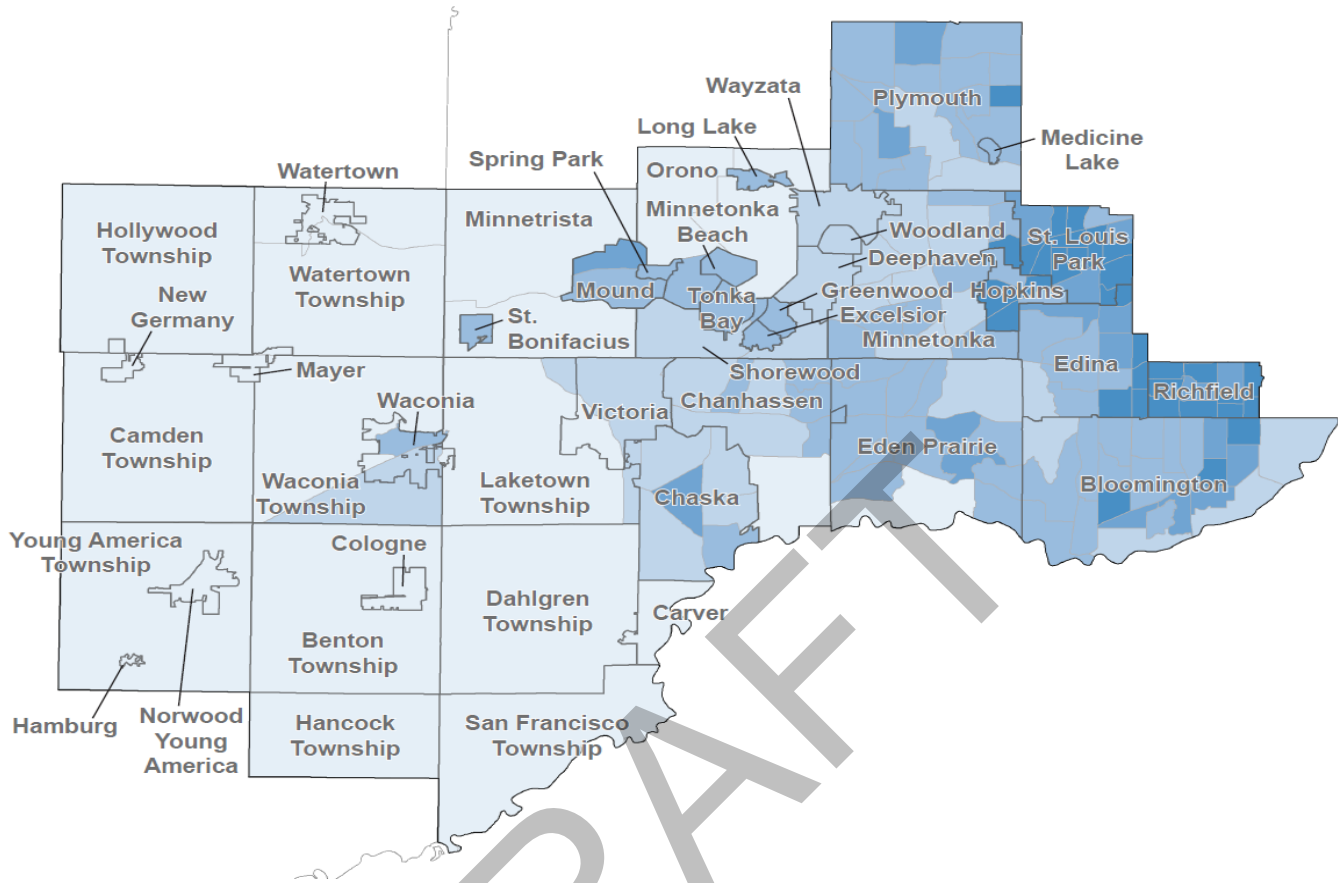


West Metro subregion chapter and action plan



Water supply context and current conditions

Everything that happens on land impacts water, and water is all connected. Communities in the West Metro subregion rely on sufficient, reliable, and safe water supply for health and prosperity – now and for future generations; it is a fundamental human right.

The West Metro subregion spans a large area of the metro, stretching from the near western suburbs bordering Minneapolis and the communities around Lake Minnetonka to the more rural areas of western Hennepin and Carver counties. Water resource and supply system challenges exist in all communities and are as diverse as the areas the West subregion spans.

The majority of communities in western Hennepin and southern Carver counties do not have public water supply systems. In those communities, residents and businesses operate private wells to get their drinking water. In rural centers and denser, more suburban areas of the subregion, communities operate public water supply systems that utilize groundwater aquifers. Most communities with public water supply systems have access to the Prairie du Chien and Jordan aquifers, but those sources dwindle as you move west through the subregion. Minneapolis provides surface water to some bordering suburban communities to serve specific neighborhoods or supplement local groundwater supplies.

This subregion is also home to a number of natural features that serve important social, cultural, and economic functions, including the Minnesota and Crow Rivers, Lake Minnetonka, Minnehaha Creek, and other streams and wetlands. Many of these features are connected to groundwater aquifers and supported by upwelling groundwater. A secure water supply is also necessary for the function of these local ecosystems.

Additionally, 38 of the 44 communities in the West Metro subregion overlap with or are adjacent to land that has been identified as a Drinking Water Supply Management Area. In some cases, the overlapping nature of these management areas has presented both a challenge and opportunity for collaboration across community boundaries.

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. The water supply industry is likely to continue to encounter new impairments and other outside risks to a sustainable water supply, including those posed by climate change.

With the region as a whole expected to grow by more than 600,000 people by 2050, the West Metro subregion will continue to see growth. Preliminary estimates suggest that approximately 150,000 more people, 72,000 more households, and 122,000 new jobs will be added to the area. As the West 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 growth in the West Metro subregion occurs under a climate continuing to change, alongside continual emergence of new impairments and risks, 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 [West Metro chapter of the Water Supply Planning Atlas](#) contains more details.

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

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

- The quality and quantity of source waters is protected
- Water is conserved and used efficiently
- Water supplies support public health and safety for everyone
- Responsible growth is supported by reliable and adequate local supplies

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

- Public trust and buy-in from Minnesota's water agencies in planning, implementation and enforcement
- Shared, aligned policies and goals across communities and between local, regional, and state organizations
- Consistency across systems, including public communications
- Understanding that every city is different in its needs and how implementation happens

Issues and opportunities

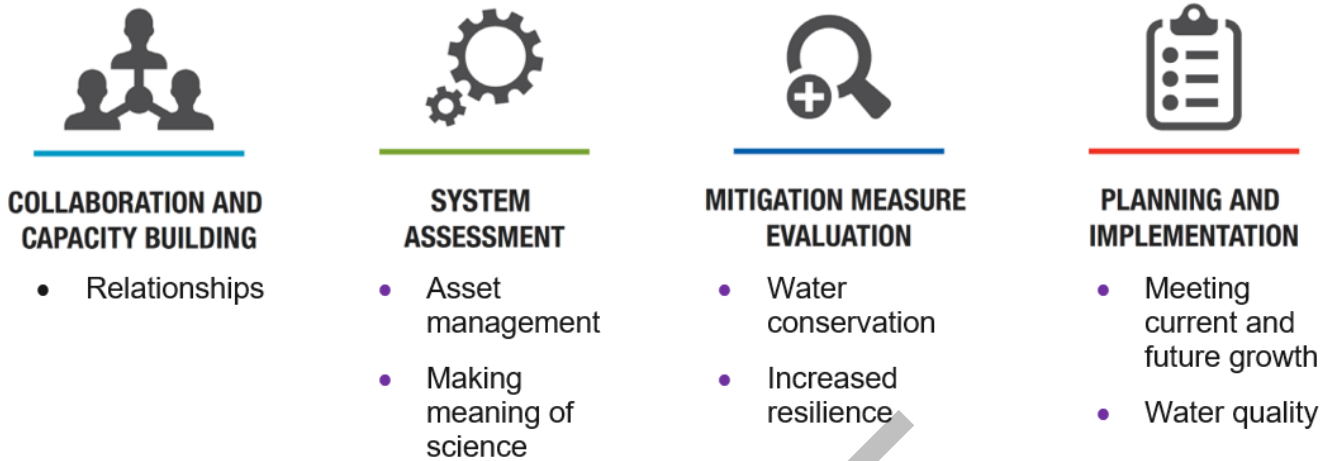
In the West Metro subregion, several issues and related opportunities exist related to water supply planning. For example:

- To address the challenge of cost and affordability, there may be opportunities to expand funding sources, explore how development can help pay for the water supply to support it, and to leverage new technologies.
- To address the challenge of PFAS, there are opportunities to use carbon filters or to explore a class action suit.
- To address the challenge of public buy-in, there are opportunities for daily contact with communities and for strong emergency response.
- To address the challenge of making meaning of science at a system scale, there are opportunities to provide technical assistance, plan across community boundaries, leverage industry standards, and lower barriers to test water.
- To address the challenge of stewardship of expensive infrastructure, there are opportunities for asset management, ISO 55000, IAM, and securing reliable funding.
- Opportunity to investigate new funding sources, approaches to water rates.

Prioritized focus areas and action plan

The following pages reflect an action plan drafted by participants in a subregional water supply planning workshop series. 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. The list has been roughly organized according to the Metro Area Water Supply Advisory Committee's 2022 proposed framework to achieve progress on regional goals (figure 15).

Figure 15. The framework for action to achieve MAWSAC goals includes four general steps. West Metro subregion focus areas generally fall across the framework steps.



Relationships among water supply managers and planners

Without a unified comprehensive plan and water supply plan that realistically includes the often unforeseen or incompletely described water supply needs, communities will ultimately face challenges or conflicts in priorities between public works and community development goals.

If work in this area is successful, in 10 years:

- Water supply stakeholders share a collaborative and mutual goal towards sustainability and water quality. There are clearly defined roles for agencies (DNR, MPCA, MDH, Met Council).
- There is a better tie between water supply and growth/land use chapters of comprehensive plans.
- There is a central program/software/website for suppliers to enter information and allow agencies to pull the information that they need (instead of suppliers submitting the same information to 2-5 agencies)

Asset management and stewardship by public water systems

The life cycle of water infrastructure is multi-generational, and successful management depends on workforce culture and business practices that are long-term focused. Asset management is a high priority for public water suppliers in the West Metro subregion, because asset management and how growth plays out limit new infrastructure.

If work in this area is successful, in 10 years:

- A state-side asset management program or policy helps identify critical water supply infrastructure that has high risk needs.
- Local water suppliers have less need for peak capacity infrastructure, because people conserve more (demand planning and demand control).
- We know what we have, what condition it is in, and what needs to be done next to keep the system running long into the future.
- Policies and procedures are in place serving as a formal asset management plan.

Making meaning of science

A shared understanding of water supply conditions, based on data collected at all levels, supports policies and regional planning that results in the protection of the resource and the public.

If work in this area is successful, in 10 years:

- There is a metro-wide dashboard/database managed by Environmental Services to directly inform regulatory reports (i.e. WINS survey, DNR appropriation permits, MDH, Homeland Security, MPCA, FEMA emergency response plan, etc.).
- People with a wide variety of perspectives and expertise work together to collect and share data (different geographies; state, regional and local levels; practitioners and public).
- Objective, reliable, and understandable data is collected (quantity, sustainability, resilience, meets local needs, public safety, stewardship).
- Information collected is usable.
- This data guides and informs policy for resource management, development and land use .
- There is communication and sharing of the data (accessibility, uniform database)

Water conservation

Water is a finite resource, and efficient use can help minimize the need for new investment in water supply infrastructure and protect natural resources which can be impacted by water levels.

If this strategy is successful, in 10 years:

- There will be regional watering restrictions.
- Per capita water use will be reduced.
- Existing permit pumping limits will be consistently enforced.
- Use of grey water will increase.

Increased resiliency to the effects of extreme weather, drought, flooding

The combination of extreme weather conditions and water demand (primarily from groundwater sources) requires coordination of ordinances, education, and enforcement to ensure adequate water supply during these times.

If work in this area is successful, in 10 years:

- Groundwater withdrawals for non-potable use are minimized.
- In 10 years, there are less identified contaminants in the water supply.
- There is more reuse.
- There are fewer instances of water use restrictions than today.
- There may be increased surface water use/storage.
- There is less irrigation across the board.

Meeting demand for current needs and future growth

Strong partnerships are needed to create and support a consistent and streamlined approach to meeting growth demand objectives, recognizing any limits on water availability and based on a foundation of local water quality health.

If work in this area is successful, in 10 years:

- The planning process will be improved by starting with a focus on local water health, then getting input from regulators, then working on planning/land use, then development. A consistent and streamlined approach to meeting growth demand objectives, based on a foundation of healthy water supply, will be created.
- Cities will not have to be the heavy hand, because residents will make better choices.

- There will be a better educated population.

Water quality

Protecting water from contamination from existing and emerging contaminants protects public health and keeps costs low. Note: This includes agricultural contamination in surface waters, groundwater, and private wells – water used for drinking, recreation, and other purposes.

If work in this area is successful, in 10 years:

- MDH, MPCA, DNR, and MDH are making progress to correct issues with contaminated groundwater and surface water.
- The scale of water quality treatment for groundwater and surface water is expanded to include small treatment plants and private well users (particularly to address contaminants of emerging concern).
- Contaminants don't continue to get worse.
- Water suppliers are able to meet federal and state guidelines and regulations.
- The public trusts that water suppliers are distributing good quality water.
- Nitrate applications are limited to reduce nitrate pollution.

The following resources are included in action plans for the priority focus areas above:

FINANCIAL SUPPORT FOR WATER SUPPLY SYSTEMS

Funding should be a focus because proper funding for the management of a public water supply system is critical. A priority for funding should be how to fund changing regulations and emerging contaminants.

COMMUNICATION AND EDUCATION

Clean water is a finite resource, and everyone plays a role in protecting it. When people understand their water sources, how they impact it, and how their utilities work to keep it safe, they are more likely to trust their water suppliers. Utilities that consistently earn and maintain the public trust over time will more effectively respond to future needs such as unregulated contaminants, because the public will feel the utility is making good decisions in the public's interest.

Actions to support success

Specific actions steps have been identified for each of the focus areas. While they primarily focus on work needed over the next 10 years, some actions are expected to be ongoing over the next 25 years or more.

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	RELATED WPP POLICY	10 -	YEAR	25 - YEAR			POSSIBLE INVOLVED PARTIES	
			2025-2030	PLAN	2035-2040	2040-2045	PLAN		
COLLABORATION AND CAPACITY BUILDING									
1	Convene regular workshops/meeting with stakeholders to define mutual goals, info sharing, community building, and networking. Goals should include state-wide sustainability goals. Continue to hold meetings to discuss and check in on progress and info share. Have a dedicated facilitator to document meeting information, plan and coordinate meetings and establish meeting topics, etc.	Asset management & stewardship, Relationships Among Water Managers, Planners, Water Quality	Integrated Water, Conservation & Sustainability	x	x	x	x	x	Local, state, watersheds
2	Support workforce retention through succession planning and knowledge transfer	Asset management & stewardship	Water Sector Workforce, Conservation & Sustainability	x	x	x	x	x	
3	Build partnerships between local water supply utilities, regulatory agencies, and future growth entities (planning/land use, developers, etc.) so that land use planning and development is informed and based on water supply planning.	Meeting Demand for Current and Future, Relationships	Water-Centered Growth and Development, Integrated Water						Public utilities, agencies,
4	Coordinate funds and subregion to work with professional organizations and lobbyists to work with the legislature.	Conservation	Conservation & Sustainability	x					Met Council
5	Convene a focus group with representative from every regulatory agency and LGUs to define data overlaps, gaps, and refinement. Provide resources to provide uniform data gathering and reporting including urban vs rural data collection, regional contact, and funding and support equipment, and increase lab testing capacity. Consider a west metro groundwater model (process, ___ Twin) of our shared aquifer and process to keep up to date. This could be a “stress test” model for drought conditions.	Make Meaning of Science, Water Quality	Monitoring/ Data/ Assessment, Integrated Water	x	x	x	x	x	Met Council and LGUs
6	Work with the state so that before new water quality rules are made, tools/plans are made available including financial/plans/info. Labs need to be able to test new required levels.	Water Quality	Pollution Prevention						Local

		RELATED	RELATED	10 -	YEAR	25 - YEAR			PLAN
					PLAN				
7	Build up state-level capacity to enforce regulations	Water Quality	Pollution Prevention						MDA, MPCA, DNR
SYSTEM ASSESSMENT									
8	CHANGE THE TONE (More Collaboration/Loss Mandates): Create and improve asset management systems to include the maintenance database and inventory, GIS model of systems, an accurate water model, or forecasting future needs and costs, to inform current condition of infrastructure, maintain infrastructure, and funding decisions. <ul style="list-style-type: none"> Benchmark operations and maintenance (O&M) plans and activities, level of investment, and staffing levels 	Asset management & stewardship	Conservation & Sustainability	x					Local, West Metro Working Group, Met Council
9	Create data collection standards across state agencies that are easy to implement for local water suppliers.	Make Meaning of Science	Monitoring/ Data/ Assessment	x					Met Council and MDH
10	Create a database clearinghouse that houses relevant data collected by state agencies, and provides management and analysis for all of metro. Agencies would be able to pull annual data from this clearinghouse versus cities submitting the same information to multiple agencies	Make Meaning of Science	Monitoring/ Data/ Assessment	x					LGUs and Met Council
11	Create a database of current conservation ordinances that are being implemented in the metro.	Conservation	Conservation & Sustainability, Monitoring/ Data/ Assessment	x					Met Council
12	Improve large-scale groundwater modeling to help systems understand supply. Like 5 above: Consider a west metro groundwater model (process, ___ Twin) of our shared aquifer and process to keep up to date. This could be a "stress test" model for drought conditions.	Water Quality, Make Meaning of Science, Conservation, Data, Meeting Current and Future Need	Conservation & Sustainability, Monitoring/ Data/ Assessment		x				DNR and cities
MITIGATION MEASURE EVALUATION									
13	Where feasible, implement a water reuse system as a demo project in a city(ies) in the subregion and provide information and education as a case study.	Meeting demand for current and future, Increased Resiliency, Conservation	Reuse						Local

		RELATED	RELATED	10 -	YEAR PLAN	25 - YEAR PLAN			
14	Implement regional education programs to teach the community on the importance of reducing water use and water conservation including watering restrictions.	Meeting demand for current and future, Conservation	Conservation & Sustainability	x	x	x	x	x	Met Council, DNR, MDH
15	Promote natural/alternative drought resistant lawns through education and outreach in partnership with the University of Minnesota. Include information on how much water lawns need.	Increased Resiliency to Effects of Weather, Conservation	Conservation & Sustainability, Climate Change Resilience	x	x	x	x	x	Watersheds, Met Council, Cities
16	Review, define, and map the current drought declaration process, authority of regional restrictions, and barriers/concerns on legal process. Depending on findings, work to change laws to better implement the restrictions.	Conservation	Conservation & Sustainability, Climate Change Resilience	x	x	x	x	x	Governor, DNR, MCES?
17	Support research on water conservation and restrictions methods to learn which methods better conserve water.	Conservation	Conservation & Sustainability	x					DNR
18	Work to make implementing stormwater reuse for irrigating a viable option. Continue to promote rain barrels to the public for irrigation purposes.	Increased Resiliency to Effects of Weather, Conservation	Reuse	x					Watershed districts
19	Provide regional/subregional educational programming on water quality at all levels	Water Quality	Pollution Prevention						
PLANNING AND IMPLEMENTATION									
20	Develop an asset management program and policy for strategic asset management planning to inform budget and set rates. To inform development of the program and policies, lean on leaders in the field (America Public Works Association) around standards and life cycle evaluations.	Asset management & stewardship	Conservation & Sustainability	x	x	x	x	x	AWWA
21	Create a maintenance and inspection plan that utilizes the maintenance database and inventory.	Asset management & stewardship	Conservation & Sustainability	x	x	x	x	x	Local
22	Work to leverage and make funds available to make necessary upgrades and improvements to systems, including lead replacement.	Asset management & stewardship, Water Quality	Conservation & Sustainability, Pollution Prevention	x	x	x	x	x	Local

		RELATED	RELATED	10 -	YEAR	25 - YEAR			PLAN
					PLAN				
23	Implement high water use industry zones near wastewater treatment plants to create water reuse loops at the industrial scales during the 2050 comprehensive plan process.	Meeting demand for current and future, Increased Resiliency, Conservation	Reuse, Water-centered Growth & Development						
24	Create and implement model ordinances to permit stormwater reuse for irrigation	Increased Resiliency to Effects of Weather	Reuse	x					Local water suppliers
25	Implement ordinances for common sense outdoor water use (ex. No water between 10 am – 6 pm).	Increased Resiliency to Effects of Weather, Conservation	Conservation & Sustainability, Reuse	x					Local water suppliers
26	Construction/storage of surface water withdrawal systems to protect groundwater use	Increased Resiliency to Effects of Weather, Conservation, Meeting future needs	Conservation & Sustainability			x	x	x	State agencies, local water suppliers
27	Promote and implement actions to further protect water supply from runoff, including working with watershed districts, developers, and state agencies.	Increased Resiliency to Effects of Weather, Meeting Demands, Relationships	Pollution Prevention						Local water suppliers
28	Create a water conservation plan for the region with simple and effective actions.	Conservation	Conservation & Sustainability	x					DNR and cities
29	Work with the state to revise the State Drought Plan.	Conservation	Conservation & Sustainability, Climate Change Resilience		x				DNR
30	Develop and/or recommend consistent tiers between suppliers (example: tier 1 from 0-10,000; tier 2 from 10 000-40,000; tier 3 over 40,000)	Conservation	Conservation & Sustainability						