Information Item

Metropolitan Area Water Supply Policy and Technical Advisory Committees (MAWSAC and TAC)

Joint Meeting Date: December 20, 2022

Topic

Content for chapter one of the updated metro area water supply plan - regional water supply vision, goals and objectives to support planning

District(s), Member(s):	All
Policy/Legal Reference:	Minnesota Statute 473.1565
Staff Prepared/Presented:	Lanya Ross, Environmental Analyst, Water Supply Planning, 651-602-1803
Division/Department:	Environmental Services

Background

MAWSAC is responsible for guiding and approving a metropolitan area master water supply plan, with input from the Technical Advisory Committee (TAC). The plan provides guidance for local water supply systems and future regional investments; emphasizes conservation, interjurisdictional cooperation, and long-term sustainability; and addresses reliability, security, and cost-effectiveness of the metropolitan area water supply system and its local and subregional components.

The Twin Cities metropolitan area water supply plan provides a framework for sustainable long-term water supply planning at the regional and local level in a way that:

- Recognizes local control and responsibility for water supply systems
- Is developed in cooperation and consultation with local regional, and state partners
- Protects critical habitat and water resources over the long term
- Meets regional needs for a reliable, secure water supply
- Highlights the benefits of integrated planning for stormwater, wastewater, and water supply
- Emphasizes and supports conservation and inter-jurisdictional cooperation
- Provides guidance by identifying key challenges and available approaches

The plan provides guidance to help communities take the most proactive, cost-effective approach to long-term planning and permitting to ensure plentiful, safe, and affordable water that supports the prosperity and livability of the region for future generations.

The updated metro area water supply plan will reflect 2022 MAWSAC recommendations

The Twin Cities master water supply plan was first developed in 2010 and updated in 2015 in connection with the regional development guide and water resources policy plan. It is being updated again as part of the decadal update of the regional development guide.

MAWSAC, in its 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 updated metro water supply plan is expected to include three key components

This business item focuses on the first chapter: Vision & Goals.

Chapter 1 **Vision & Goals**	• Rational and approach to regional planning • Regional vision and goals with 2050 water supplies in mind
Chapter 2 **Context**	• Regional summary of information that provides context for water supply planning, describes the current state of sustainable water supply practices, and supports the development of measurable and trackable regional targets
Chapters 3-10 **Subregional Info**	• Subregional information related to water, land use, and other factors • Key water supply issues, risks and opportunities identified by stakeholders • Implementation needs (high-level)

The rest of this document includes a proposed table of contents for the full metro area water supply plan update and the proposed content for chapter one.

Request to committee members: Support and endorse content for chapter one of the updated metro area water supply plan

TAC will be asked to recommend that MAWSAC endorse content for chapter one of the metro area water supply plan.

MAWSAC will be asked to endorse content for chapter one of the metro area water supply plan.

MAWSAC and TAC members and Council staff will promote the content in the endorsed chapter one to regional policy makers and regional planners in 2023 and 2024, to ensure the rest of the metro area water supply plan content, as well as all other regional policies and plans, are consistent with water supply vision and goals.

MAWSAC and TAC members will work on content for the remaining chapters of the metro area water supply plan in 2022 and 2023, with the goal of approving a complete plan (including chapter one) in 2024.

UPDATED METRO AREA WATER SUPPLY PLAN
PROPOSED TABLE OF CONTENTS FOR COMPLETE PLAN

Chapter 1: Vision and Goals

- Rationale for and approach to regional water supply planning
- Key components of the region's water supply system
- High-level roles of the Council and its partners
- Shared principles
- Vision for the region's water supply
- Regional goals and objectives for water supply

Chapter 2: Regional Water Supply Planning Context (Draft)

The Water Supply Atlas may be referenced to provide more detailed information about the region's water supply conditions. Chapter two will be a regional summary of information that provides context for water supply planning, describes the current state of sustainable water supply practices, and supports the development of measurable and trackable regional targets. It may include:

- Climate information
- Landscape characteristics
- Water supply sources, stressing importance of both surface water and groundwater
- High-level description of private and public water supply infrastructure across the region, including interconnections and transfers, discussion of costs
- Water use/demand for drinking water, commerce and industry, transportation, ecosystems including water efficiency opportunities
- High-level regional hazards, including water quality trends, land use changes, and others
- Water reclamation and reuse
- Future scenarios

Chapters 3-10: Subregional Water Supply Planning (Draft)

Local water supply plans and their associated planning process may be a productive area for subregional collaborative planning. Content in each subregional chapter will be developed with subregional water supply work groups and will vary depending on each subregion's needs and interests. Potential content includes:

- Connection to regional planning
- Subregional water supply setting
- Subregional water supply issues (hazards and risks) that are a shared priority, described in a way that supports required content in Part IV of the local water supply plan template
- Subregional mitigation approaches of shared interest, drawing from existing information provided by communities in their existing local water supply plans
- Recommended strategies for the subregion, reflecting sustainable water supply practices tailored to each subregion's different conditions/resources
- Implementation plan, which may include Joint Powers Agreements of MOUs for cost sharing for professional services to assess or address common issues

Each chapter will focus on a different subregion. Subregional groups have yet to be finalized, as of Fall 2022, but are likely to include: Central Subregion (Chapter 3); East Subregion (Chapter 4); Northeast Subregion (Chapter 5); Northwest Subregion (Chapter 6); Southeast Subregion (Chapter 7); Southwest Subregion (Chapter 9); and West Subregion (Chapter 10).

UPDATED METRO AREA WATER SUPPLY PLAN
TABLE OF CONTENTS FOR CHAPTER ONE

Rationale for and approach to regional water supply planning

Rationale for regional water supply planning

The Twin Cities seven-county metropolitan area is home to three million people, over half of Minnesota's population. Securing residents' safe and plentiful water – while protecting the region's diverse water resources – requires coordinated, interdisciplinary and ongoing effort.

The seven-county region is relatively water-rich. However, communities face a range of challenges as they work to meet current and future water demand. The region's population continues to grow. Groundwater pumping is increasing. Land use is changing. Naturally occurring and man-made pollutants impact water supplies. And variable weather like floods and droughts, as well as longer-term climate change, affect water supplies.

Bringing together the many different and changing facets of water supply into a regional picture is outside the scope of any one community, yet it is necessary to adequately plan for the region's growth and economic development.

The Metropolitan Council recognizes the responsibility and authority of local water suppliers to provide water. A regional perspective is also important, because the effects of local water supply decisions do not stop at community boundaries. Communities often share the same or interconnected water supply sources – aquifers cross many political lines, for example – and the cumulative impact of decisions made by individual communities can be significant.

The Metropolitan Council forecasts that the region will add about 824,000 residents over the next 25 years (note: this document will updated with final forecasts before final approval and adoption). A pressing concern is the impact that future development might have on the reliability and availability of the region's water supplies.

The development of this plan is not motivated by widespread water shortages or crises. Rather, this plan is a response to the recognized benefits of developing and maintaining a plan that supports current and future populations without adverse impact to natural and economic resources.

The collaborative process to develop and implement the metropolitan (metro) area water supply plan supports communities to take the most proactive, cost-effective approach to long term planning and water supply permitting to ensure plentiful, safe, and affordable water for future generations.

How this plan relates to other regional and local plans

The metro area water supply plan is informed by and supports the 2050 regional development framework and related water resources policy plan (figure 1). It more specifically provides water supply-related considerations for developing regional, subregional and local plans and supporting programs. It provides high-level vision and goals as well as subregional recommendations to inform local water supply plan and comprehensive plan updates.

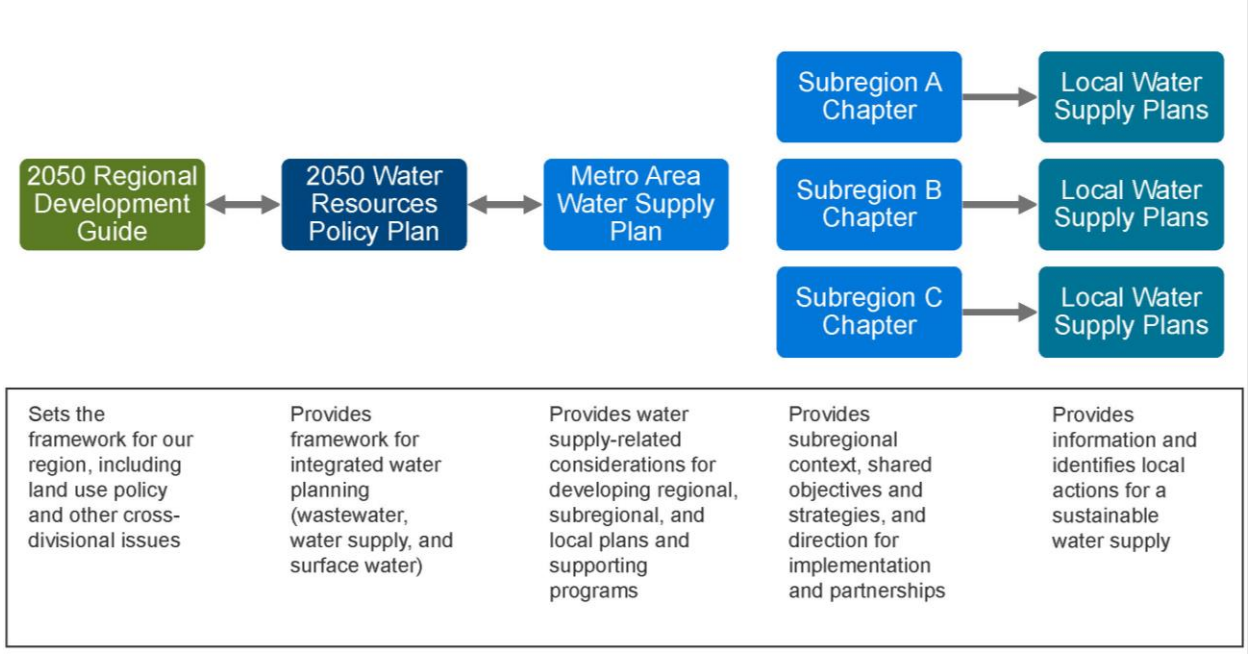

Figure 1. Relationship among different regional and local water supply plans that are part of the Met Council's comprehensive planning process.

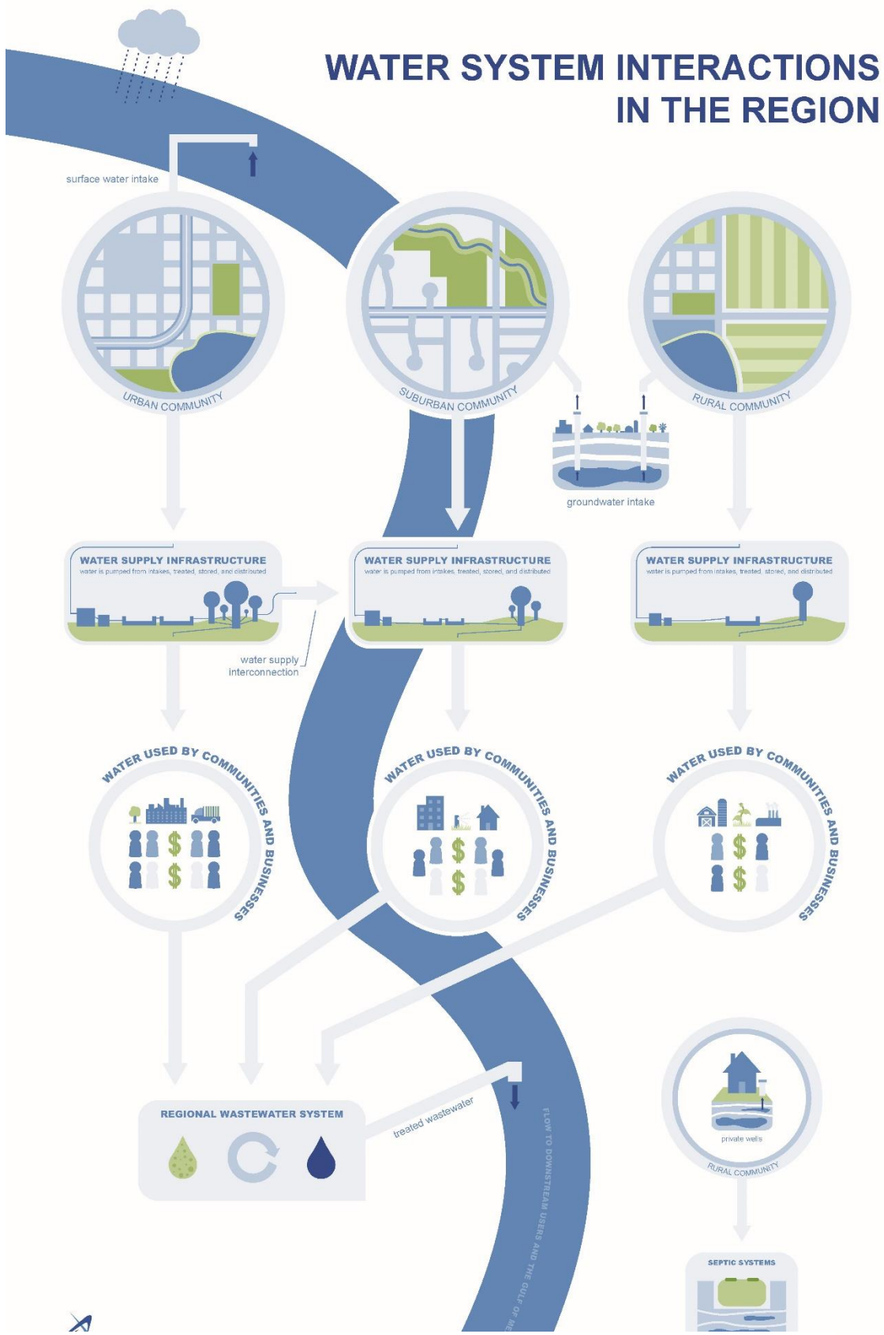

Figure 2. Illustration of key components of the region's water system, from source though use and reclamation to discharge back to the environment.

1.2 Key components of the region's water supply system

As illustrated by figure 2, the ultimate source of water for the region is the precipitation that falls locally and in upstream watersheds.

The amount and quality of water that we are able to pump from surface water and groundwater sources is controlled by the environment that the precipitation moves through to reach those pumps. In this region, we have urban, suburban, and rural communities – all with different surface water resources, soils and geology, and land use patterns.

Private wells serve parts of many communities, but local public water supply infrastructure serves the bulk of the region and includes the surface water intakes, wells, and any interconnections; treatment; storage; and distribution pipes that provide safe water. Private homes and businesses may use private wells or connect to a community water supply system. Private well and septic system infrastructure processes are designed to meet well code and local ordinances.

It is the people and businesses in those communities who pay for the water supply infrastructure, with very limited help as needed by state and federal funding through programs like the Minnesota Public Facilities Authority Drinking Water and Clean Water Revolving Funds. People and businesses use water for a wide range of purposes; clean water is critical for everyone to function. The same people and businesses also pay to dispose of the water once it has been used.

Local wastewater infrastructure collects used water and conveys it to a regional system. Private homes and businesses may use private septic or connect to a community wastewater system. Private well and septic system infrastructure processes are designed and managed to meet well code and local ordinances.

Regional wastewater treatment reclaims water to meet state and federal water quality standards. The treated effluent is discharged back into the environment, sometimes cleaner than the water it is being put back into. From there, water flows downstream to other users and eventually to the Gulf of Mexico.

Water supply conditions vary across the region and from community to community. A key challenge for regional water supply planning is that each city is unique with access to different sources, using different treatment approaches, and supplying different uses. For example, some communities have large commercial and industrial demand while others use water mainly for residential purposes. What works for one community may not work or fit for another nearby community – which must be considered when setting regional goals and objectives and tracking progress for the region's shared water supply resources.

The Water Supply Atlas provides more detailed information about the water supply conditions across the region.

1.3 High-level roles of the Council and its partners

Everyone – agencies, business, individuals – has a responsibility for ensuring sustainable water supply planning. Collaborative actions are needed at the individual level, the community level, the regional level, and the state and federal level.

- *Private Water Supply (Well) Owners* develop, maintain and use wells for domestic and commercial purposes. All are required to be in compliance with the well code and local ordinances, although additional well management expectations vary among domestic (household) well owners, industrial/commercial well owners, and crop irrigators as their interest and issues are quite different.

- *Communities/Public Water Suppliers* provide water to customers in compliance with Safe Drinking Water Act standards; set rates to support systems; develop and maintain infrastructure; monitor drinking water quality and quantity; ensure emergency procedures are in place; develop and enforce demand-reduction measures; plan for land use, water supply and capital improvements; and may regulate water use and well drilling. Some communities may, if delegated by the Minnesota Department of Health, have authority to regulate the construction, sealing, and maintenance of wells (examples: Bloomington and Minneapolis). Communities also have land use planning authority.

- *Metropolitan Council,* as the regional policy-making body, planning agency, and provider of essential services, brings stakeholders together to set regional strategy and provide essential regional services. It provides planning support and direction, operates the state's largest wastewater treatment system, and provides regional water planning and monitoring.
- *State water agencies* as regulators have a role incentivizing public and private sectors to improve service. They collect and analyze water information; assess water supply risks (quantity and quality); develop standards and rules; license contractors and other professions that impact drinking water (such as well drillers); regulate water use appropriations, water well construction and sealing, and land use activities; develop best management practices; approve local plans and permits; administer funding programs; and provide technical assistance and training.

- *Counties* have authority to prepare and adopt groundwater plans and guide land use that includes zoning, shoreland, and mining operations. Townships may delegate authority to the county to do land use planning on their behalf, for example. Some counties may also, if delegated by the Minnesota Department of Health, have authority to regulate the construction, sealing, and maintenance of wells (example: Dakota).
- *Soil and Water Conservation Districts* may, if the authority is delegated by the county, prepare and adopt county groundwater plans, set priorities, address issues, and build local capacity for the protection and management of groundwater.

- *Watershed Management Organizations* work to conserve the natural resources of the state by working with local governments on land use planning issues, water quality and quantity activities, and other conservation projects. For example, watershed districts have statutory authority to regulate groundwater, and some districts have established rules that regulate groundwater use below the thresholds established by the Minnesota Department of Natural Resources.
- *Minnesota Legislature* provides policy direction and, in some cases, directs funding.

1.4 Shared principles

Whether public or private, all water supplies are drawn from an essential natural resource that is shared by the entire region.

The present and future challenge of providing citizens with an adequate, safe supply of water extends across community boundaries. The contributions of all participants—utilities, communities, environmental groups, and others—have value in how communities manage water.

MAWSAC's seven principles guide how the Council and its partners approach work to achieve sustainable water supplies for the region:

1. Water supply planning is an integral component of long-term regional and local comprehensive planning.
2. An understanding of the region's long-term water supply availability and demand is necessary to identify a specific community's or subregion's water sources.
3. All hydrologic system components, naturally occurring and human-built, must be carefully evaluated when planning water infrastructure.
4. The quality of the region's water is a critical component of water supply planning.
5. Interjurisdictional cooperation is a viable option for managing short-term water supply disruptions and for sustainably meeting long-term water supply needs.
6. Regional and local cost-effectiveness and fair cost-sharing are considered when identifying water supply options.
7. Wise use of water supplies is critical to ensuring adequate supplies for future generations.

1.5 Vision for the region's water supplies

The vision, a high-level description of what this plan sets out to achieve, is for a sustainable water supply for the entire region now and in the future. This means: all people have access to clean, safe, affordable water and wastewater services; all water and wastewater systems have sufficient funding to provide affordable services; and all communities share in the economic, social, and environmental benefits of investment in water systems.

1.7 Regional goals and objectives

Regional goals

Regional goals provide broad directional statements that more specifically define desired future conditions – if the vision is successful, what does the region look like? The following goals illustrate what the Council, with its partners, will work toward for the region's water supplies:

1 *Water Supply Infrastructure.* Communities can act quickly, thoughtfully, and equitably to address aging infrastructure, contamination, changing groundwater conditions, changing water demand, and financial challenges.

2 *Water Quality.* Communities have the resources they need to provide a safe water supply. A shared process is developed that allows communities, water utilities, and regulators to respond in a more coordinated and effective way to both contaminants of emerging concern and existing contamination.

3 *Land Use and Water Supply Connections.* Public water suppliers, land use planners, and

developers have tools, funding and authority to work together – supported by aligned agency directions - to guide and support development in ways that balance communities' economic needs while protecting the quantity and quality of source waters that are vital to the region's communities.

4 *Understand and Manage Groundwater and Surface Water Interactions.* Water resource managers, community planners, and leaders understand how groundwater and surface water interact and how those interactions impact water supply sustainability.

5 *Sustainable Water Quantity.* Communities and water agencies understand the sustainable limits of groundwater and surface water sources. Agency directions are aligned and support local plans to supply demand that exceeds sustainable withdrawal rates using the most feasible combination of alternative groundwater or surface water sources, conservation, reclaimed wastewater and stormwater reuse.

Regional objectives

The following regional objectives define **a**chievable results in areas that will advance the goals; they may also be considered as high-level, regional outcomes. They set a framework for action (the more specific and measurable activities or practices for each objective).

Recognizing the different conditions across the region, specific activities to achieve objectives are likely to vary and will be described in more detail in the subregional chapters of the plan.

Benchmarks can be set and tracked for both the region and by subregion, to keep attention and resources focused on planned work and adapt to improve outcomes. A culture of continuous improvement increases the likelihood that plan updates incorporate lessons learned, knowledge is being shared among staff, and procedures are effective and up to date.

Collaboration is enhanced and capacity is increased

- Leaders are engaged through MAWSAC, TAC, subregional work groups and other venues
- Technical experts are connected to plan and project scoping and deliverables
- Capacity is increased through outreach, training, and career development opportunities

The region's water supply system and its subregional components are assessed

- The region's water supply system is documented at a multi-community scale and information gaps are filled
- Technical studies provide up-to-date information about water supply hazards across the region
- Local and, if developed, subregional water supply plans include an evaluation of water supply risks, based on known hazards

Mitigation measures are evaluated

- Existing and potential mitigation measures for priority risks are identified and evaluated through technical studies
- Risks are reassessed and prioritized risks, after taking into consideration the effectiveness of mitigation measures.

Practices to reduce risk are planned for and implemented

- Work is guided by subregional water supply groups, consistent with regional policies and state regulation
- Technical assistance by Council and partners is targeted to support MAWSAC and subregional goals
- Coordinated plan for emergency response linked to increased funding, to better prepare for the unexpected
- Updated comprehensive plans, budgets, and monitoring programs to support both economical growth and the implementation of risk reductions practices

The following general practices to promote sustainable water supplies have been identified. Chapter two of the plan will provide regional information describing the current state of these practices and supporting the development of measurable and trackable targets. Subregional chapters may also include information about practices customized for conditions in those areas.

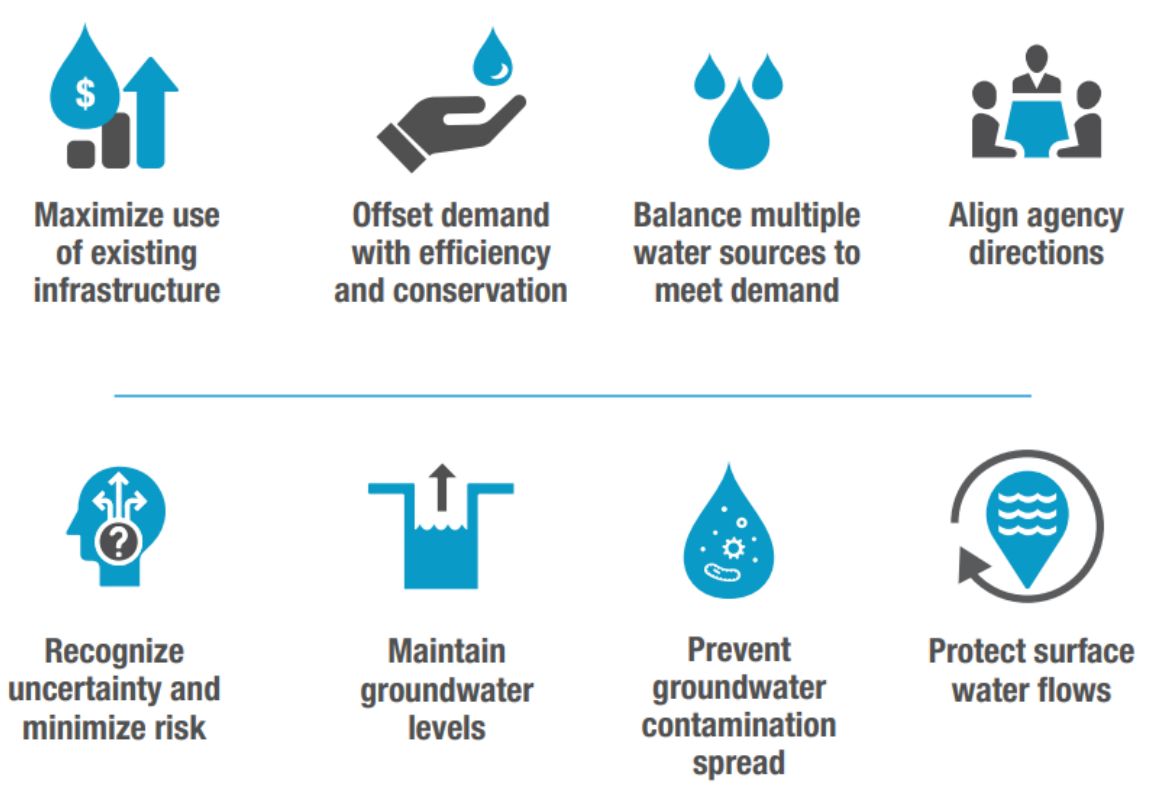

Figure 3. Sustainable water supply practices to support the vision of sustainable water supplies for the region.

Glossary

Action – Specific and measurable activity for each objective. May also be considered a practice.

Capacity – The ability to do something; the facility or power to produce, perform, or deploy.

Goal – Broad directional statements that more specifically define desired future conditions. If the vision is successful, what does the region look like?

Hazard – A biological, chemical, physical, or radiological agent in, or condition of water, with the potential to cause an adverse health effect. The potential to cause harm.

Practice - Specific and measurable activity for each objective. May also be considered an action.

Objective– Achievable results that advance the goals. May also be considered as outcomes.

Risk – The likelihood of harm taking place.

Vision – Vision is the high-level description of what Met Council and its partners are working to achieve for the region's water supply.

Potential appendices

- Summary of the process to develop and update the metro area water supply plan, including stakeholder engagement
- Summary of changes between the 2010 and 2015 versions, including a similar summary describing the changes between the 2015 and updated version
- Summary of past or ongoing and successful regional water planning or implementation
- Technical appendices

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