Water Policy Research Project

Environment Committee Informational Item

METROPOLITAN COUNCIL

September 26, 2023 | Jen Kostrzewski & Judy Sventek

Agenda

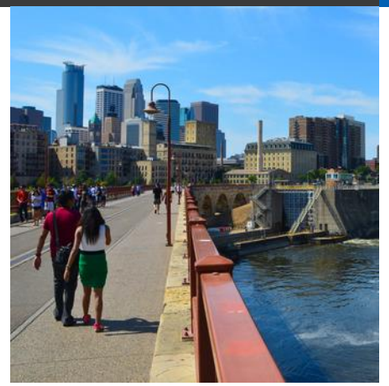
Water planning overview

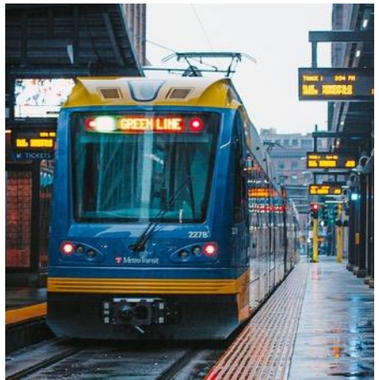
Water Quality

Water Resource Policy Plan (WRPP)

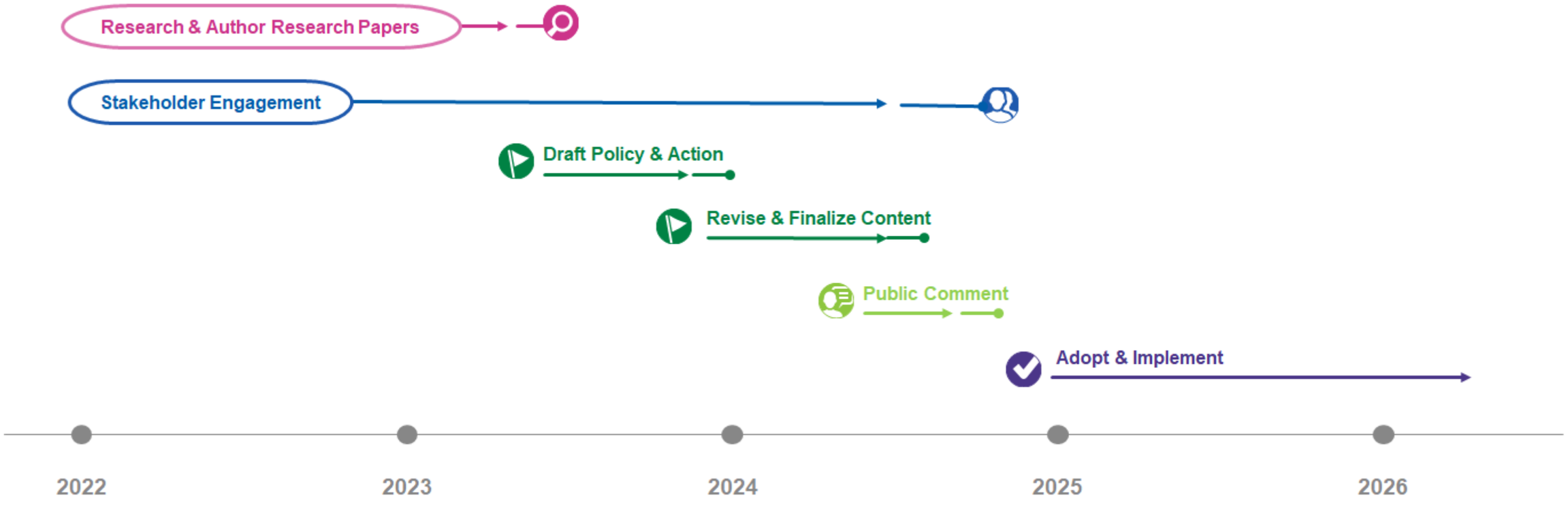
Plan Purpose

- Met Council is developing the 2050 Water Resources 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 WRPP 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.
- WRPP 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.

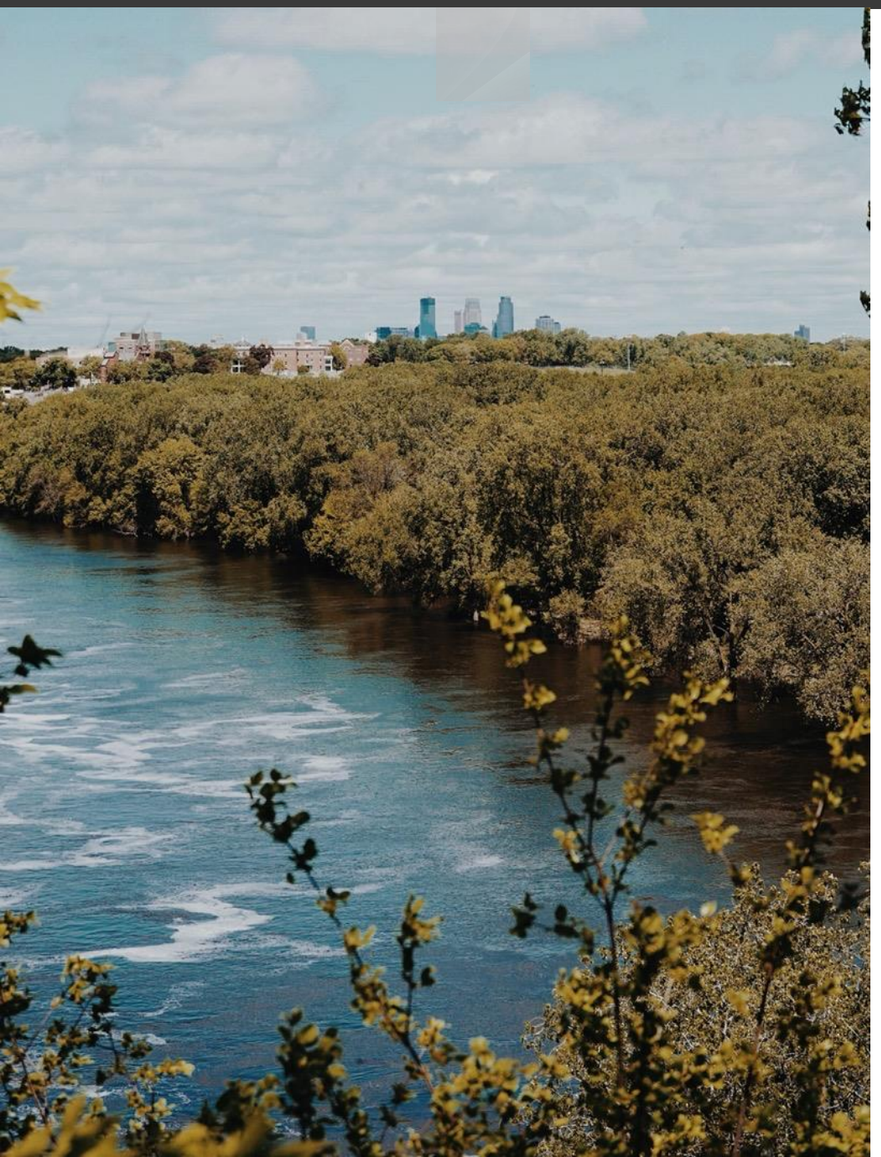




2050 WRPP Timeline

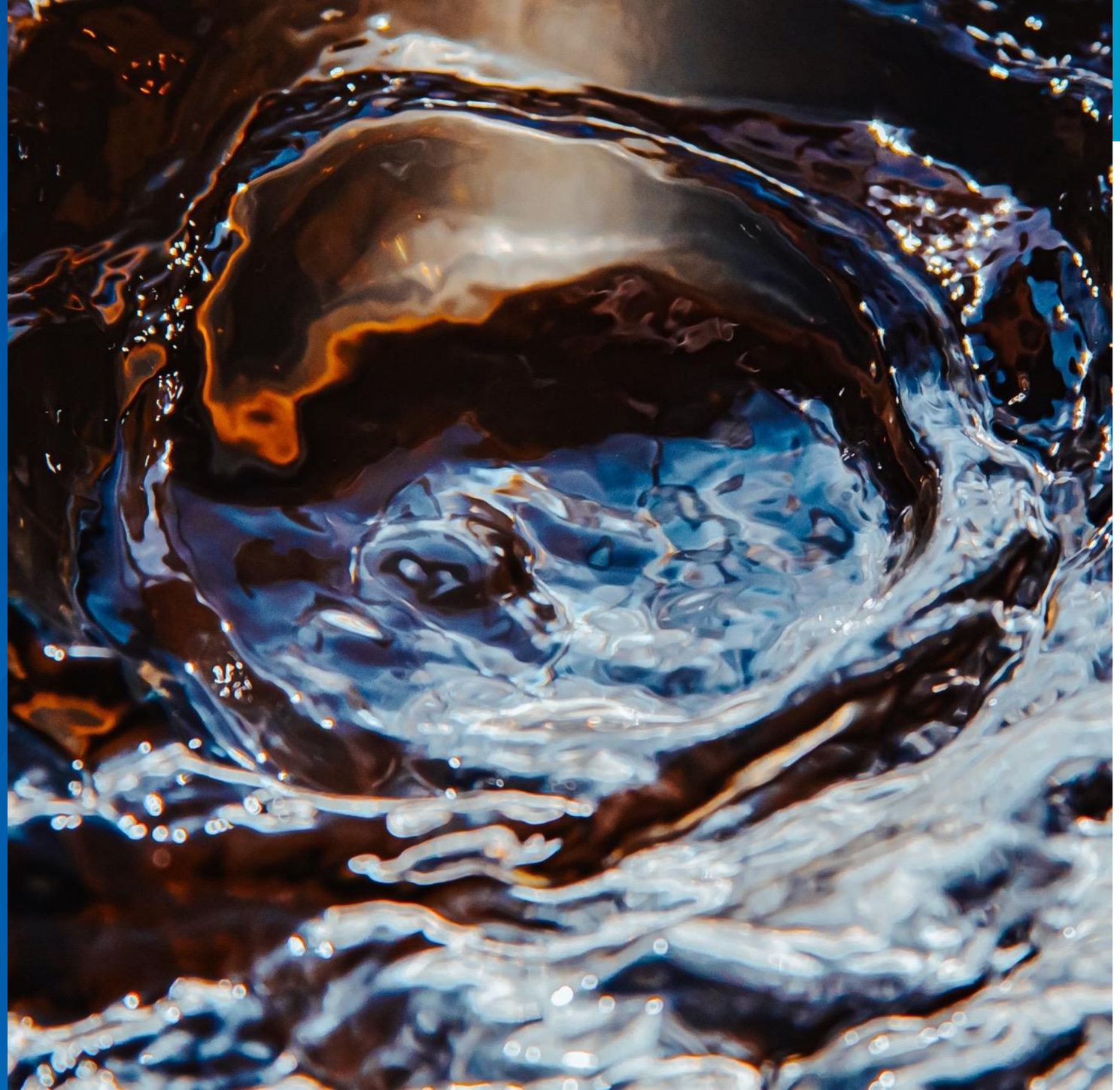


WRPP Research Topics

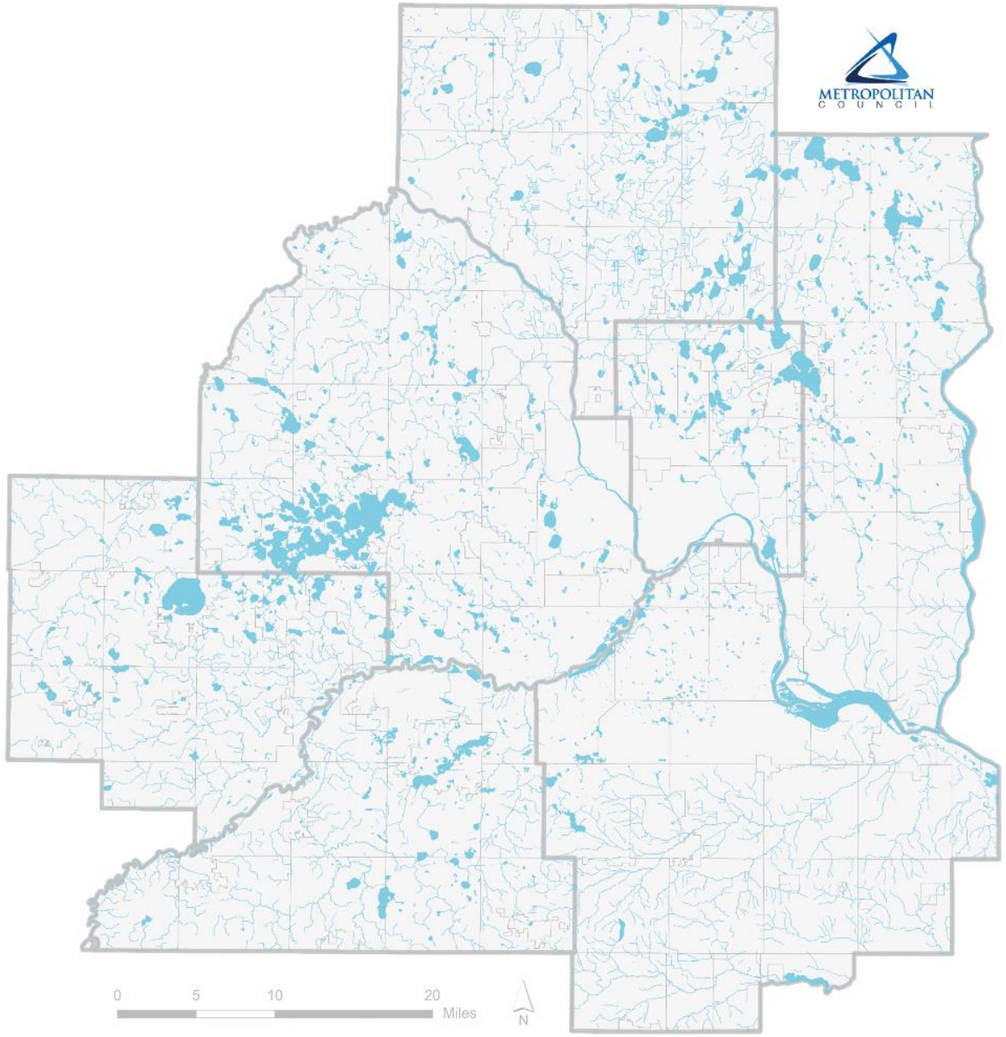


1. Water Reuse
2. Water and Climate
3. Rural Water Concerns
4. Wastewater Planning and Service Considerations
5. **Water Quality**
6. Protecting Source Water Areas
7. Water Availability, Access, and Use

Water Quality



Impaired Regional Waters



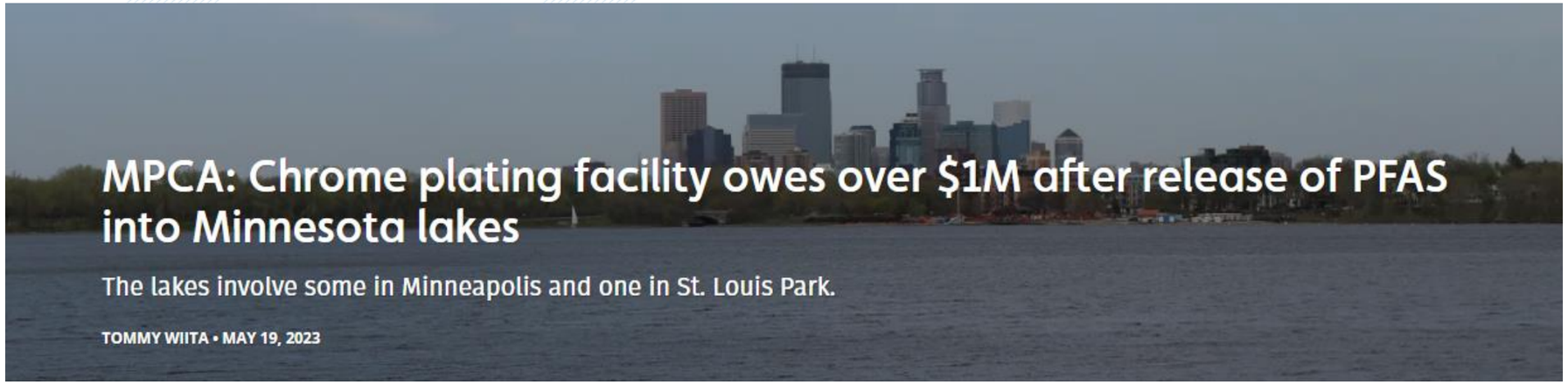
HEALTH

Beaches at Bde Maka Ska, Lake Hiawatha reopen after reporting high bacteria levels

The Minneapolis Park and Recreation Board (MPRB) website shows all Minneapolis lakes and beaches are open heading into the July 4th weekend.

Twin Cities prep for possible contaminated river water following nuclear leak

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



LOCAL NEWS

Met Council: salt overuse causing environmental issues

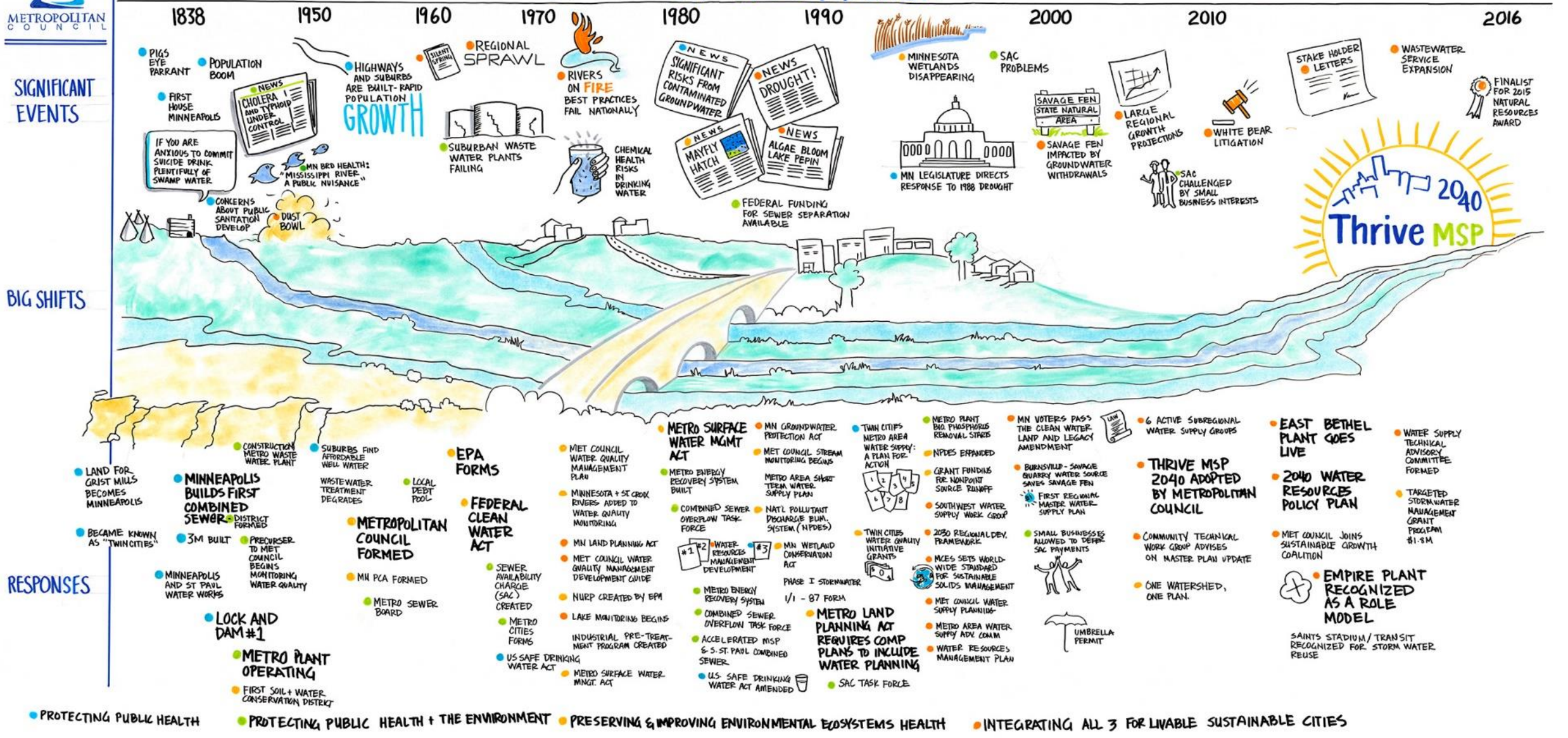
By OLIVIA STEVENS | Minnesota Public Radio
PUBLISHED: November 29, 2022 at 3:15 p.m. | UPDATED: November 30, 2022 at 9:28 p.m.

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

A HISTORY OF WATER FOR A THRIVING REGION



Water quality issue statement

Water quality contamination and its consequences impacts public health, ecosystem function, and affects regional economic competitiveness.

The metro region is experiencing increased pollutant-loaded runoff, a growing list of water impairments, contaminated drinking water supplies, and high utility treatment costs.

Uncertainty around emerging contaminants, regulatory changes, and climate change intensifies these issues, and complicates how to address water contamination.

Strong, regional water policies are necessary to restore and protect the quality of our waters and to ensure their resiliency to known and future contamination threats.

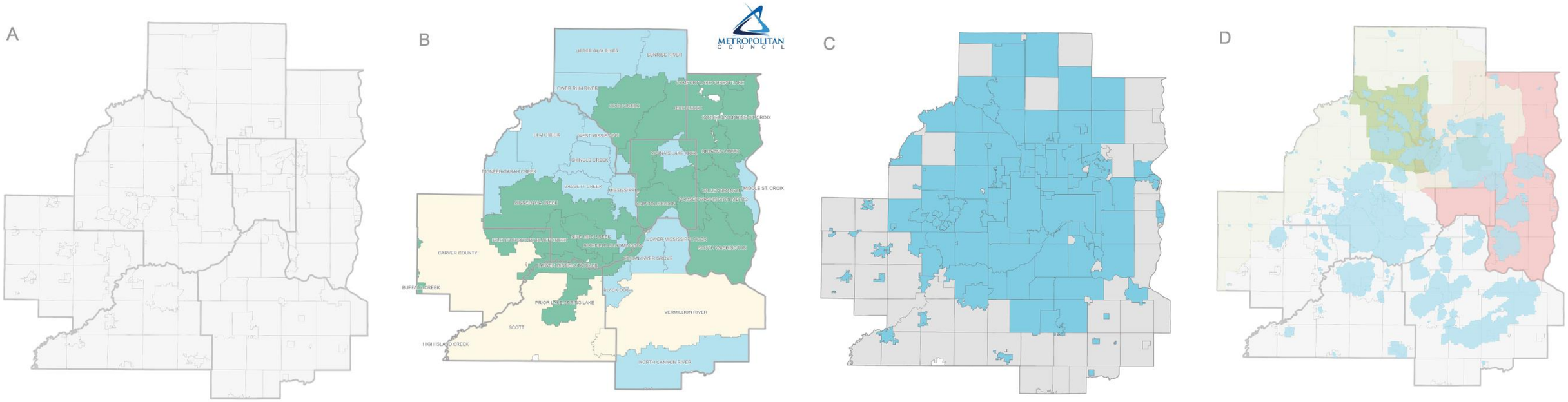
What is our water quality role?

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.

Regional Wastewater Collection & Treatment

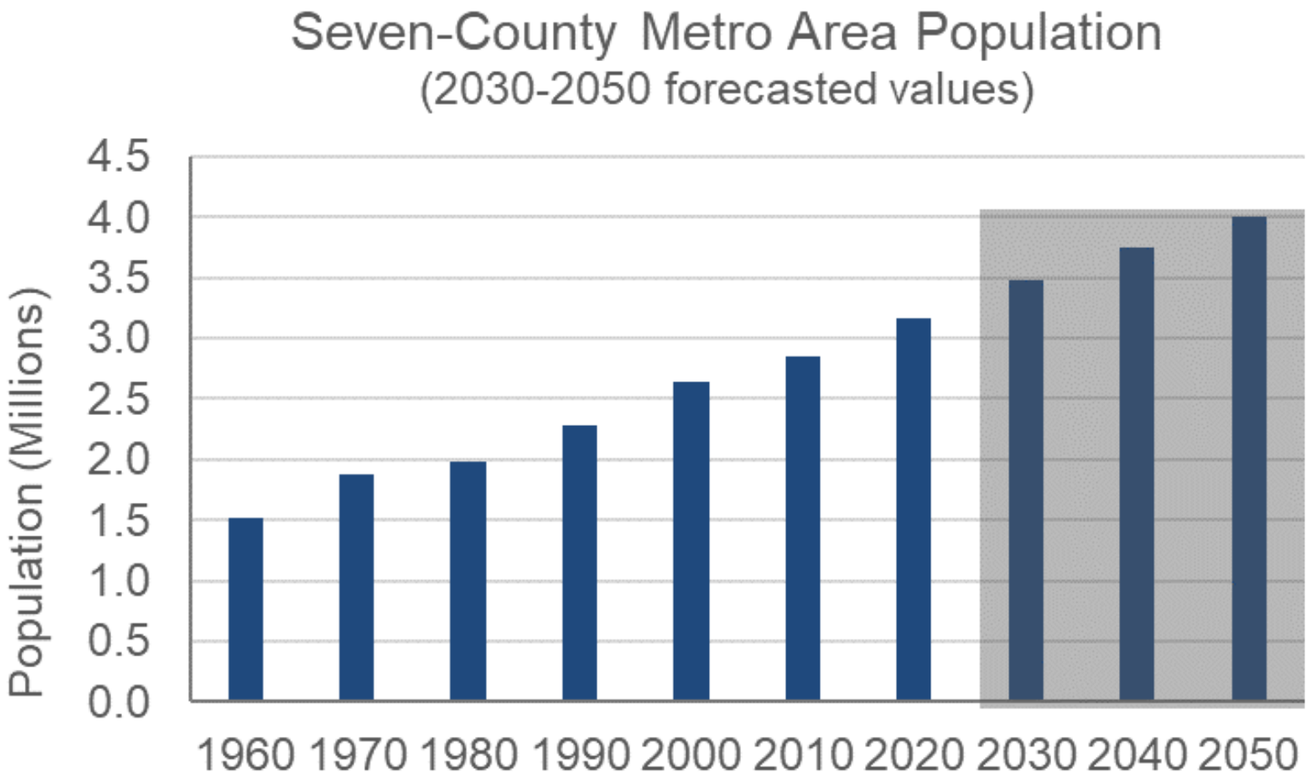
To meet our statutory obligations to provide wastewater services and meet permit requirements, however, we need to ensure that our infrastructure is resilient and can withstand the impacts of climate change.



A	B	C	D
Political boundaries	Watershed management	Public water supply	Source water protection
City, township, unincorporated area	Water management organization	Community with a public water supply	DWSMA for surface water Priority area A
	Watershed district	Community with no public water supply	DWSMA for surface water Priority area B
	County administered planning		DWSMA
			North and east metro groundwater management area

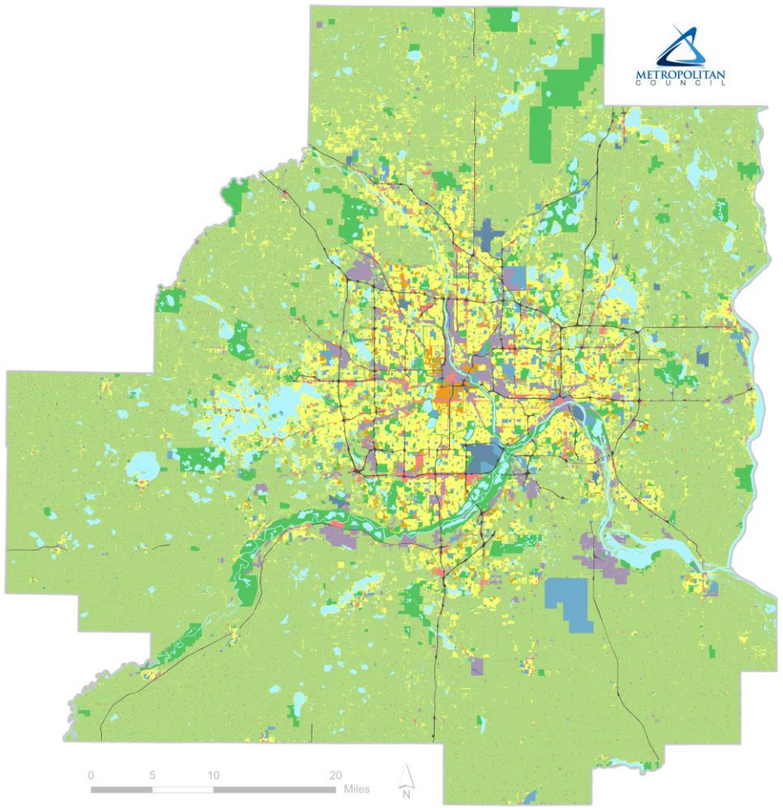
Crucial Concerns (1)

Population growth

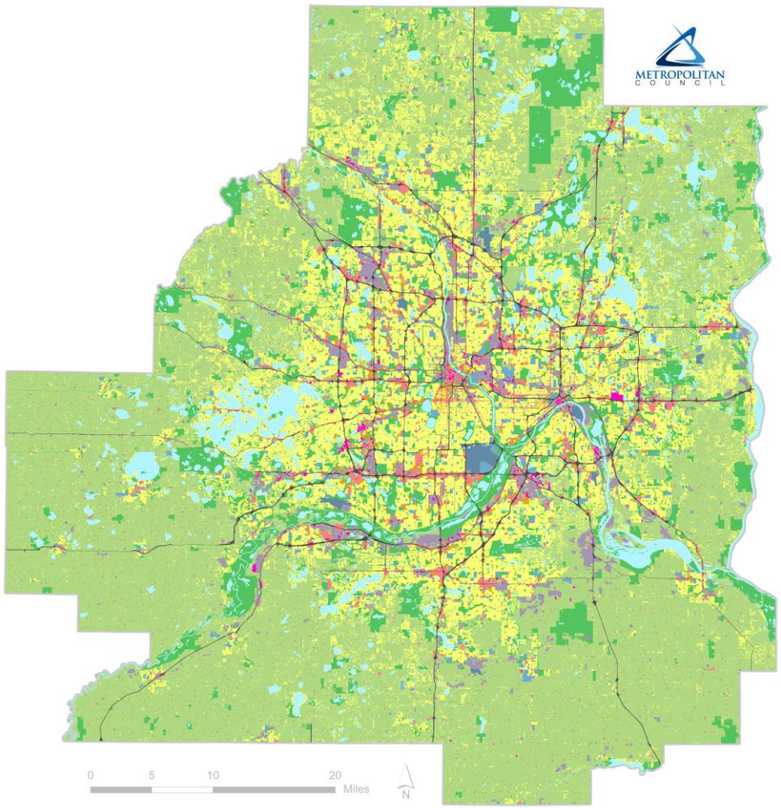


Crucial Concerns (2)

Land use change



1984 Land use



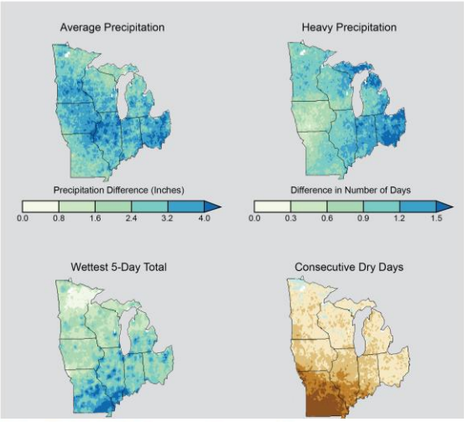
2020 Land use

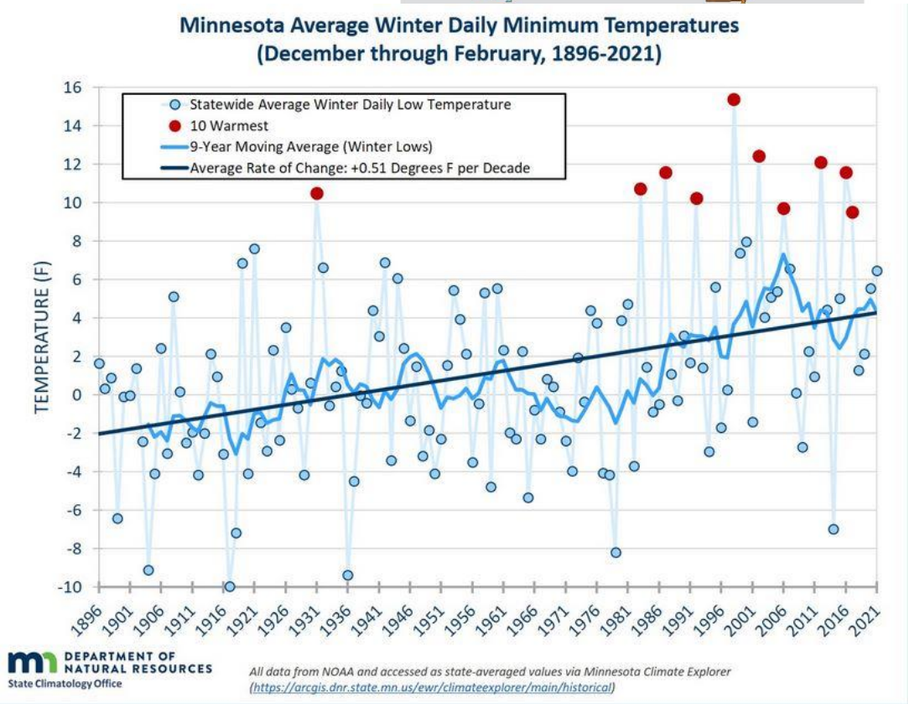
color on map	1984 category label	2020 category label
	Farmstead	Farmstead
	Single family residential	Seasonal/vacation Single family detached Manufactured housing park Single family attached
	Multi-family residential	Multi-family
	Commercial	Retail and other commercial Office
		Mixed use residential Mixed use industrial Mixed use commercial and other
	Industrial Industrial parks not developed	Industrial and utility Extractive
	Public/semi-public Public/semi-public not developed	Institutional
	Parks & recreation	Park, recreational, or preserve Golf course
	Major four lane highways	Major highway
		Railway
	Airports	Airport
	Vacant/agricultural	Agricultural Undeveloped
	Open water bodies	Water

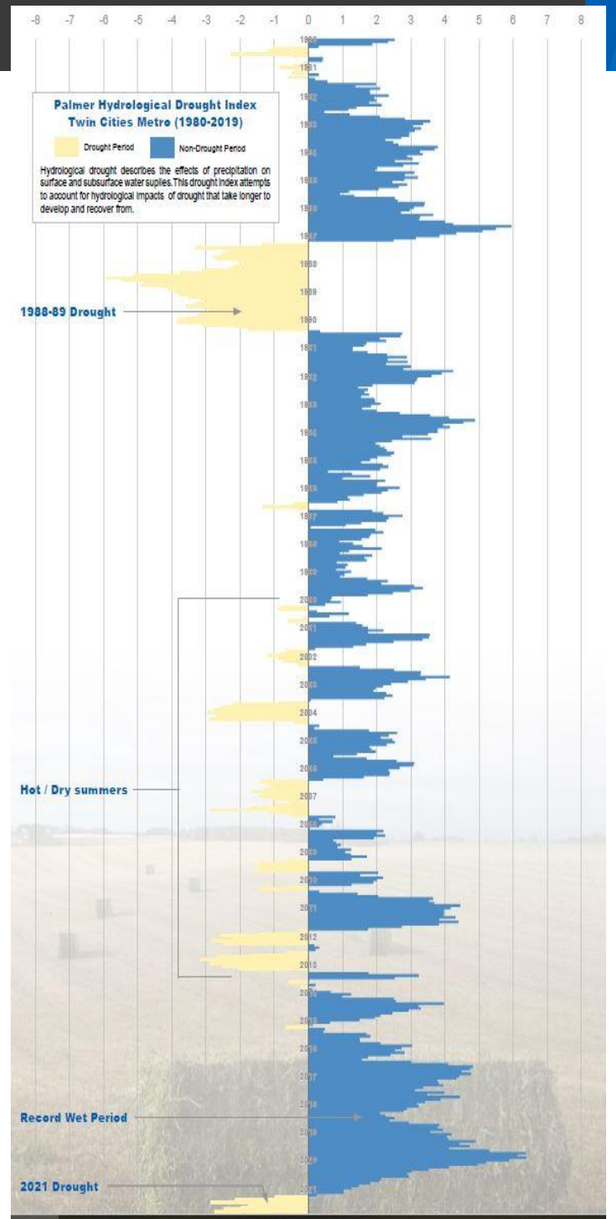
Crucial Concerns (3)

Climate change

- Extreme precipitation
- Prolonged wet periods
- Warmer winters
- Heat waves
- Droughts



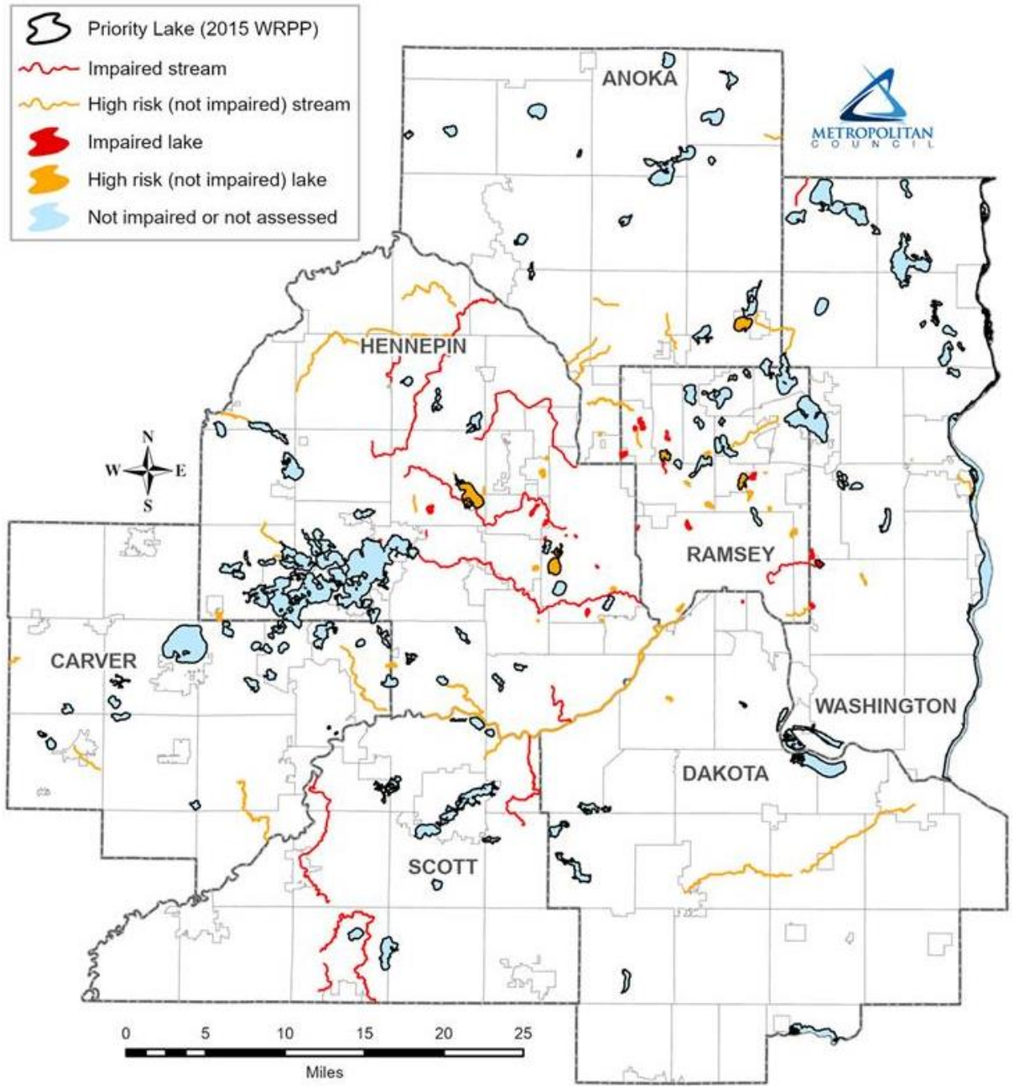




Crucial Concerns (4)

Chloride

- Infiltration of chlorides in groundwater supplies
- With increasing freeze/thaw cycles, we are using more deicing salt on our impervious surfaces.
- Increasing chloride impairments of waters in the core metro and first ring suburbs.
- Wastewater plants are a conduit for chlorides that we use in our region – water softening and industrial processing.

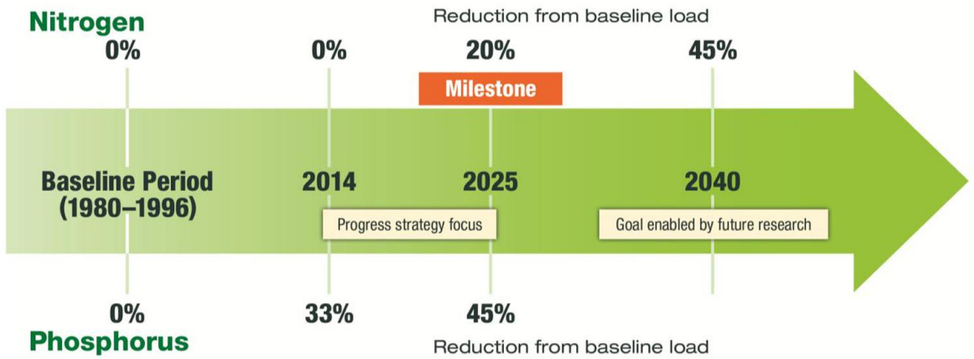


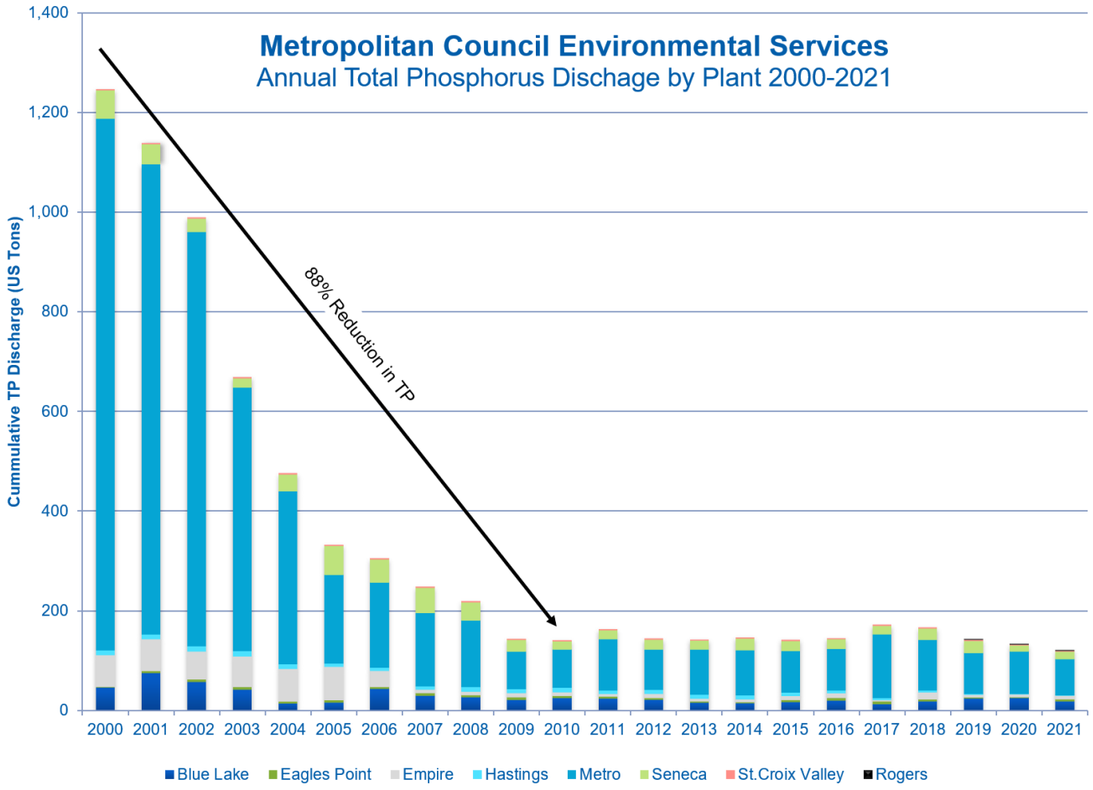
Crucial Concerns (5)

Nutrients

Nutrients, like **nitrogen** and **phosphorus**, are necessary for stream health.

However, elevated nutrient levels, caused by materials like fertilizers, animal manure, pet waste or grass clippings, can cause excessive algae growth and harm aquatic wildlife, insects and fish.



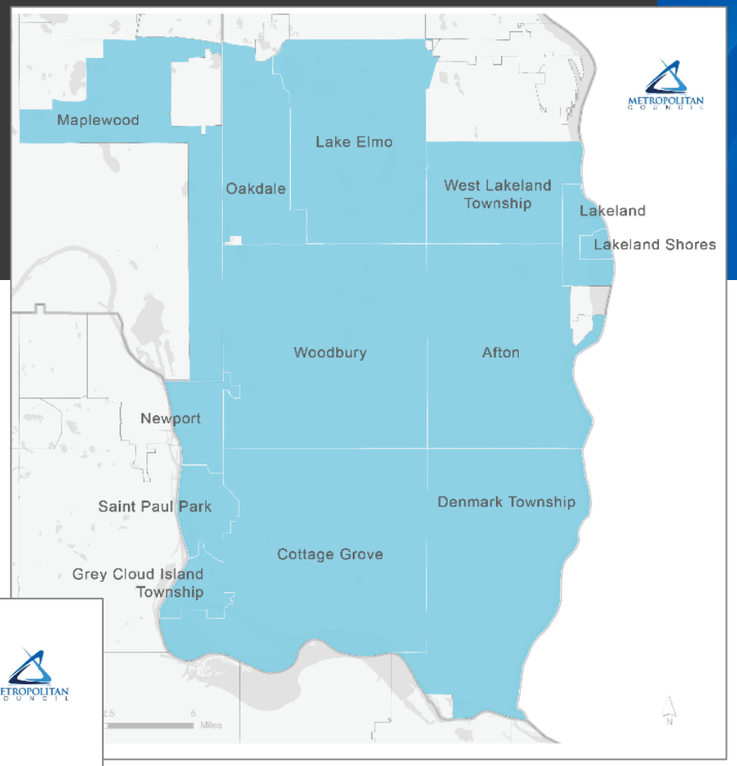


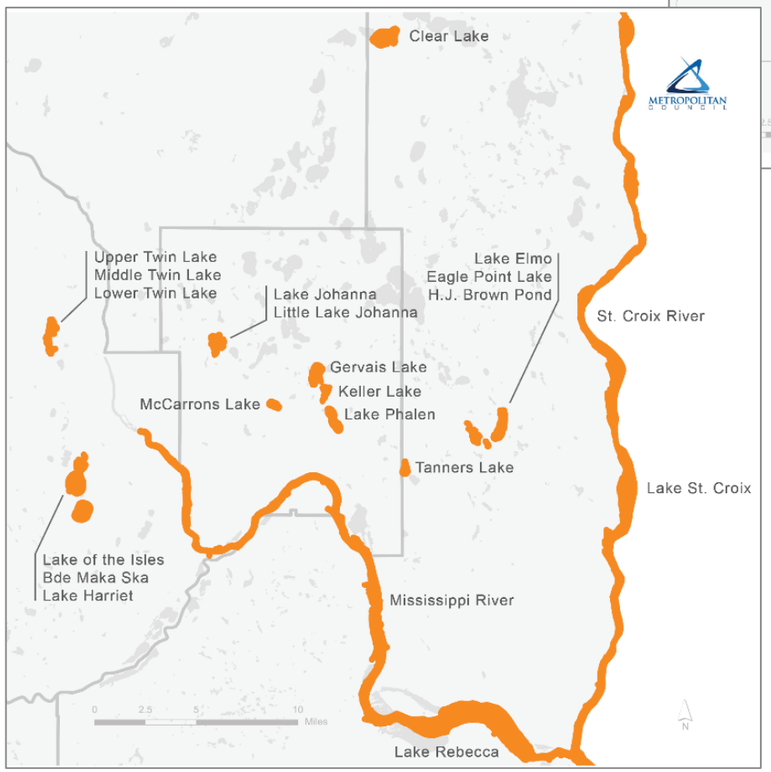
The Minnesota Nutrient Reduction Strategy (2014) aims at reducing excess nutrient inputs, combat Minnesota's growing list of nutrient impairments, and to lessen the state's contribution to the dead zone.

Crucial Concerns (6)

PFAS

- Per- and polyfluoroalkyl substances (PFAS) are a group of persistent, synthetic chemicals significantly impacting our region.
- Past manufacturing in the metro region and extensive use as water- and grease-resistant applications on consumer products and packaging, PFAS enter the environment in many ways (e.g., chemical spills, landfill leachate, residential and industrial wastewater, and biosolids).
- Once released, the chemicals can contaminate surface waters, drinking water supplies, and build up in the tissues of fish, wildlife, and humans.





Current policy

- Policy on Watershed Approach
- Policy on Sustainable Water Supplies
- Policy on Assessing and Protecting Regional Water Resources
- Policy on Investment
- Policy on Wastewater Sustainability
- Policy on Water Conservation and Reuse
- Policy on Private Wastewater Systems
- Policies on Serving the Urban and Rural Areas

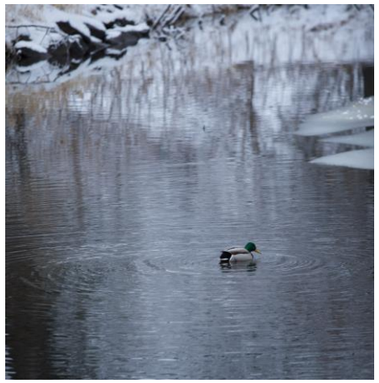
Recommendations (1) – New Policy

Environmental justice and water equity

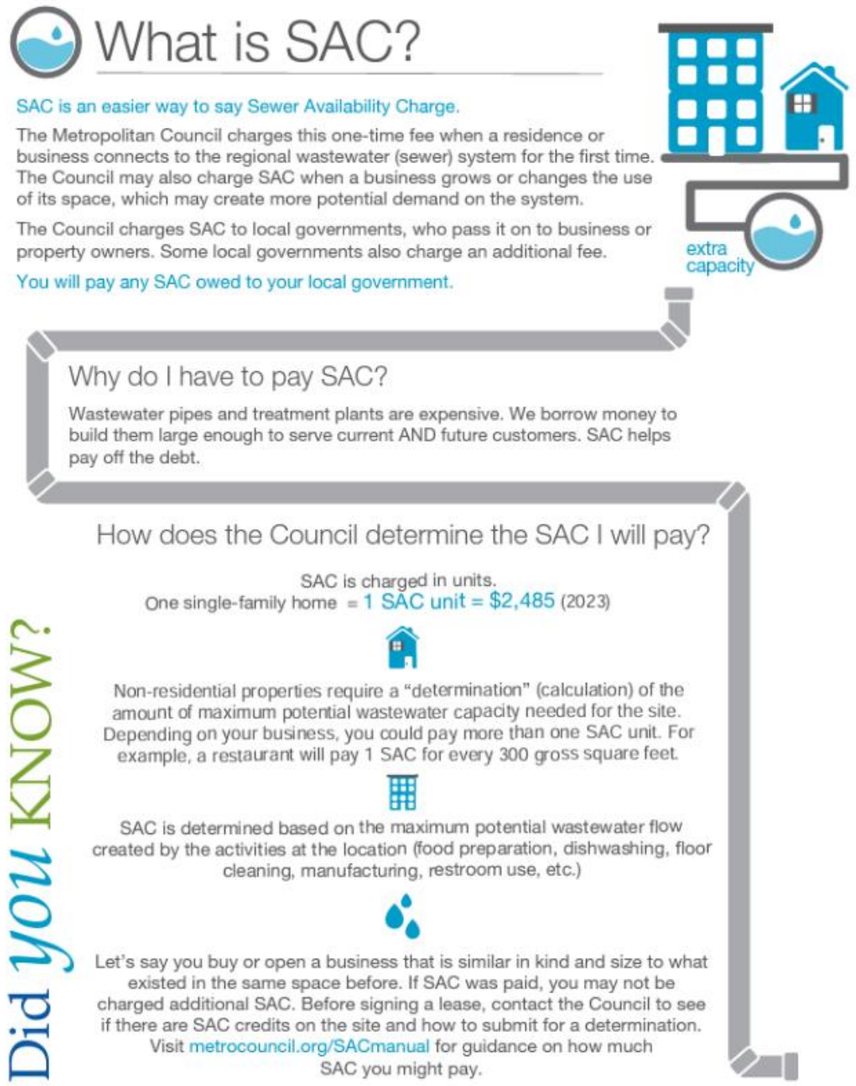
We will need to develop a new policy to encapsulate our strategies and actions towards water equity and environmental justice within the region. Met Council staff will work with Council Members to develop the language in 2023. Below are the recommended actions from this paper:

Proposed Actions:

- Met Council staff will convene and listen to community members who have water equity and environmental justice concerns or experiences. We will work together to try to alleviate imbalances that cause the injustices and strengthen our relationship and build trust.
- Met Council staff will partner and support metro region organizations with a water equity focus.
- Environmental Services will integrate equity metrics into our programs, projects, and services.
- Target monitoring work to Priority Waters with high scores in the equity category (this data is already available).
- Complete an equity analysis of where our capital program dollars are being spent.
- Environmental Services will partner with other Met Council divisions on equity efforts that overlap regional systems. The Met Council will work towards securing funds to provide grants promoting water equity and to address identified environmental injustices.



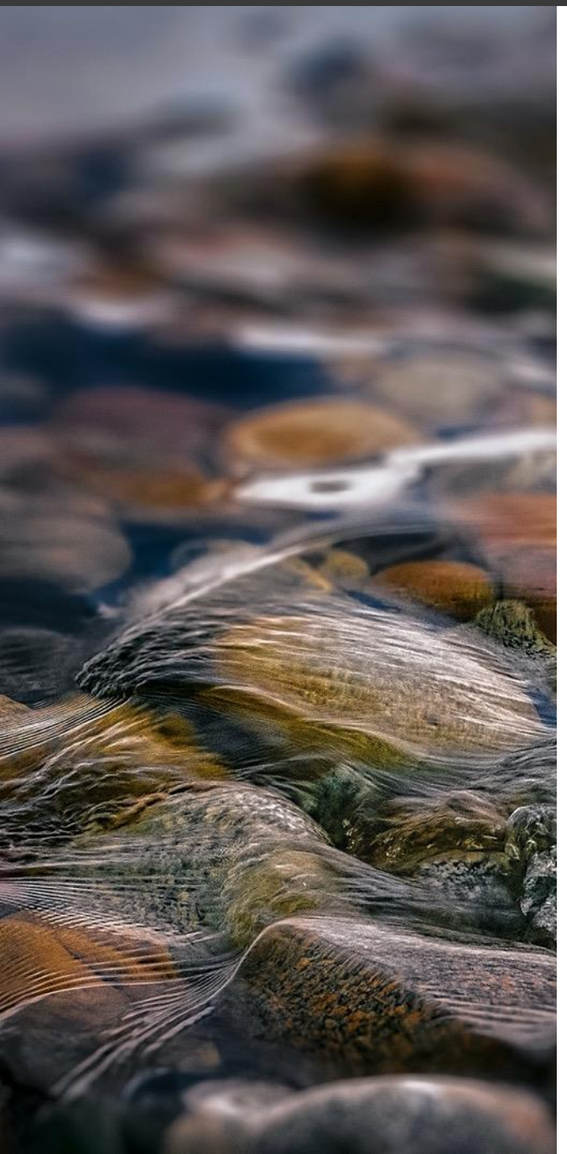
Recommendations (2) – Revisit Policy



Finance Policy

Environmental Services may need to revisit our finance policy to incorporate funding sources to provide for work not covered by, or to augment the regional sewer fees. Met Council staff will work with Council Members to develop the language in 2023.

Recommendations (3) – New Actions



Watershed Approach Policy

Selected Proposed Actions

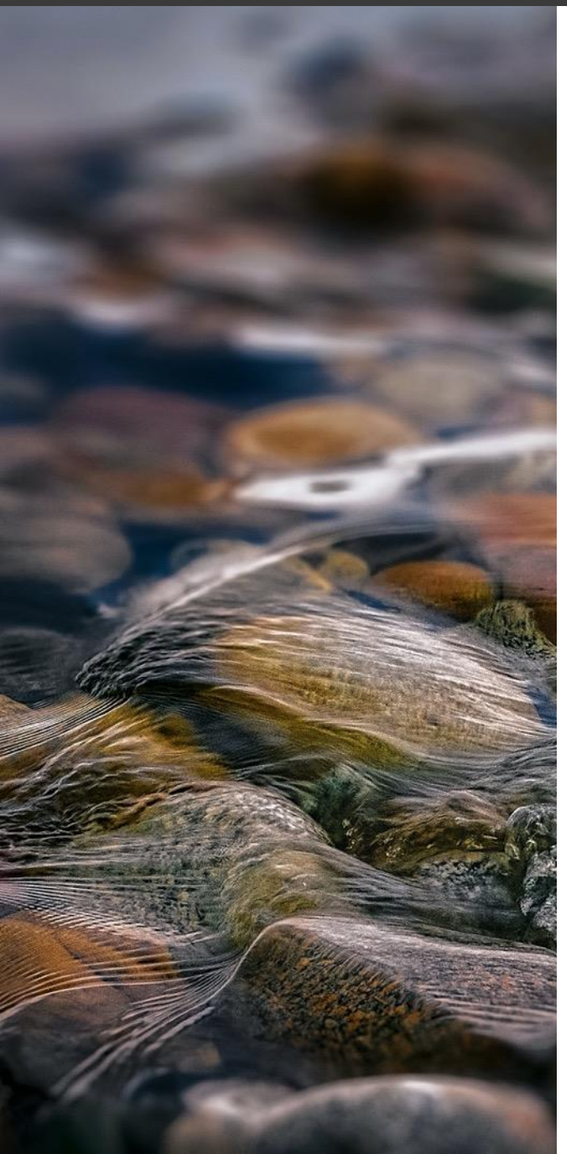
- Met Council staff will adopt an adaptive management approach (“plan-do-study-check”) to ensure our water policies are prioritized, targeted, measurable, and effective at improving the region’s water quality.
- Met Council staff will lead regional task forces to help us best explore and address regionally significant contaminants of emerging concern. They could establish a process to track Emerging Contaminants, assess their likely threat to waters in our region, or develop a decision-tree of when to initiate monitoring and assessments of these contaminants and do follow up actions.
- Through the review process for comprehensive plans, local water plans, and watershed management plans, Met Council staff will make water resources management a critical part of land use decisions, planning protocols and procedures. This will ensure these plans are making progress toward achieving state and regional goals for protection and restoration of water resources.
- The Met Council will work towards securing funds to provide targeted grants to promoting regional water quality.

Recommendations (4) – New Actions

Policy on Sustainable Water Supplies

- The Met Council will encourage interconnection of water supply systems where economies of scale can reduce the per capita cost of treatment for contamination in potable water.
- The Met Council will work with MDH to understand future changes to health-based guidance for drinking water contamination concerns.
- The Met Council will work with MPCA to further knowledge on the movement of existing groundwater contamination plumes in the metro region.
- The Met Council will support hydrogeologic studies to further knowledge on the levels of contaminants present in water supply aquifers.
- Met Council staff will new incorporate drinking water treatment best practices into future updates of the Metro Area Water Supply Plan.
- The Met Council will share information with subregional water supply work groups on developments in water treatment technologies.

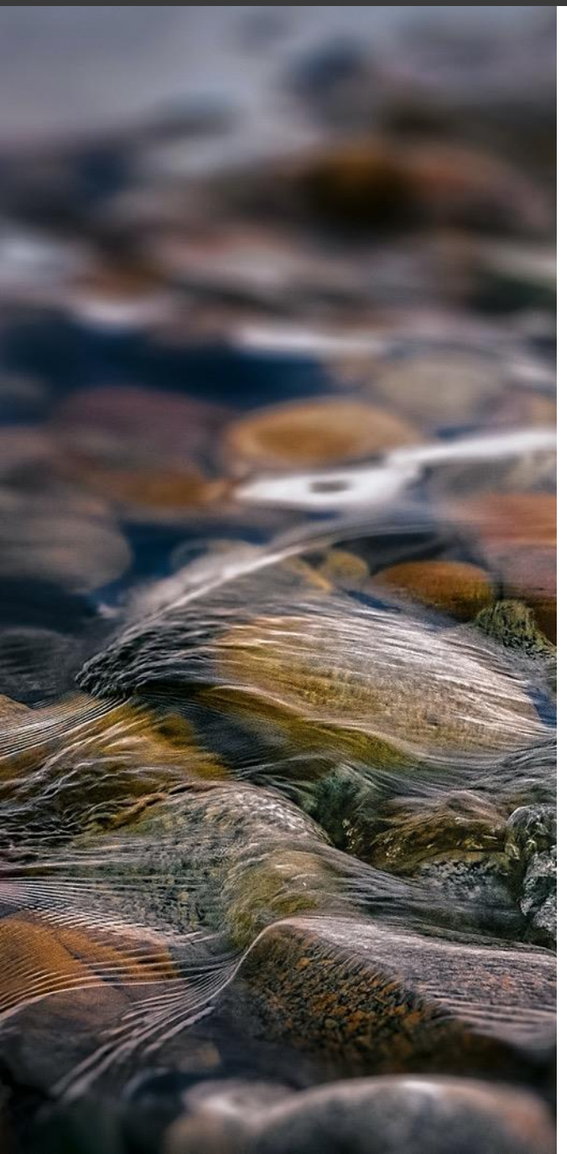
Recommendations (5) – New Actions



Assessing and protecting regional waters

- Council staff will work with local, state, and federal water organizations to ensure the monitoring of and data sharing for all Priority Waters for nutrients, chlorides, and other contaminants of concern at a frequency to allow assessment by MPCA against water quality standards.
- As new contaminant threats emerge, Met Council staff will work with local, state, and federal water organizations to complete a metro-wide synoptic survey of surface waters and well observations to establish a baseline understanding of the extent of surface and groundwaters contamination.
- Met Council staff will provide data, information, and planning tools to assist local governments in resilient water resources and infrastructure planning and decision-making for a changing climate:

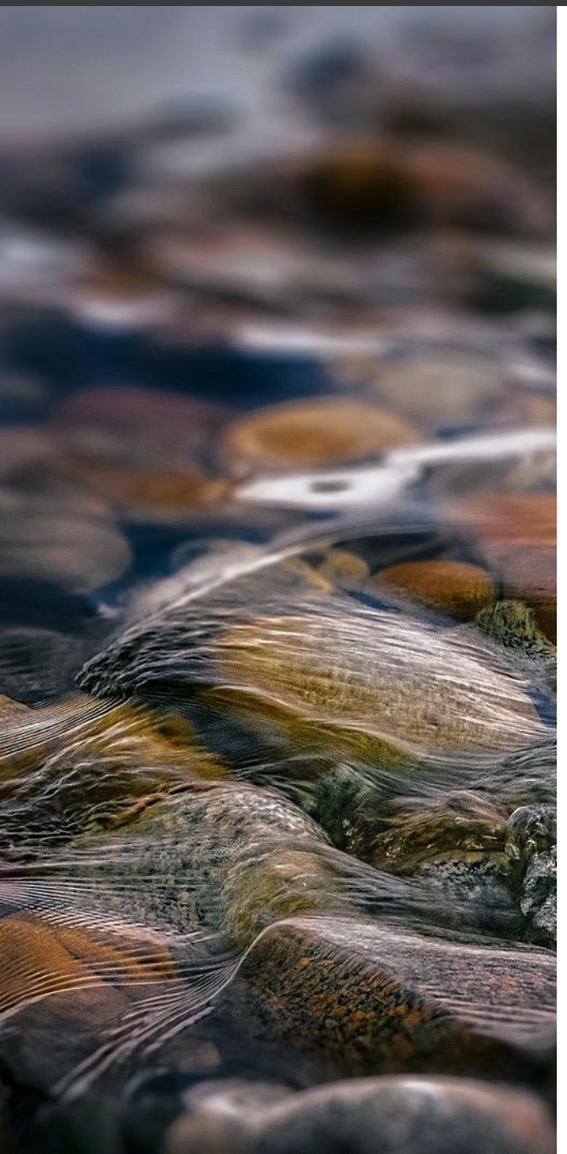
Recommendations (6) – New Actions



Investment

- The Met Council will partner with the MPCA to evaluate the potential for point and non-point source nutrient trading to reduce watershed nutrient loading.
- The Met Council will consider supporting or investing in innovative urban planning research and design to encourage growth without placing additional stress on water resources.
  - Nature-based stormwater infrastructure
  - Low road salt development design - new or redevelopment approaches that naturally need less salt for winter maintenance
  - Porous or solar pavements
  - Narrower streets
- The Met Council will investigate the regional need and the economic and legal viability to accept salty stormwater discharges to our wastewater collection and treatment system allowing for the reversal of chloride impaired lakes from the region.
- Met Council staff will partner with professional associations or research institutions to test and develop best water resources management practices or WWTP technological improvements.

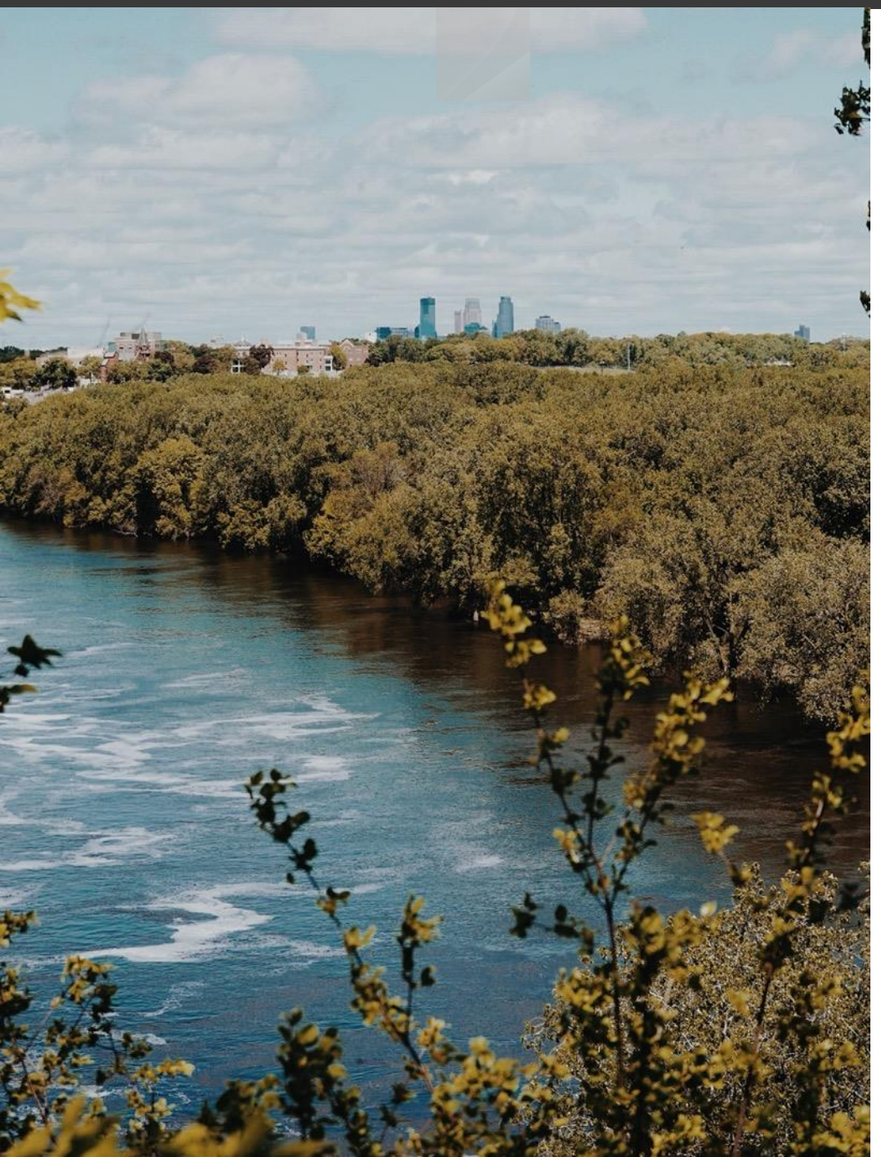
Recommendations (7) – New Actions



Wastewater Sustainability

- The Met Council will implement and promote the use of nature-based, green infrastructure solutions on Met Council properties where feasible.
- Met Council staff will develop internal infrastructure design and placement guidelines based on the latest scientific and engineering knowledge to reduce their climate-risk on longevity.
- Met Council staff will consider more extensive study of PFAS in our systems to help us better understand options for addressing PFAS at various points along the WWTP processes.

Discussion questions



Within the constraints of thinking about current and future water quality challenges, 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?

Jen Kostrzewski

Assistant Manager,
Water Resources Planning and Policy
Jennifer.Kostrzewski@metc.state.mn.us
651-602-1078

Judy Sventek

Manager, Water Resources
Judy.Sventek@metc.state.mn.us
651.602.1156

METROPOLITAN
COUNCIL