jurisdictions (cities, watersheds, etc.)
  - coordinated management of non-municipal DWSMAs within a jurisdiction
  - incorporating all DWSMAs (municipal and non-municipal) in land use and development planning.
- Enhanced linkages between watershed and groundwater management
- 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 DNR limitations on water supply appropriations versus standard ordinances, etc.

Also consider collaboration with plumbing code folks and other partners.

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, the requiring the sealing 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 not being listened to.
- 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.

Septic Systems
Reduce contamination from septic 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

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

In a survey following the first workshop, participants were asked to share which of the focus areas they believed should have the most focused attention from the East Metro subregion and Met Council in the next ten years, as well as why. The survey outcomes were shared for discussion at the second workshop, and based on that discussion, participants agreed to the following as the priority focus areas for the East Metro (again, recorded here in alphabetical order so as to not reflect further prioritization among them). Statements for what success looks like in 10 years, as identified by participants, are also included for each.

Agricultural Contaminants

- Delisting of surface water features
- There is no groundwater contamination from agricultural practices
- Sustainable ag practices that don't 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 CECs, fate in water supply and potential new/emerging CECs
- State/local and regional leaders will have a plan for identifying CECs and potential CECs, educate public about impacts and plans to address

Jurisdictional Coordination (inclusive of source water protection)

- Met Council fills a hole in the system, after evaluating who does what
- Connect Met Council growth/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 is addressed

Private Wells and Septic Systems

- Owners know how to maintain systems and protect their health, supported by education of realtors about private wells and septics
- Consistent standards for private wells – when required to test and standards
- Private wells and septic systems are incorporated into the other focus areas

- Access to affordable/free testing for contaminants of interest to the owner, through a centralized public well/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 (7 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 (night irrigation)
    - Actually doing it, more coordinated and more holistic efforts
    - Understanding existing reuse % and increasing it
- Reduce volume of water needed. Need a numerical goal.
- Perception change: 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 requested to be incorporated as action plans to address priority focus areas were developed:

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

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 1. The framework for action to achieve MAWSAC goals includes four general steps. East metro focus areas generally fall across the framework steps.

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 items in bold text were highlighted by participants at a 2/29/2024 workshop.

ACTIONS	RELATED FOCUS AREAS	10-YEAR PLAN		25-YEAR PLAN			POSSIBLE ROLES			
		2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	LEAD(S)	MET COUNCIL	SUBREGION	LOCAL
COLLABORATION AND CAPACITY BUILDING										
Increase partnerships between public health, county ag, and trade organizations	Agricultural Contaminants	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, septic systems, and water balance issues. Partner with LGUs, watershed organizations, healthcare professionals, and others for regular communications in ways that effectively reach people.	**CECs, Private wells, SSTS, Water balance**	**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									
Increase ability for consumers to know what is in the products they are buying	CECs									
Reproduce tools such as No Salt/Low Salt regionwide	Chloride									
Lead on addressing water softening from a wastewater treatment perspective	Chloride						Met Council			
Incorporate DWSMAs into land use planning through overlays and other tools for the next comprehensive plan update cycle	Jurisdictional coordination	x	x				Met Council			
Improve both horizontal and vertical communication and coordination between and within agencies	Jurisdictional coordination	x								
Increase coordination within Met Council--transportation, planning, water, parks, etc.	Jurisdictional coordination	x								
Support watershed-led education within and across cities	Jurisdictional coordination	x	x							
Increase coordination between wellhead and watershed management needs and efforts	Jurisdictional coordination									
Develop sound policy options that take into account financial, social, and environmental needs.	Water balance									
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									
SYSTEM ASSESSMENT										
Require more thorough and ongoing testing of ag chemicals to reduce application of agricultural chemicals and contaminants of emerging concern.	Agricultural contaminants, CECs	x	x				MDA, MPCA, DNR, MDH			
Increase available funding for staff engaged in research for CECs	CECs	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	CECs									

ACTIONS	RELATED FOCUS AREAS	10-YEAR PLAN		25-YEAR PLAN			POSSIBLE ROLES			
		2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	LEAD(S)	MET COUNCIL	SUBREGION	LOCAL
Use this info to inform policy and legislative decision-makers (in a timely/efficient manner).										
Conduct a trend analysis for detecting vulnerable water bodies and take action prior to impairment.	Chloride									
Compile a database from all sources of info on wells	Private wells/SSTS									
Establish permanent funding for private well and septic system repair and replacement	Private wells/SSTS									
Develop a regional or statewide standard for flood storage beyond Atlas-14	Water balance	x	x							
Adaptively manage for regional water levels based on data collection and evaluation	Water balance	x	x							
Reevaluate and update fee structure	Water balance						Cities, water suppliers			
MITIGATION MEASURE EVALUATION										
Evaluate and share cost/benefit ratios of different actions to reduce application of agricultural chemicals	Agricultural contaminants	x	x				MDA, farmer trade organizations			
Research alternatives to chloride use	Chloride	x	x				Research community, road authorities			
Develop a tool to assess the cost/benefit for city water suppliers to provide centralized water softening	Chloride									
Determine the appropriate level of treatment needed for various uses of reused water	Water balance	x					MDH			
PLANNING AND IMPLEMENTATION										
Support the passage of limited liability legislation	Chloride	x								
Identify 3 or more priority locations for demonstration projects showing ways to reduce chloride application	Chloride	x					LGUs, watersheds			
Engage rural communities with strategies and a training program for gravel roads and dust suppressants	Chloride	x	x				MPCA			
Provide education, outreach, and training to private property managers to reduce their application of chloride	Chloride									
Provide education on water softening for private systems	Chloride									
Review and propose changes to wellhead protection state statute to improve cross-jurisdictional planning	Jurisdictional coordination						MDH, Met Council			
Eliminate non-essential PFAS uses	Water balance		x				Legislature, industry			
Increase funding available to address PFAS contamination	Water balance						Federal, State			
Increase MDH source water protection grants to more accurately reflect the existing costs	Water balance	x					MDH			
Advocate for legislative change to allow communities to charge rates which would help fund reuse and conservation investments	Water balance									
Advocate for expanded grant opportunities	Water balance						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									
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									
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									

ACTIONS	RELATED FOCUS AREAS	10-YEAR PLAN		25-YEAR PLAN			POSSIBLE ROLES			
		2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	LEAD(S)	MET COUNCIL	SUBREGION	LOCAL
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.										
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.										

Appendix A: Subregional engagement process

Scoping and gaging local support

MAWSAC, in the 2022 report to the Council and MN Legislature, recommended updating the 2050 regional development guide and related policy and system plans (which connect to the master water supply plan) to support MAWSAC goals, customized for subregional and local conditions. The committee also recommended taking a new subregional approach that leverages subregional water supply working groups to inform regional and local policy and plan updates.

On July 19th and September 8th, 2022, the Metro Area Water Supply Advisory (MAWSAC) and their Technical Advisory Committee (TAC) discussed an approach to subregional engagement and potential content for subregional chapters in the updated Metro Area Water Supply Plan. Meeting materials document those discussions and are available on the Council's website:

- July 19, 2022 MAWSAC meeting (agenda, presentation, handout, minutes)
- September 8, 2022 TAC meeting (agenda, presentation, handout, minutes)

On March 15, 2023, Metropolitan Council hosted a workshop for all the metro region's subregional work group participants. Three people from the east metro attended. The proposed approach for subregional engagement was presented, and workshop participants expressed support for it and shared some water supply priorities in their areas. A summary about the workshop was shared with MAWSAC at their May 9, 2023 meeting and is available on the Council's website (presentation, summary).

Core team of local stakeholders to customize engagement for the East subregion

On July 19, 2023, a kick-off meeting was held with core team members to scope an engagement approach in the east metro.

Core team members included:

- Jessica Collin-Pilarski, Washington County
- Mike Isensee, Carnelian-Marine-St. Croix Watershed District
- Matt Kline, City of Bayport

Outcomes that the core team sought from the engagement process:

- A shared vision for water supply in the subregion for 2050
- A shared understanding of the water supplies available in the east metro
- A list of all issues, with top issues identified (and inclusive of key opportunities)
- Action plans to address priority items
- An understanding of what the Metro Area Water Supply Plan is and how it benefits them

Subregional engagement: Workshops

On October 30, 2023, the first workshop for the east metro was held to introduce the project and the approach to updating the Metro Area Water Supply Plan, share subregional water supply information in the newly developed Water Supply Planning Atlas, and get input about what successful water supply planning should look like, what is already working well, what challenges exist, and what high-level goals do people have for the next ten years.

Attendees:

- Matt Yokiel, City of Newport
- Rebecca Higgins, MPCA
- Karen Kill, Brown's Creek Watershed District
- Sharon Kroenig, MPCA
- Patrick Sarafolean, MDH
- Christine Buelow, West Lakeland Township
- Abby Shea, MDH
- Gina McCormack, City of Woodbury
- Kistin Seaman, City of Woodbury
- Joe Richter, DNR
- Thomas Hayden, City of Woodbury
- Gary Bruns, Washington PHE
- Matt Downing, Middle St. Croix WMO
- Ryan Burfeind, Cottage Grove
- Jessica Collin-Pilarski, Washington County
- Anneka Munsell, MDH
- John Hanson, VBWD
- Dave Schulenberg, MWWA/IVGWA
- Matt Kline, City of Bayport
- Heidi Quinn, City of Woodbury
- Eric Alms, MPCA

Draft focus areas that emerged from the first workshop were shared with participants in a survey to identify priorities to focus on at the second workshop.

On December 11, 2023, a second workshop for the east metro was held to focus on drafting action plans for priority focus areas identified at Workshop 1 and through the interviews. In small groups, participants filled out action plan worksheets for the focus areas identified at the first workshop. Groups rotated through three topics each, revising and adding to the ideas of the group who discussed the topic before them.

Workshop photos

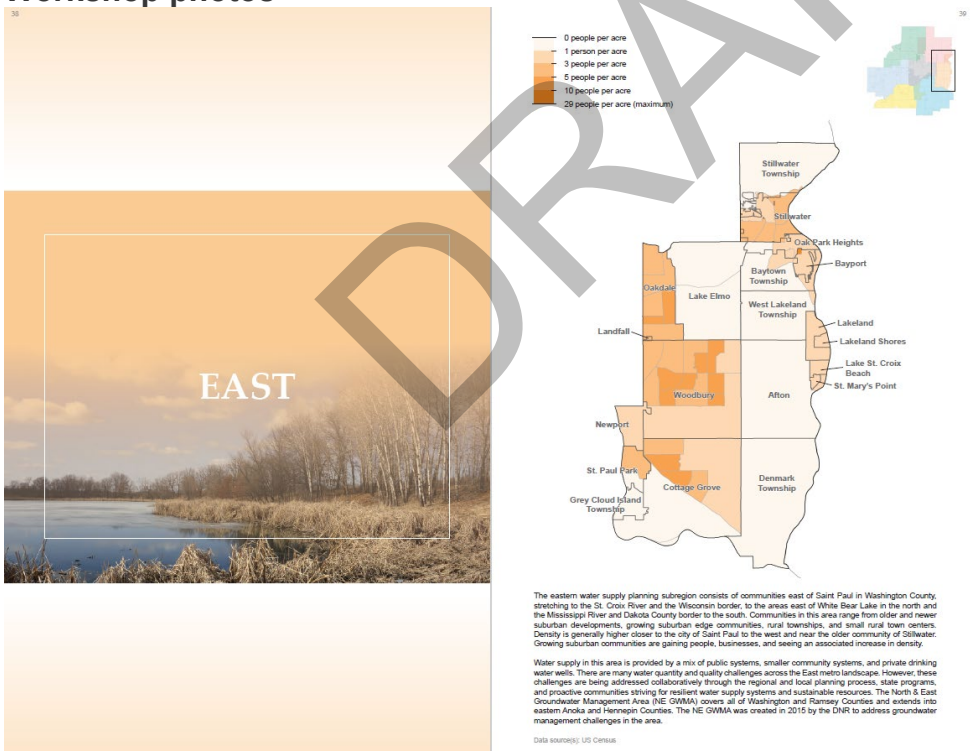

Figure 1. The East chapter of the recently-released Water Supply Planning Atlas for the Twin Cities Metropolitan Area provided subregional water supply information and context to support group discussion.

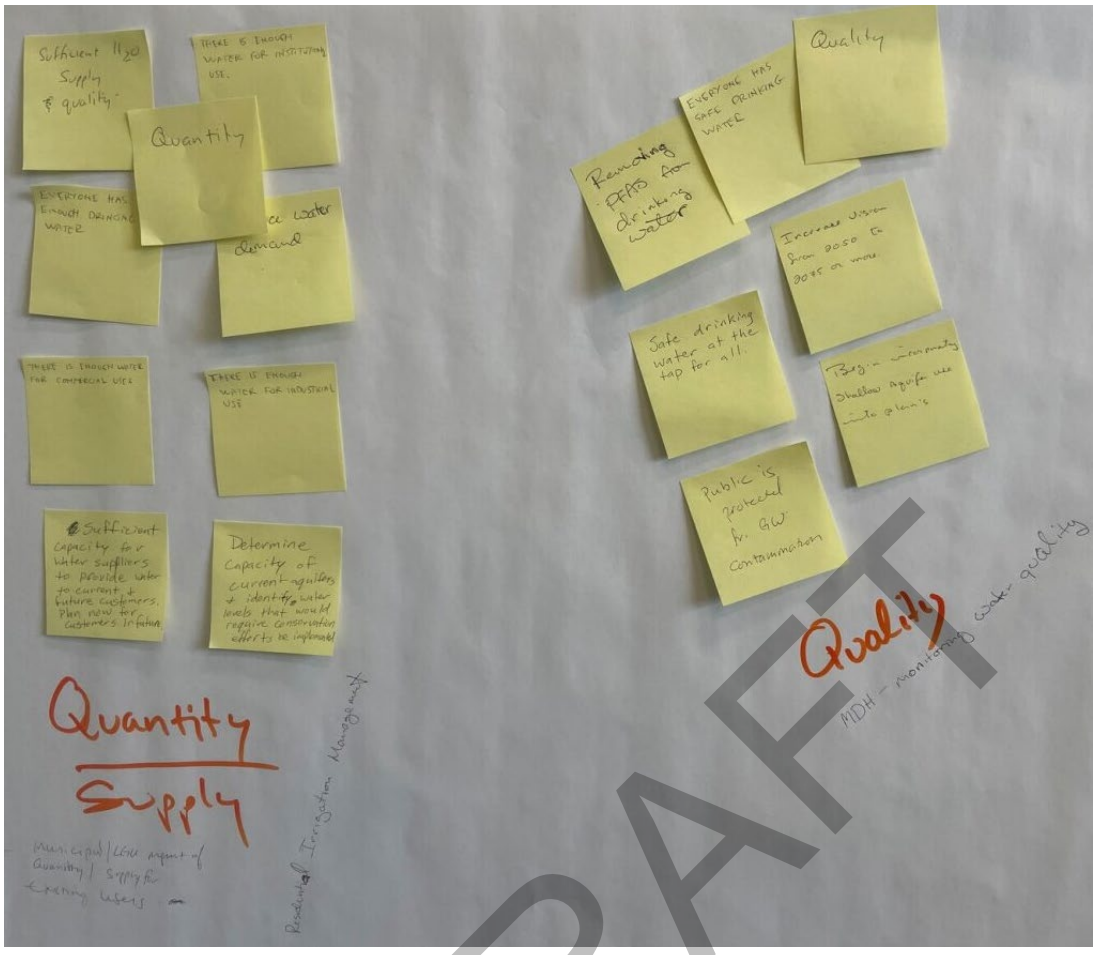

Figure 2. At Workshop 1, the east metro water supply group discussed what a successful water supply planning effort would look like. Quantity/supply and quality are examples of topics discussed.

Figure 3. Workshop 2 for the east metro water supply group was hosted by the City of Woodbury and held at the Woodbury Public Safety Education Center.

Glossary and Initialisms

BWSR: Minnesota Board of Water and Soil Resources

CECs: Contaminants of emerging concern

Data standards: Data standards are documented agreements on representation, format, definition, structuring, tagging, transmission, manipulation, use, and management of data.

DNR: Minnesota Department of Natural Resources

DWSMA: Drinking water supply management area, designated by municipal water suppliers and the Minnesota Department of Health.

EMWREP: East Metro Water Resource Education Program, a partnership of 30 local units of government hosted by the Washington Conservation District.

HOA: Home Owners Association

MC: Metropolitan Council

MDH: Minnesota Department of Health

MIDS: Minimum Impact Design Standards

MPCA: Minnesota Pollution Control Agency

PFAS: Per- and Polyfluorinated Substances

SWCD: Soil and Water Conservation District

WD: Watershed District

WMO: Watershed Management Organization

VOC: Volatile organic compounds are compounds that have a high vapor pressure and a low water solubility.

What other terms should be included to ensure we all mean the same thing?

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