



Water Policy Research Project

Environment Committee Informational Item



October 24, 2023 | Jen Kostrzewski and Lanya Ross

Agenda



Water planning overview



Protecting source waters

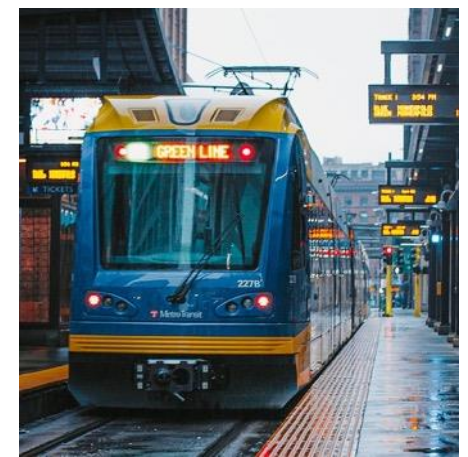
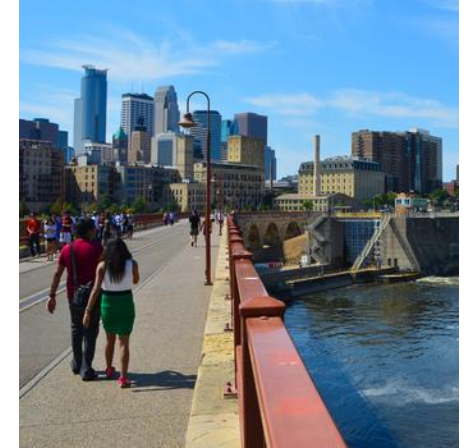


Water policy summary

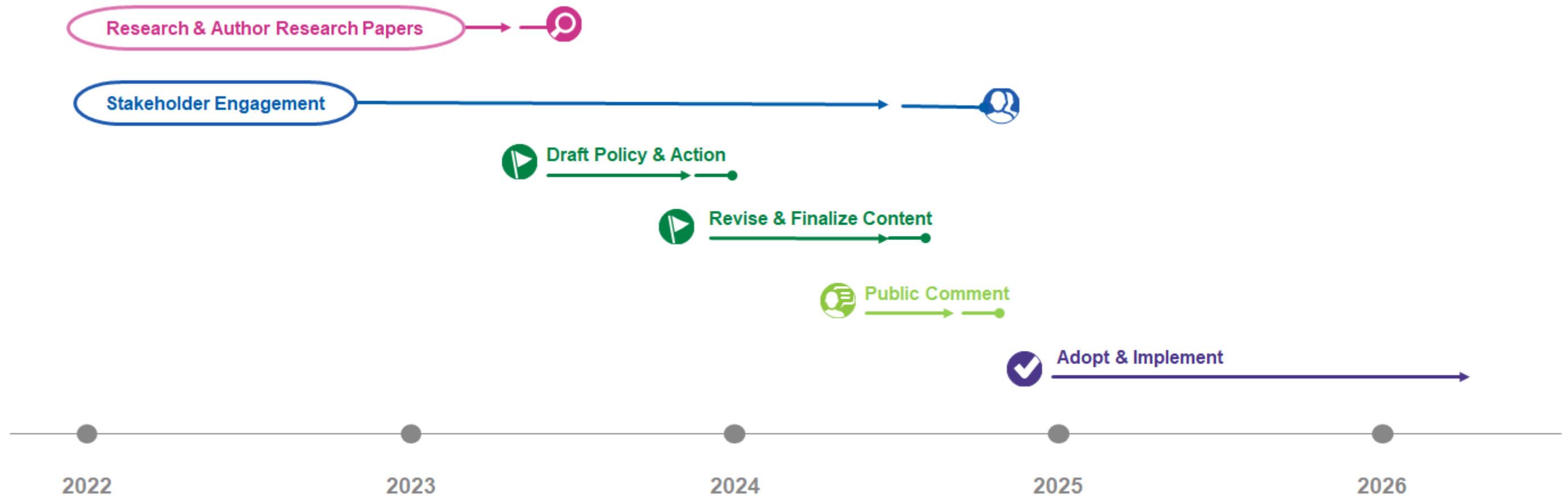
Water Policy Plan (WPP)

Plan Purpose

- Met Council is developing the 2050 Water Policy Plan, which **focuses on ensuring sustainable water resources in the region**. It is a part of and informed by the Regional Development Guide.
- The WPP provides a **framework for integrative water planning** (wastewater, water supply, and water resources) the Metro Area Water Supply Plan, and the Wastewater System Plan.
- It contains water **policies, strategies, and actions** for both the Met Council and our 180+ local governments within the seven-county region.
- WPP policies **will commit the Council** to take action in the areas of long-range visioning and planning, regional system investments, facility management, technical assistance, research and assessment, and partnerships.



2050 WPP Timeline

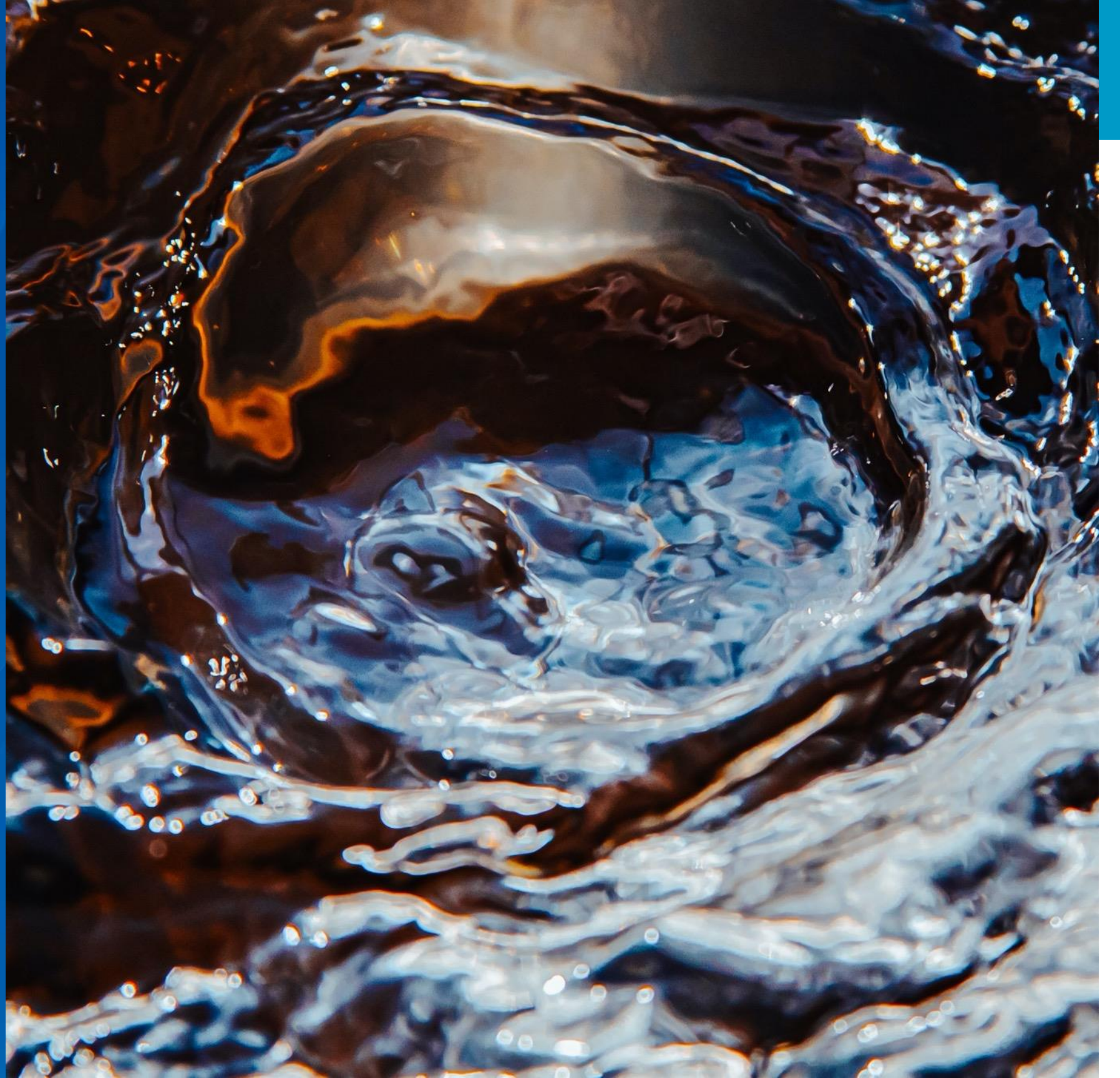


WPP Research Topics

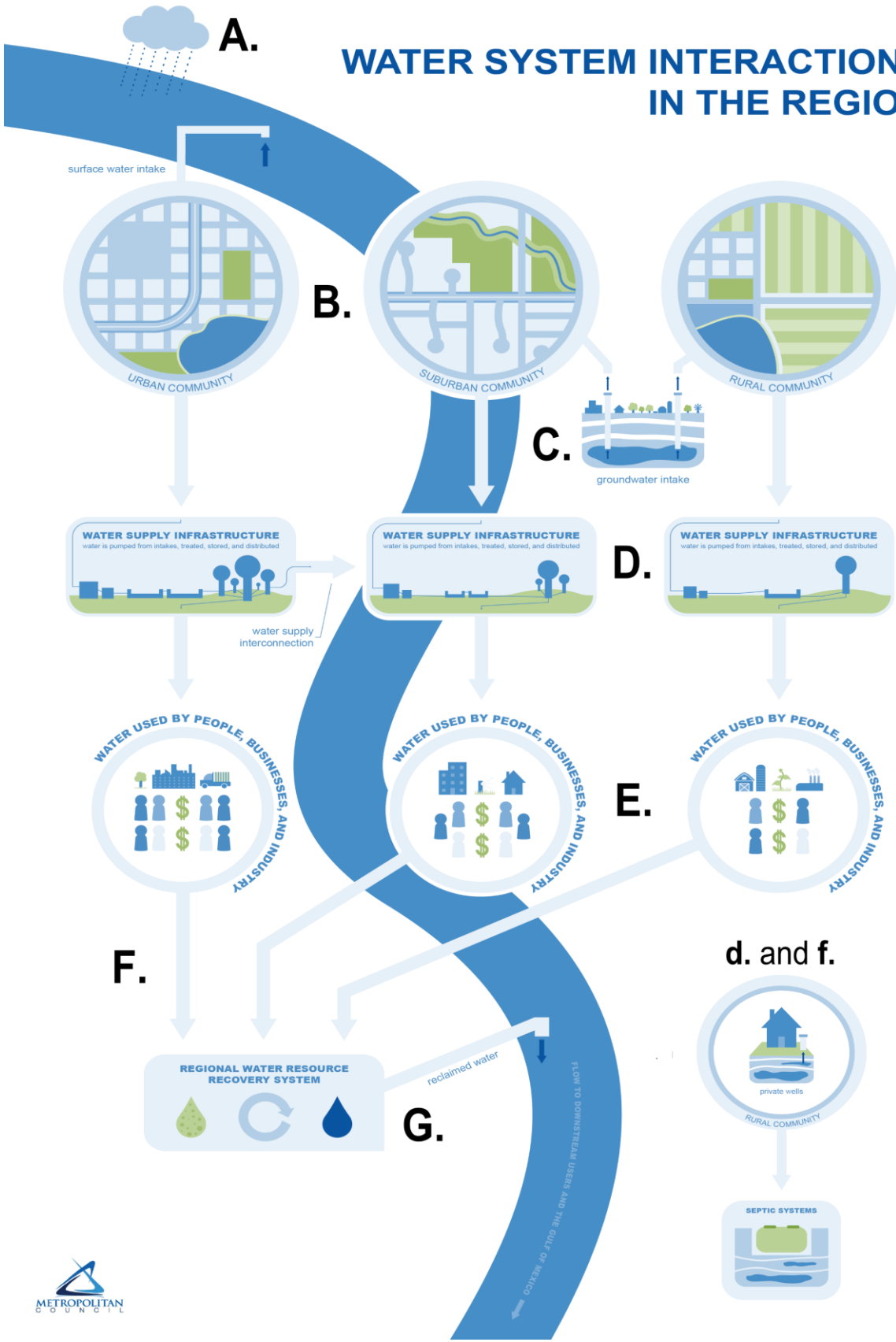


1. Water Reuse
2. Water and Climate
3. Rural Water Concerns
4. Wastewater Planning and Service Considerations
5. Water Quality
- 6. Protecting Source Water Areas**

Protecting source waters



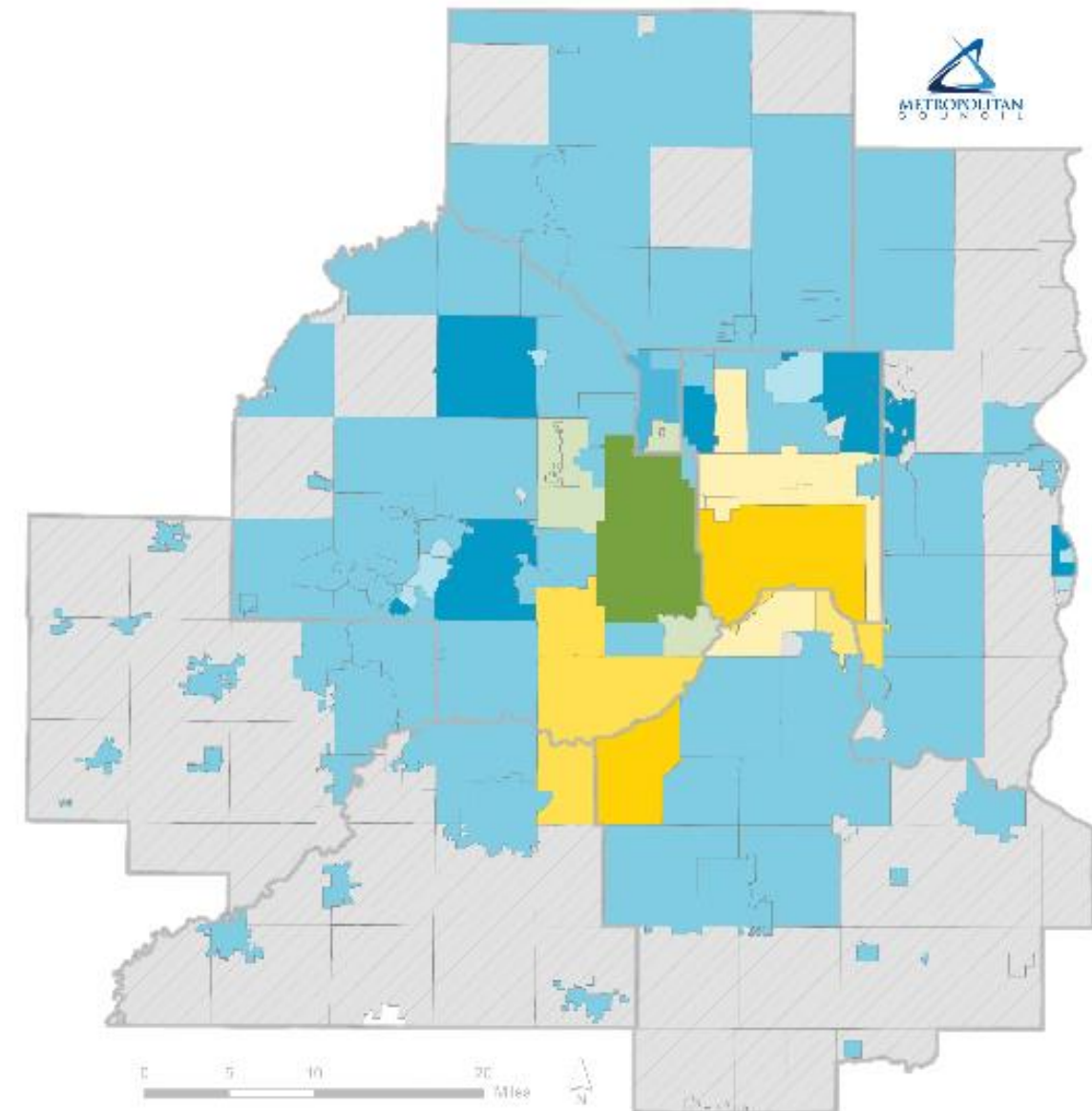
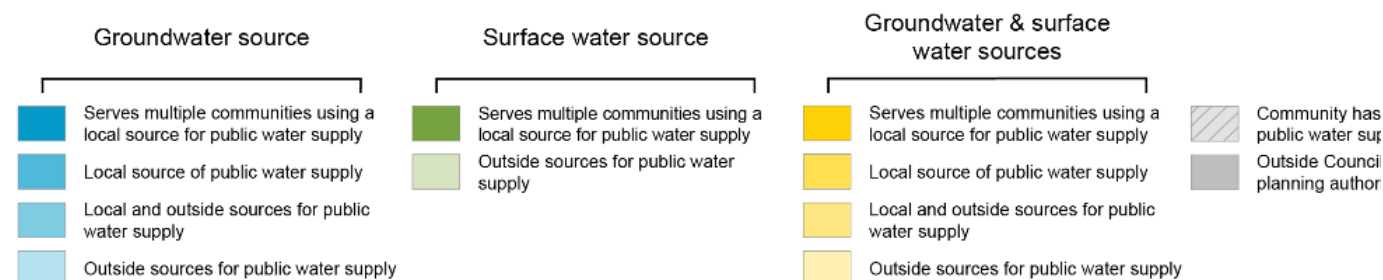
WATER SYSTEM INTERACTIONS IN THE REGION



What are source waters?

‘Source water’ refers to the origin (or source) of water from streams, rivers, lakes, or underground aquifers that provides drinking water to public water supplies and private wells.

Source water protection is a community effort to prevent water pollution before it can reach our drinking water and become a public health and economic problem.



Source waters in the headlines

Twin Cities prep for possible contaminated river water following nuclear leak

Ben Henry KSTP
March 24, 2023 - 11:08 PM

In Minnesota's Farm Country, Nitrate Pollution of Drinking Water Is Getting Worse

By Anne Weir Schechinger, Senior Analyst of Economics

WEDNESDAY, MARCH 4, 2020

NEWS

Woodbury works to clean up 'forever chemicals,' as federal, state agencies eye new standards

By **MARAYA KING** | mking@pioneerpress.com | Pioneer Press
PUBLISHED: April 18, 2023 at 3:51 p.m. | UPDATED: April 18, 2023 at 6:28 p.m.

LOCAL NEWS

Met Council: salt overuse causing environmental issues



By **OLIVIA STEVENS** | Minnesota Public Radio
PUBLISHED: November 29, 2022 at 3:15 p.m. | UPDATED: November 30, 2022 at 9:28 p.m.

Protecting source waters issue statement



We work to ensure safe, sustainable, and sufficient drinking water for the region by partnering with public water suppliers, land use planners and developers, watershed management organizations, business owners/managers, residents, and others.

The goal is to improve understanding and collaboration in order to protect the land areas that serve as the sources for our region's water supply.

This work is particularly important where source water protection areas extend beyond any one jurisdiction's boundaries.

Adequate and proactive protection will prevent threats to water supplies from becoming a public health problem.

What is our role in protecting source water areas?

Regional Water Planning

Council is further charged with planning for the orderly and economic development of the seven-county metro area while recognizing and encompassing physical, social, or economic needs of the metropolitan area and those future developments which will have an impact on the entire area.

Water Supply Planning

We are required to create plans to address regional water supply needs, including:

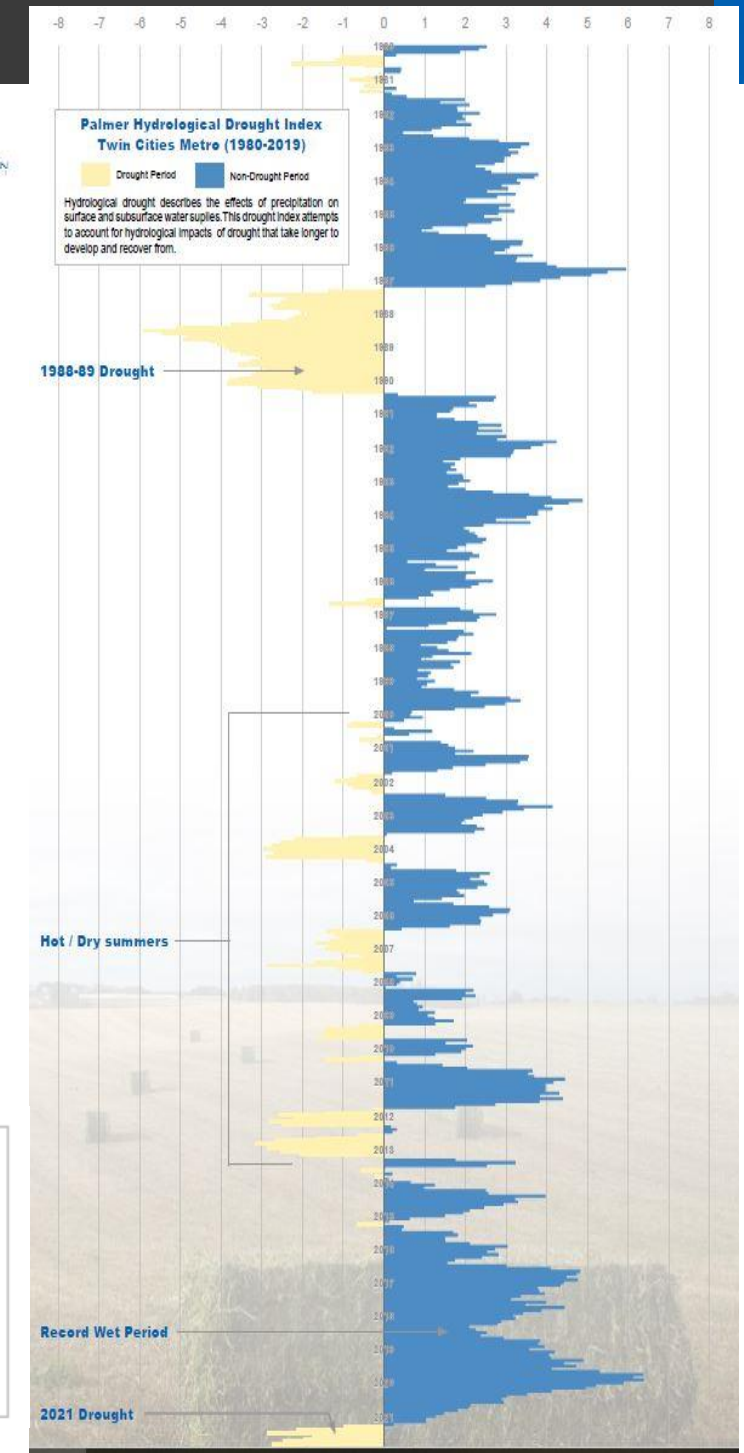
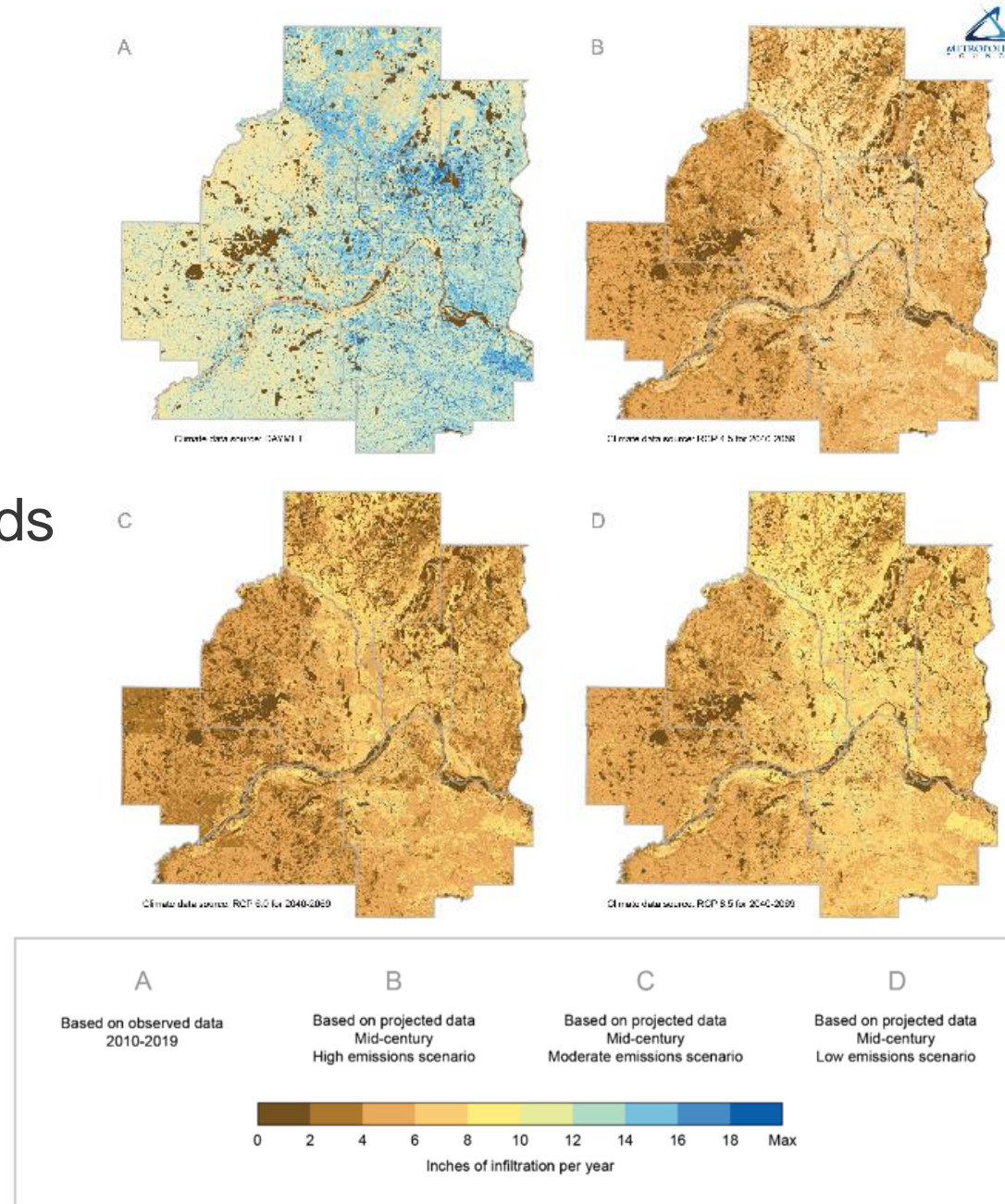
- Regional Metro Area Water Supply Plan
- Developing and maintaining technical information related to water supply issues and concerns
- Providing assistance to communities in the development of their local water supply plans
- Identifying approaches for emerging water supply issues

(Minn. Stat. § 473.1565)

Crucial Concerns (1)

Current and future climate

- Longer growing season
- Warmer winters
- Multi-year wet and dry periods
- Extreme precipitation
- Heat waves and droughts



Crucial Concerns (2)

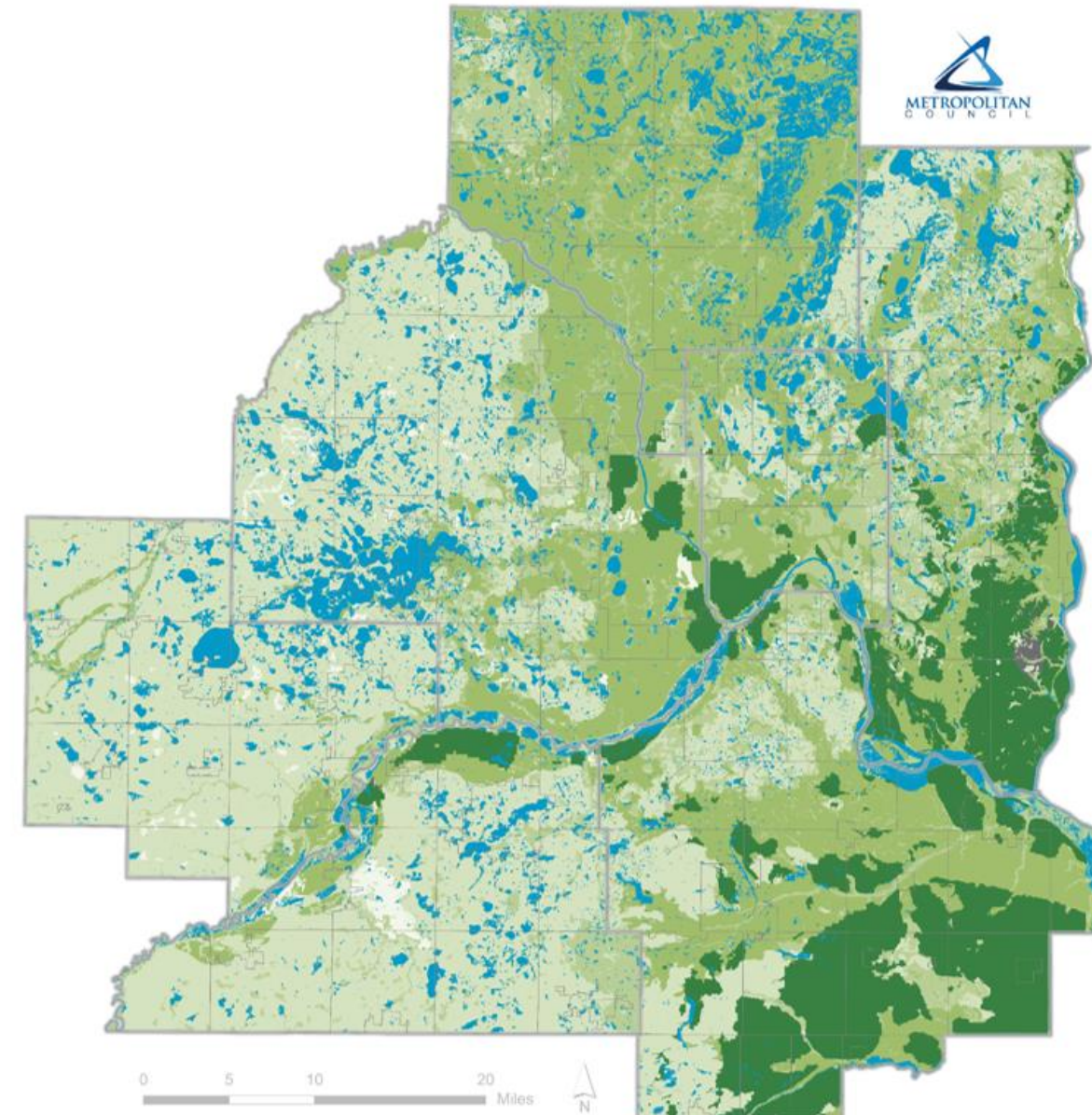
Sensitivity of near-surface sediments and bedrock to potential contamination

Geologic sensitivity rating of the near surface as defined by vertical travel time

- High risk
- Moderate risk
- Low risk
- Very low risk

Special Conditions

- Karst (high risk – direct, very rapid exchange between surface water and groundwater)
- Water
- Bedrock at or near surface

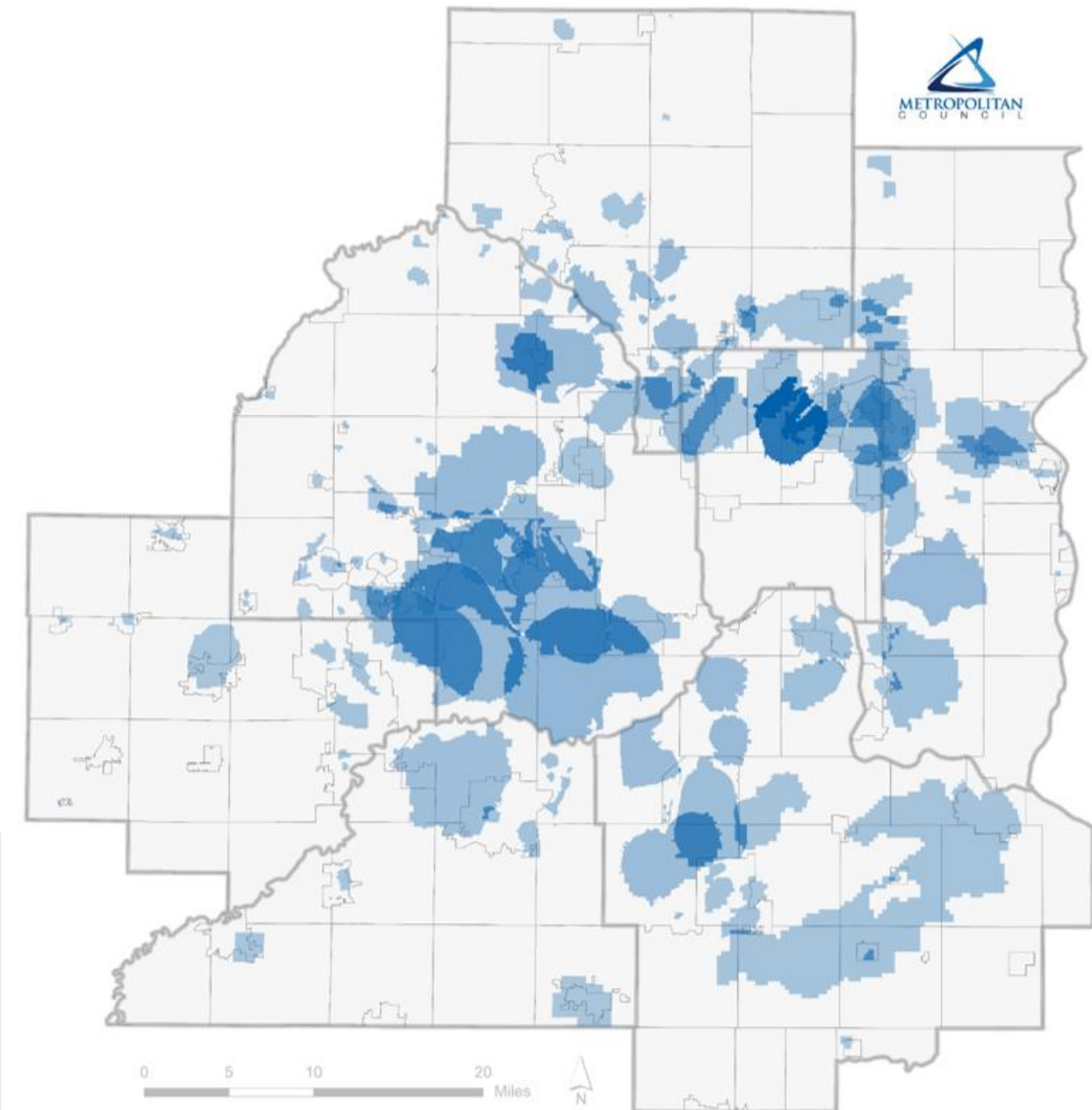
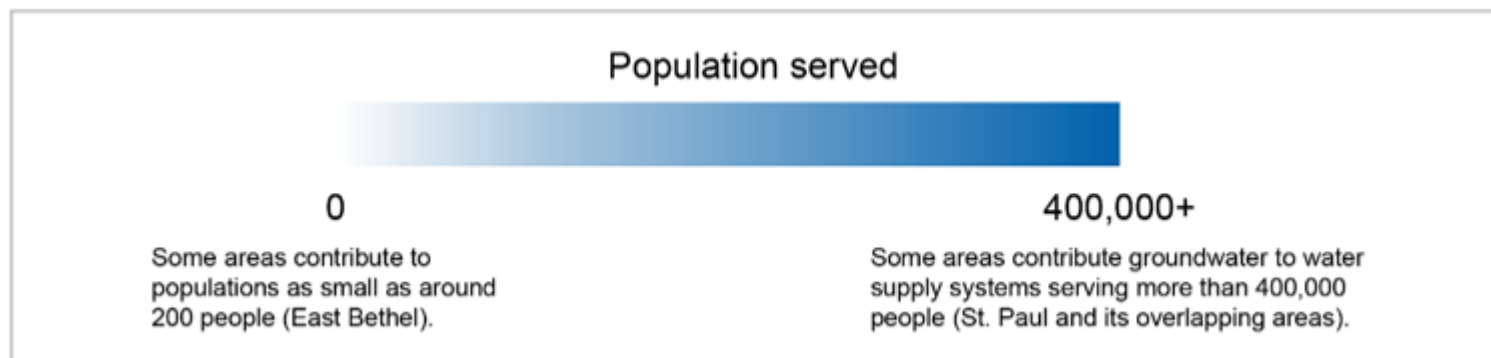


Crucial Concerns (3)

Land management and source water protection implementation

Overlapping authorities and responsibilities, and many opportunities for partnership

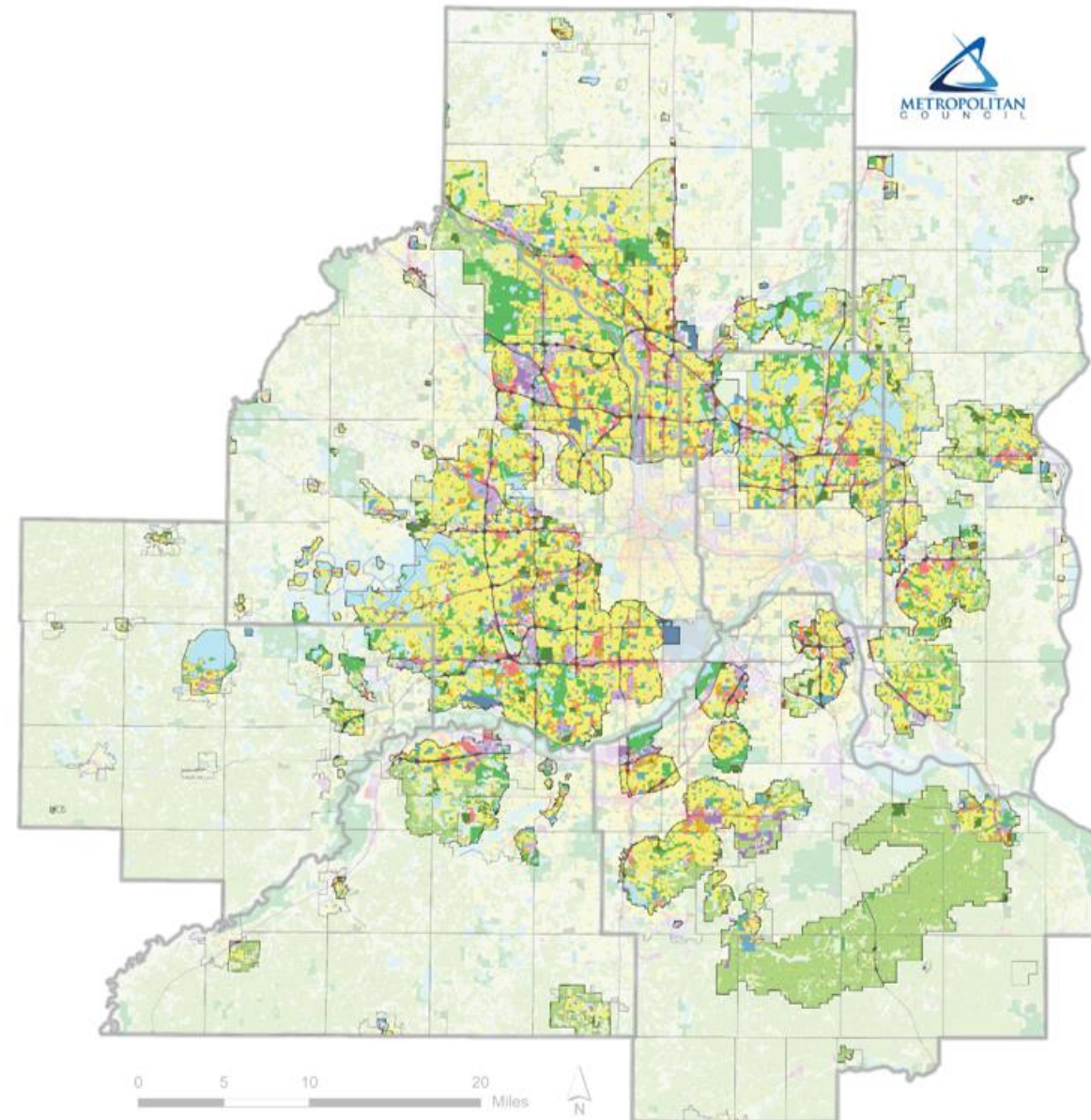
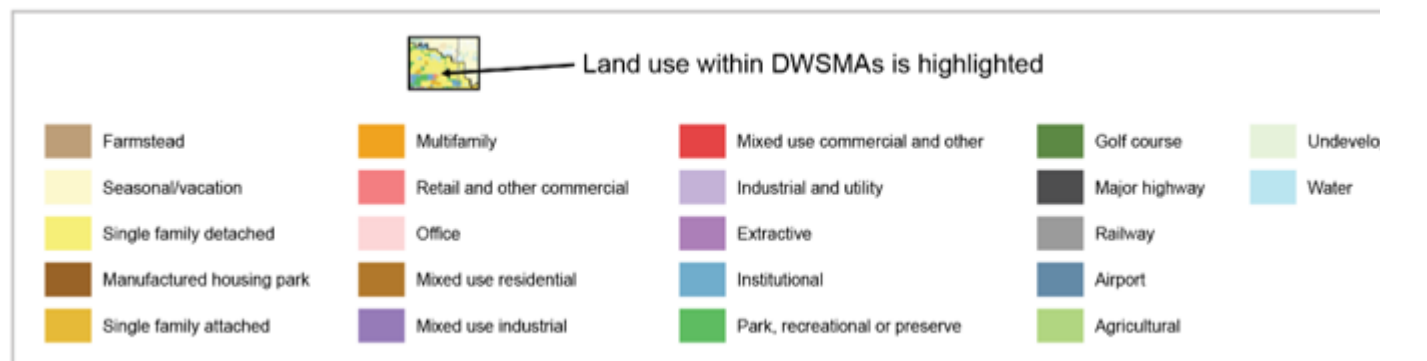
- Local water suppliers
- Watershed organizations
- Minnesota Department of Health
- Metropolitan Area Water Supply Advisory Committee
- Minnesota Source Water Protection Collaborative
- Met Council subregional water supply work groups



Crucial Concerns (4)

Land cover and land use association with potential contaminant

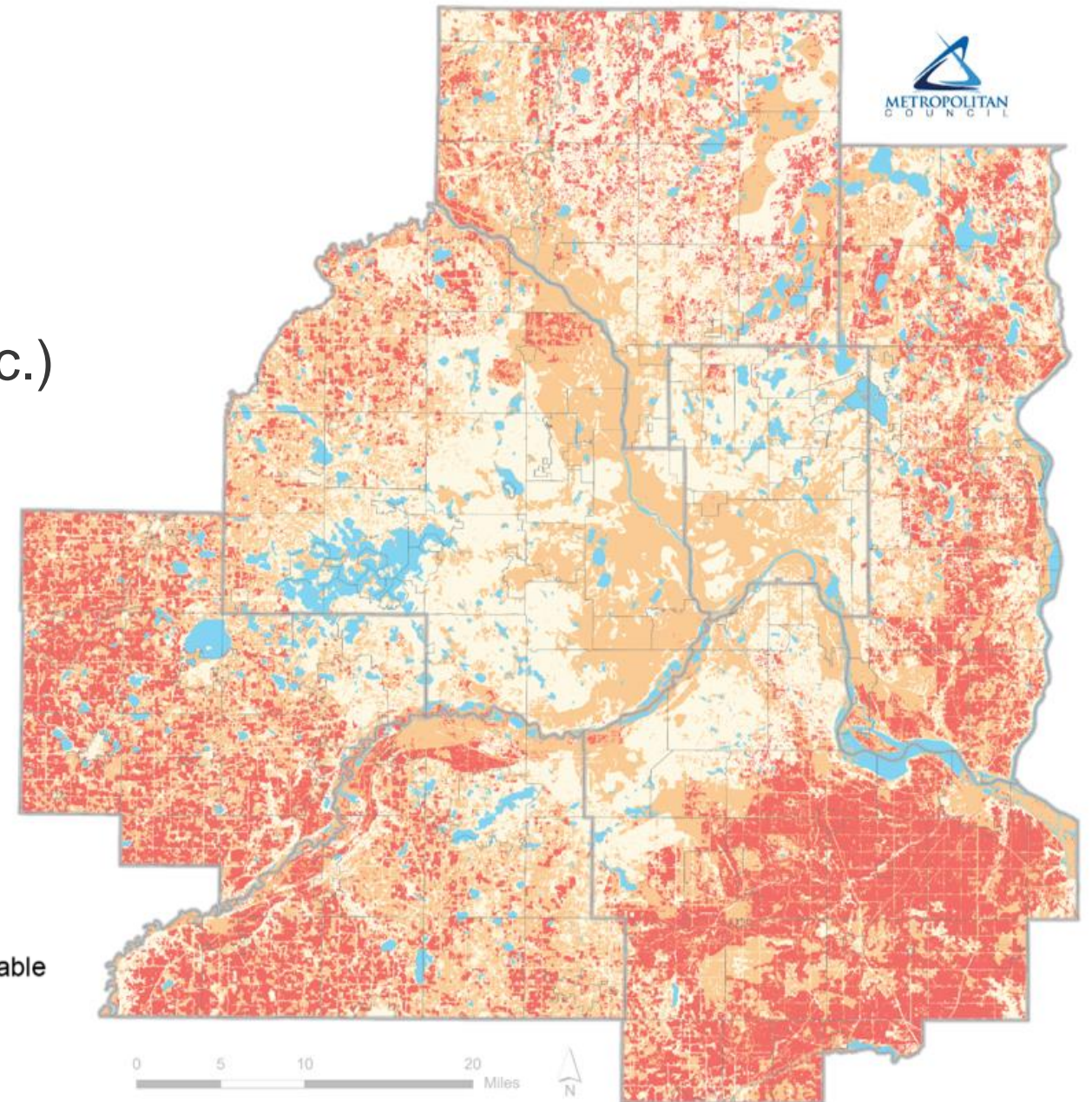
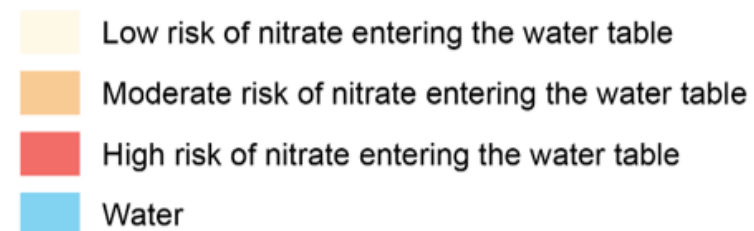
1. Single family detached (33% DWSMAs)
 - Septic systems, storage tanks, wells
2. Agricultural (15% DWSMAs)
 - Fertilizers and pesticide use, storage tanks
3. Undeveloped (12% DWSMAs)
 - Wells, stormwater runoff



Crucial Concerns (5)

Source water contamination examples

- Nitrate
- Leaks and spills
- Contamination sites (landfills, brownfields, etc.)
- PFAs
- Naturally occurring elements in rocks (arsenic, manganese, radium, etc.)



Crucial Concerns (6)

Costs and benefits of protecting source water areas

Regionwide investments in source water protection support the economical development of the metro area. As history has demonstrated, once a source water is contaminated, the costs to clean up and repair damages are almost always larger than preventative costs.

Several planning efforts can inform, and be informed by, a region-wide evaluation of costs and benefits:

- Local capital improvement plans, water supply plans, and state-required reporting on current and planned infrastructure investments
- Local source water protection plans identify vulnerable areas, potential contaminants, and implementation budget
- Local comp plans identify long-range planned land use, growth forecasts, and related infrastructure
- Regional wastewater system plans provide long-range information about service availability and treatment

Current policy

Policy on Watershed Approach

Policy on Sustainable Water Supplies

Policy on Assessing and Protecting Regional Water Resources

Policy on Investment

Policy on Water Conservation and Reuse

Policies on Serving the Rural Areas

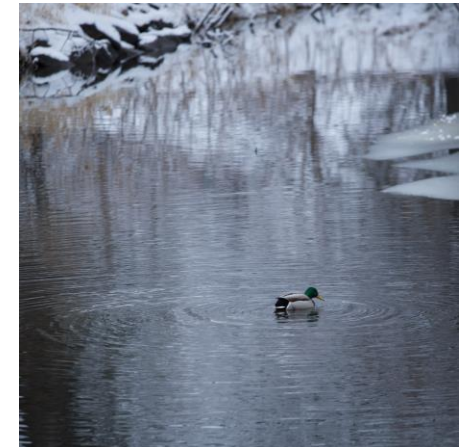
Recommendations (1) – New Policy

Collaboration and Partnership

The Metropolitan Council and Environmental Services will engage constructively across the boundaries of public agencies, levels of government, private and civic spheres, in order to carry out integrated water resource management activities that could not otherwise be accomplished.

Proposed actions:

- The Metropolitan Council will support cross-community collaboration among public water suppliers and their communities.
- The Metropolitan Council will support and participate with partners on outreach and engagement. The Metropolitan Council will engage with residents and businesses to understand water values.
- The Metropolitan Council will prioritize inter-agency collaboration.



Recommendations (2) – New Policy



Integrated water planning

The Metropolitan Council will work with our partners to develop and support long-range integrated water resource planning that addresses the region's watershed, water supply, and wastewater needs.

Proposed actions:

- The Metropolitan Council will promote integration across watershed, water supply, and wastewater planning.
- The Metropolitan Council will support local planning efforts to increase source water protection activities.

Recommendations (3) – New Actions

Water Reuse Policy

Proposed actions:

- The Metropolitan Council will plan for long-range regional investments in wastewater and stormwater reuse that protect source water quality and quantity.
- The Metropolitan Council will identify and evaluate the economic and technical feasibility of best practices that enhance groundwater recharge and make the best use of reclaimed wastewater and stormwater while protecting source water quality.

Recommendations (4) – New Actions

Policy on Wastewater Sustainability

Proposed actions:

- Environmental Services will identify opportunities to protect source water on Metropolitan Council owned property and project/program sites.
- Environmental Services will identify opportunities and manage assets in *ways that protect source waters by reducing the* number of potential contaminants on Met Council properties and project sites and/or the creation of up-to-date mitigation plans.



Recommendations (5) – Revised Policy

Investment Policy

The Metropolitan Council will strive to maximize regional water resource benefits from regional investments, through coordination among its divisions and across the integrated water cycle.

Proposed actions:

- The Metropolitan Council will describe the process to determine regional benefits (particularly important for source water protection investments), with the desired result of transparent and credible decision-making process for Met Council Environmental Services investments.
- The Metropolitan Council will recognize and leverage different funding sources to increase the impact of Council Environmental Services investments.

Recommendations (6) – New Policy

Protecting regional water resources

The Metropolitan Council will support programs to enhance planning and implementation activities that prevent and reduce contamination sources and water pollution, including potential contaminant sources and pathways in water supply source water areas. This will protect public health, critical habitat and water resources over the long-term.

Proposed actions:

- The Metropolitan Council will identify areas where local integration is required to protect source waters and a process for equitable stakeholder input and results.
- The Metropolitan Council will support implementation-related collaboration to protect regional water resources.
- The Metropolitan Council will provide data, information, and planning tools to assist local governments with planning resilient water resources and infrastructure planning, given changing climate and land use conditions.

Recommendations (7) – New Policy

Assessing Regional Water Resources

The Metropolitan Council will collaboratively assess the condition of the region's lakes, rivers, streams, and aquifers – and how water and contamination move between them – to evaluate impacts on regional water resources and measure success in achieving regional water goals.

Proposed actions:

- The Metropolitan Council will support research and partnerships when assessing regional water resources, including assessment of source water areas.
- The Metropolitan Council will support efforts that investigate water supply approaches to increase water conservation, enhance groundwater recharge, and most effectively use our water resources.
- The Metropolitan Council will analyze the impact of land practices on water quality and the vulnerability of source water areas and water supplies.

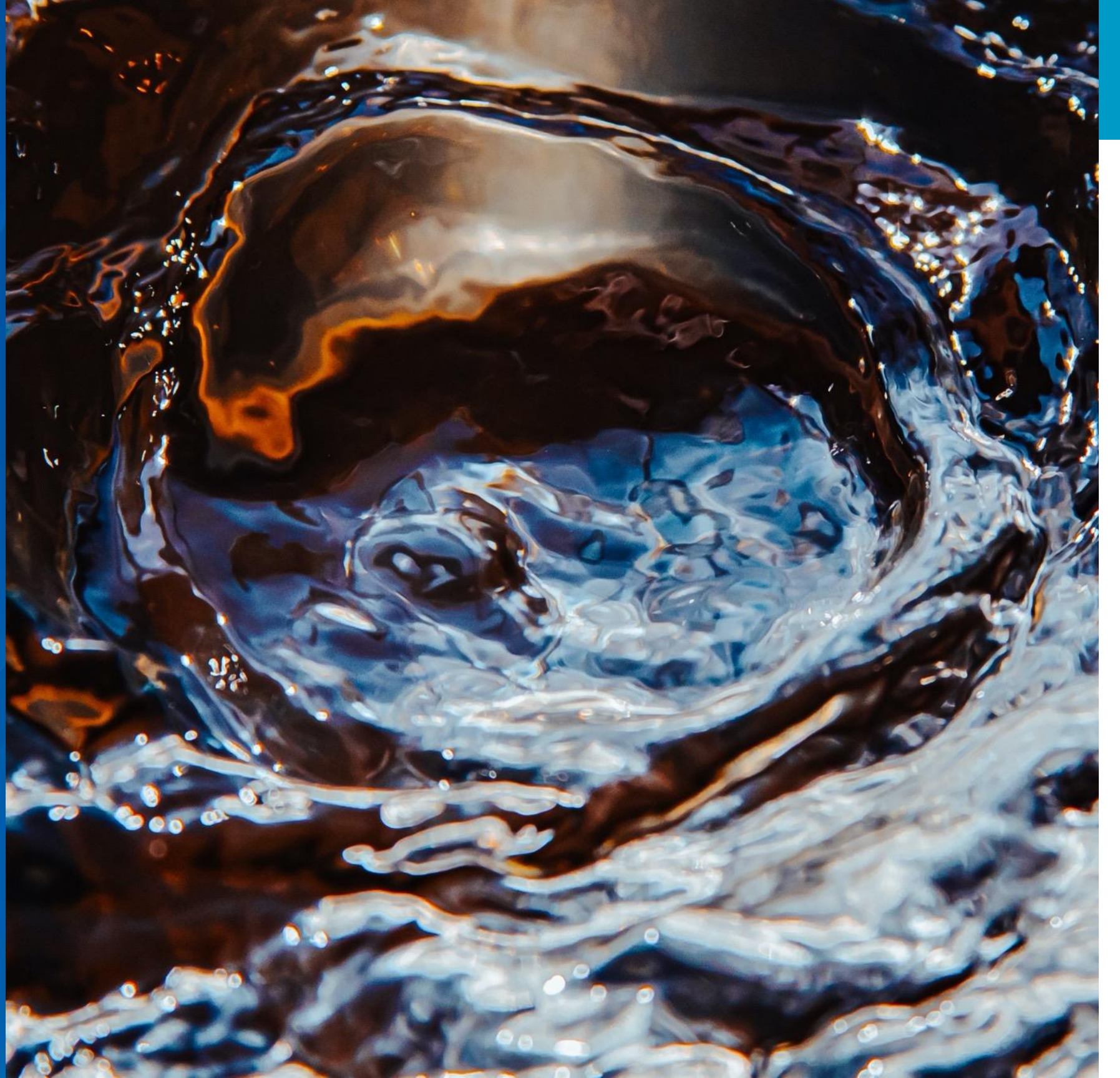
Discussion questions



Within the constraints of thinking about protecting our source waters, did we:

- Miss any crucial concerns?
- Over emphasize concerns?
- Did any recommendation action or policy stand out to you as more important than the others?
- Other questions?

Planning for current and future water needs



Water Sustainability

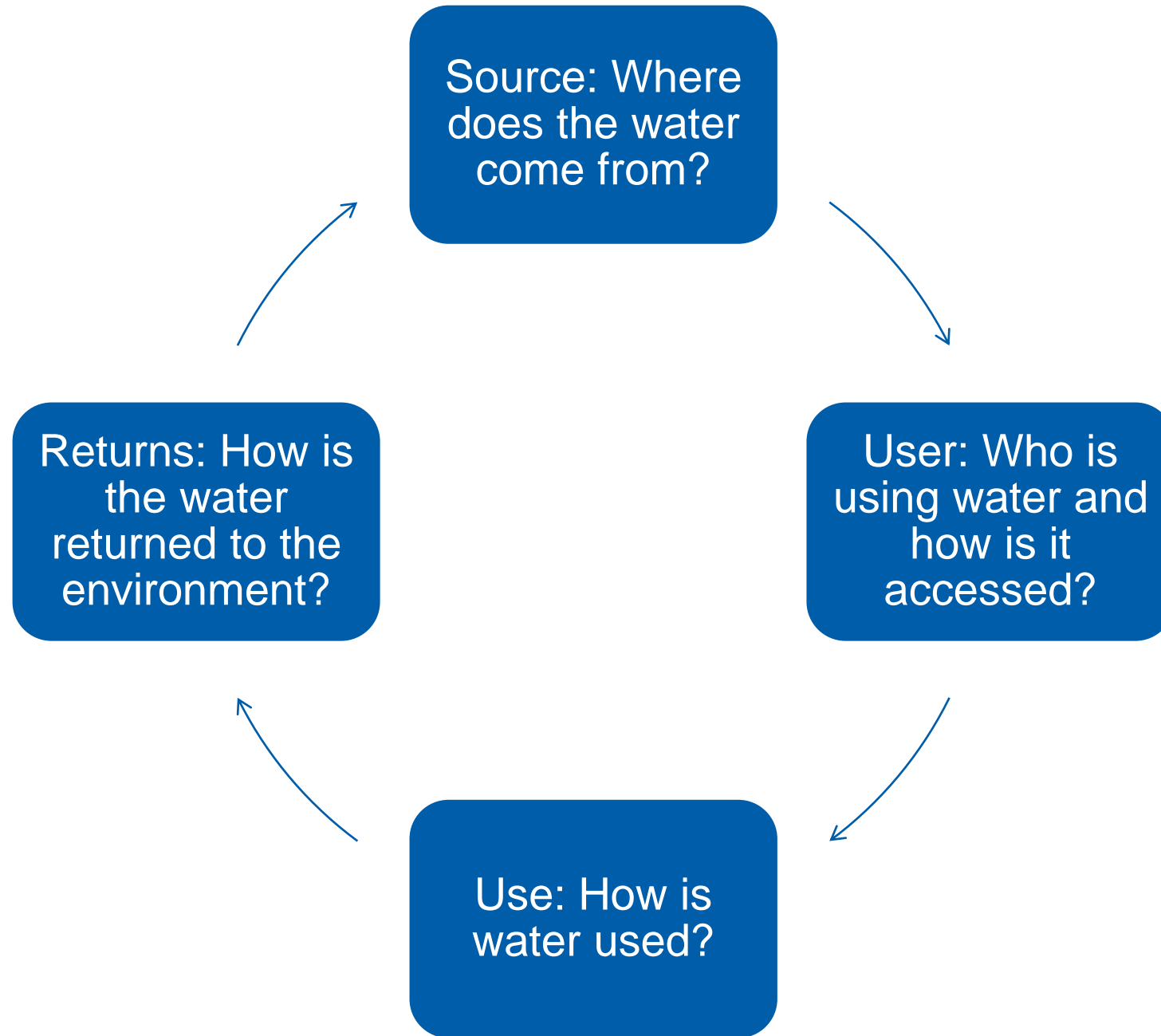


Sustainable water requirements



- **Water availability** is a culmination of water balance, water demand and water quality.
- **Water access** is the ability to reliably reach or obtain water physically in order to sustain life. It is of little consequence users can't access the available water on an ongoing basis.
- **Water use** includes both direct (bathing, drinking, cooking) and indirect purposes (recreation, industrial processes). Often both water availability and access determine an individual's ability to use the water in an intended manner.





Water and climate

Water Quality Concerns

Rural Water Concerns

Returns: How is the water returned to the environment?

Source: Where does the water come from?

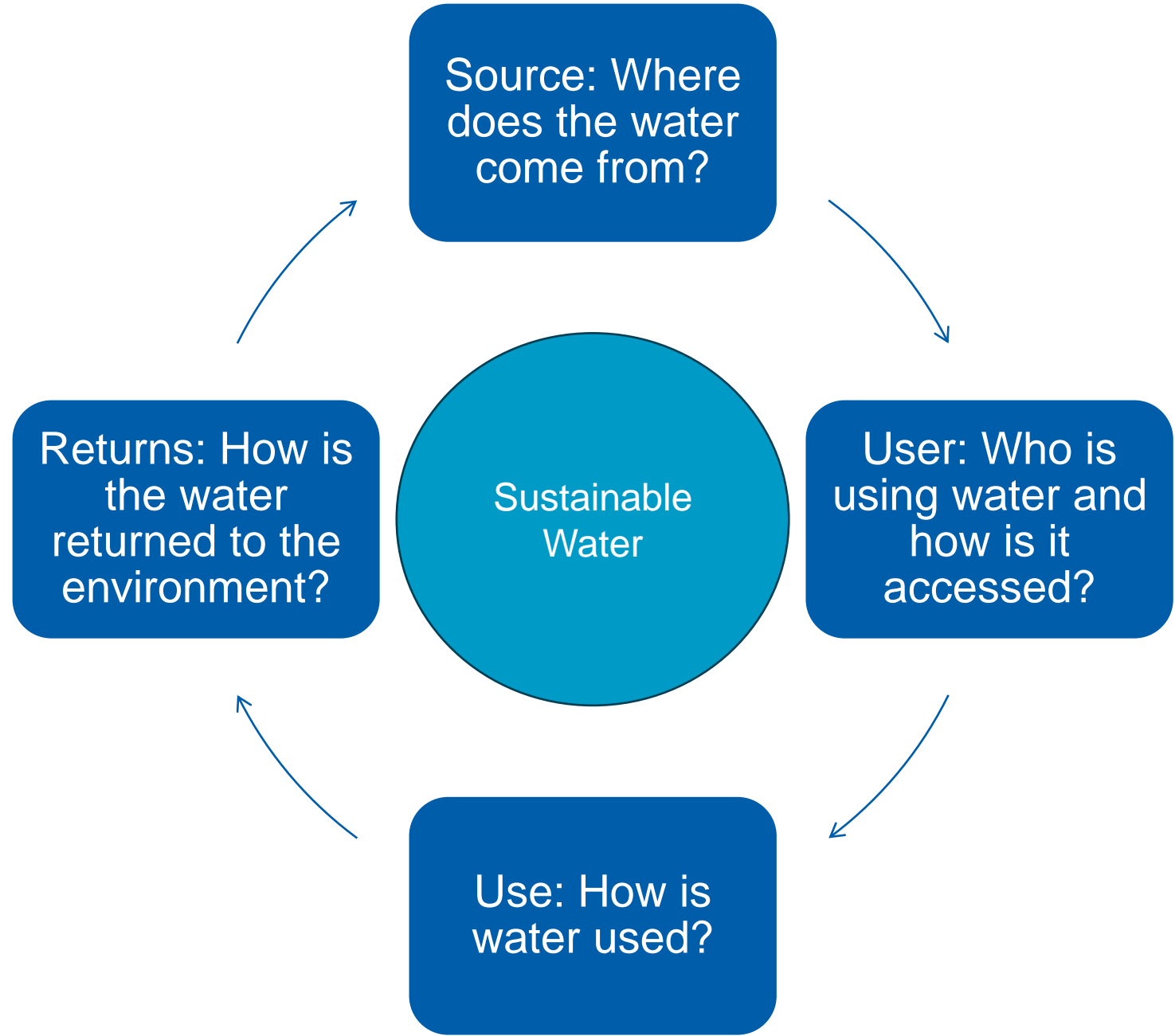
Use: How is water used?

User: Who is using water and how is it accessed?

Source water protection

Water reuse

Wastewater service and planning considerations



How to plan for sustainable waters



- 1. Think broadly over the long-term**
Seek to understand our water systems – both built and natural
- 2. Collect data and information to activate knowledge**
Include technology, human behavior, conservation and reuse
- 3. Develop policies and practices**
This is where we are now
- 4. Implement and invest**
Local action adds up to regional impact
- 5. Repeat**



Thank you

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