3/15/23 WORKSHOP FOR SUBREGIONAL WATER SUPPLY GROUPS AND PARTNERS

SHARING INSIGHTS TO STRENGTHEN COLLABORATION AND PLANNING

METROPOLITAN COUNCIL

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The Metropolitan Council is the regional planning organization for the seven-county Twin Cities area. The Council operates the regional bus and rail system, collects and treats wastewater, coordinates regional water resources, plans and helps fund regional parks, and administers federal funds that provide housing opportunities for low- and moderate-income individuals and families. The 17-member Council board is appointed by and serves at the pleasure of the governor.

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Executive summary

On March 15th, 2023, Metropolitan Council (Council) hosted a workshop of subregional water supply planning groups and partners. The purpose was to get local water supply input early in the process of the decadal update of the Regional Development Guide and related Water Resources Policy Plan and Metro Area Water Supply Plan.

The region is expected to growth by almost 1 million more people by 2050. To help support this growth, the Council needs to update the Regional Development Guide by the end of next year – including the Water Resources Policy Plan and Metro Area Water Supply Plan. During the last round of regional planning, the Council heard from several stakeholders that one size does not fit all, and regional water plans should reflect that. The Council is committed to taking a more subregional approach to this work.

MAWSAC and TAC advise the Council in its regional water supply planning work. Those committees have stressed that this planning work must be grounded in local perspectives - because water supply is not a regional system; it's a local responsibility.

Over 50 people attended from across the region. Participants primarily represented communities with public water supply systems, but a community supplied by private wells was represented as were multiple watershed management organizations. Future engagement should prioritize including perspectives from more rural communities.

Outcomes included:

- Discussion and connections among colleagues
- Shared concerns in the different subregions and shared concerns for the region as a whole
- Projects to work on as subregional groups and what support would be helpful for that
- Clearly defined next steps and upcoming regional planning milestones

Some highlights of the group discussions include:

- Local input to help refine the regional water supply goals offered by MAWSAC and TAC
- The subregional approach for the plan update was confirmed. Using a subregional approach working together on planning will lead to a stronger, more supportable planning effort.
- Water resource access, quality, and availability vary across the region, leading to local needs and priorities that differ across the region. Using a subregional approach will help to highlight these changes and allow us to target practices and solutions by subregion.
- When it comes to water supply issues, a one-size-fits-all approach is not effective, which is why the new subregional approach is needed and supported.
- A question came up early on about water supply as a local versus a regionalized system and the role of the Council. The Council's role is to provide regional water supply planning for the region's water suppliers. The Council provides value by helping local water suppliers and state agencies work together to overcome challenges. Water supply is not a regional system; it's a local responsibility regulated by state agencies. This will not change.

The Council is committed to supporting this effort. An internal reorganization has merged water supply planning and water resources staff into a larger water planning department. Roles and responsibilities in water resources and water supply planning remain as before. However, this new structure allows us to better integrate the work we do in the water supply and water resources areas, using more of a “One Water” approach. This new structure will help improve our coordination and work efforts in water planning for the region. Our goal remains to support communities and partners through our existing roles by working better together.

New staff will be helping to support the Council’s water supply planning work: Greg Johnson brings decades of engineering experience to guide our work in this area, and we are also excited to welcome Jen Kader who brings a wealth of convening and planning experience to support subregional collaboration. Greg and Jen augment existing water supply planning staff John Clark, Henry McCarthy, and Lanya Ross. If you have any questions about these changes, please contact Judy Sventek, Water Resources Manager at judy.sventek@metc.state.mn.us or at 651-602-1156.

Next steps include:

1. Reaching out to each subregional water supply work group to work on subregional content. This work is expected to vary across the region depending on interest and existing efforts.

2. Bringing the workshop information to MAWSAC and TAC in 2023-2024, to help support collaborative work identified in workshop discussions.

3. Incorporating survey input on policy research papers into the update of the Water Resources Policy Plan.

Workshop schedule/activities

The workshop began with a welcome and orientation by Wendy Wulff, the chair of the Metro Area Water Supply Advisory Committee (MAWSAC); Mark Maloney, the chair of the Metro Area Water Supply Technical Advisory Committee (TAC); and Sam Paske, the Assistant General Manager of Metropolitan Council Environmental Services' Planning Department.

Attendees got to know one another through an introductory survey (figures 1 and 2; full results at the end of this document).

Council staff presented an overview of the Council's framework for regional planning including the Regional Development Framework, the Water Resources Policy Plan, the Metro Area Water Supply Plan, and MAWSAC and TAC's regional vision and goals for water supply. Presentation slides are included at the end of this document.

In the first group activity, subregional groups discussed MAWSAC's regional water supply goals including their local perspectives on strengths, weaknesses, opportunities, and threats (SWOT).

The second group activity was a history mapping exercise, where participants shared information about some key water supply collaborations in the region and predictions for the future. The information will help draft content for the Metro Area Water Supply Plan (particularly background information) and also provides examples of the range of issues that the Council's plans and projects should be prepared to address.

Over lunch, Gary Deters of the University of Minnesota Turfgrass Science shared information about educational materials that are available for communities to support local water efficiency programming at local events. More information is available on the University's website at: https://turf.umn.edu/

Examples of challenging water issues and collaboration were presented after lunch. Steve Robertson (MDH) shared information about the PFAS dashboard. Emily Steinweg (Council) shared information about a multi-community wellhead protection plan pilot project. Jason Moeckel (DNR) shared information about water supply planning challenges in the northeast metro. Dan Marckel (Council) shared information about regional forecasts and scenario planning work. Presentation slides are at the end of this document.

In the third group activity, subregional groups discussed shared concerns and projects.

Figure 1. In an introductory survey, participants were asked for one word describing the most important thing about water supply. The most repeated words were: sustainable, safe, and life. Other important things about water supply include collaboration, coordination, integrated planning, availability, crucial, knowledge, education, security, quantity, safety, conservation, quality, reliable, and essential.

Measures of participation

Over 50 people attended the workshop (figure 2). Around 40 people submitted survey responses. Over 30 people shared the notes that they took during the first and third group activities (figures 3 and 4); their comments are included on pages 11-42.

Figure 2, Attendees represented communities from across the region. Most survey responders were from communities with municipal water supplies. The results highlight the need to engage more people in communities relying on private or small community wells, communities in southern Washington County, and communities in the west metro beyond the extent of the Prairie du Chien-Jordan aquifer.

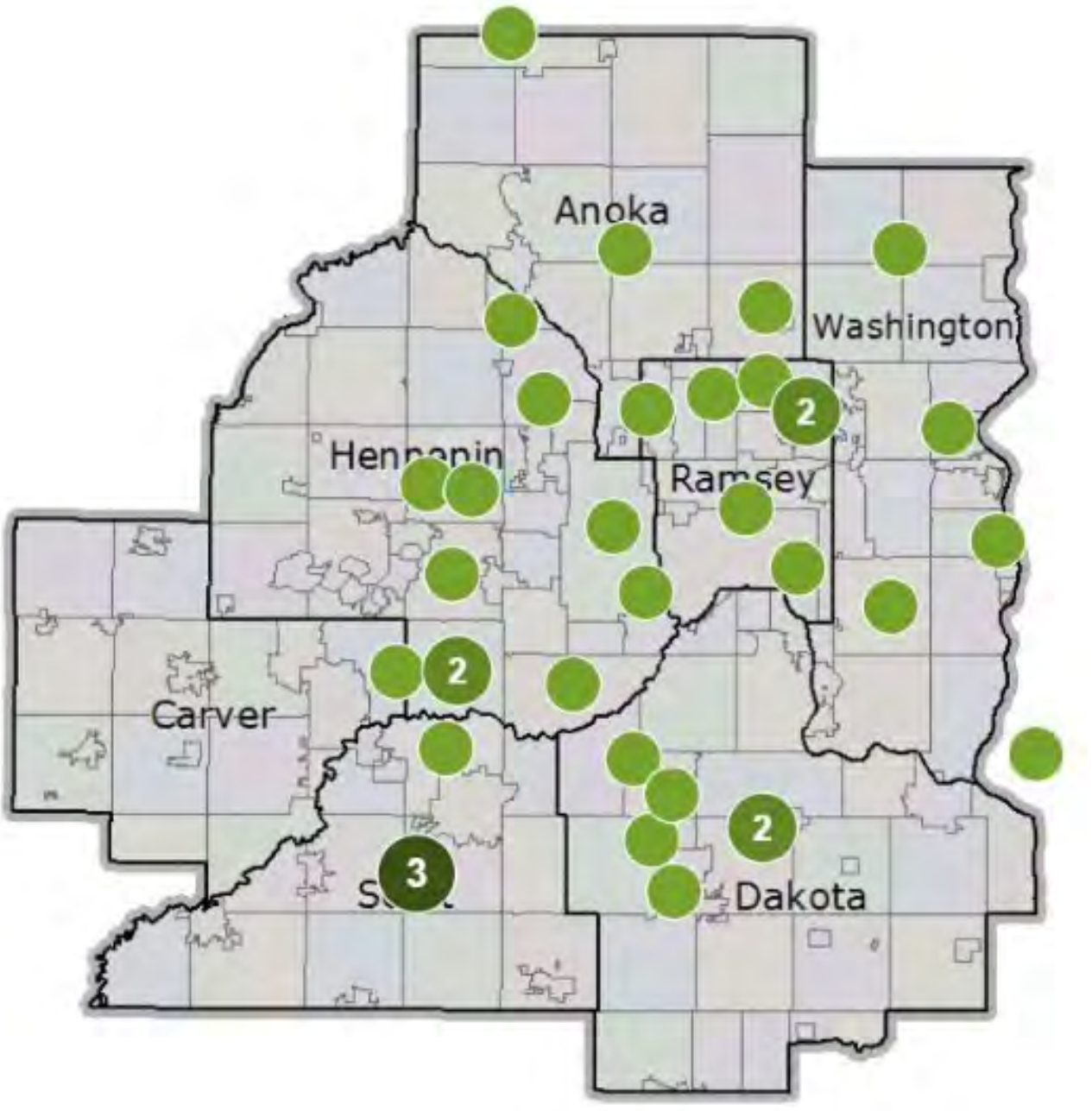


Figure 3. 33 people shared the notes that they took during the first group activity, which included small group discussions about the local perspectives of strengths, weaknesses, opportunities, and threats related to MAWSAC's regional goals for water supply.

Figure 4. 34 people shared the notes that they took during the third group activity, which included small group discussions about shared concerns and projects of interest.

Highlights: Group discussion #1 – SWOT analysis

The first group activity included small group discussions about the local perspectives of strengths, weaknesses, opportunities, and threats (SWOT) related to MAWSAC's regional goals for water supply.

Each subregional group focused on a different regional goal.

Figure 5 and Table 1 summarize information shared during the full-group report out after the small group discussions. More detailed notes taken by individuals during the small group discussions are included on pages 11-42.

The information shared in this activity will be used to help draft content for the updated metro area water supply plan, particularly refining regional goals, describing different subregional challenges and opportunities, and framing thinking about more measurable objectives or regional performance measures. It will also be used to more generally inform regional water policy development and to help prioritize proposed projects for Clean Water Fund support.

Figure 5. Summary of information shared during the full-group report after small group discussions. Also included in Table #.

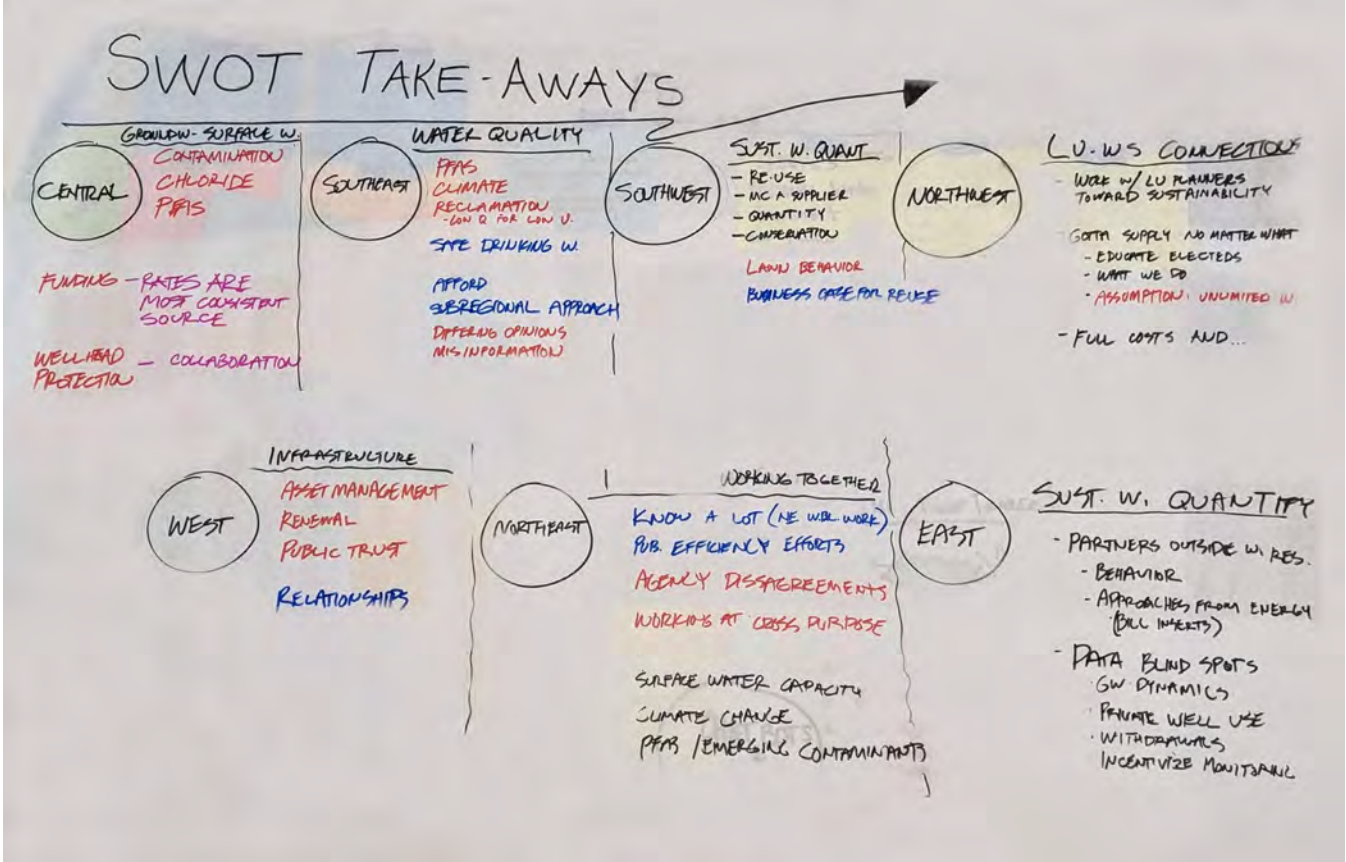


Table 1. Highlights of small group discussions, shared during the full-group report back.

Northwest	**Northeast**
Regional goal: Land use-water supply • Work with land use planners toward sustainability • Public water suppliers need to supply water, no matter what • Consider the full costs	*Regional goal: Land use-water supply* • A lot is known about the system (through work in the White Bear Lake Area, for example) • Public efficiency efforts • Agency disagreements • Working at cross purposes • Capacity for greater surface water use • Climate change • PFAS/emerging contaminants
West	**East**

Regional goal: infrastructure
• Asset management
• Renewal
• Public trust
• Relationships
	Regional goal: Sustainable water quantity
	• Partners outside with residents
	  o Behavior
	  o Approach from energy sector (like bill inserts)
	• Data blind spots
	• Groundwater dynamics
	• Private well use
	• Withdrawals
	• Incentivize monitoring

Southwest	**Southeast**
Regional goal: Sustainable water quantity • Reuse - Met Council as a supplier of reclaimed wastewater • Conservation • Lawn behavior – how to understand and shape landscape decisions? • Business case for reuse	*Regional goal: Water quality* • PFAS • Climate • Reclamation – match water quality to use requirements • Safe drinking water • Affordability • Subregional approach – address differing opinions, mis-information
Central	
Regional goal: Groundwater-surface water interaction • Contamination – Chloride, PFAS • Funding – rates are the most consistent source of funding for water supply systems • Wellhead protection - collaboration	

What does it look like to successfully achieve MAWSAC's regional goals?

LAND USE AND WATER SUPPLY CONNECTIONS

Successful land use and water supply connections in the northeast and northwest subregions looks like:

- The ability to access water when needed; everyone has water; current water sources are sustained
- Locals are given credit for water conservation projects, reuse, & retention
- No decline in the quality of stormwater or sustainable groundwater
- Stakeholders have a good understanding of how systems are balancing growth and protection
- Providing safe clean drinking water
- Reliable contact sources
- Happy and up-to-date communities
- Working to achieve common goals that benefit the subregion as a whole
- Interconnectivity to serve
- Reduced regional draw from aquifers
- Use of surface water vs. wells
- Land use that protects recharge areas
- Water supply connections made to communities in need in order to reduce reliance on ground water; this regains effective collaboration with both water users and water suppliers; growth as ID'd in comp plans is included; also stormwater reuse
- Future land use decisions are mindful of groundwater limitations
- Cities retain ability to have individual character
- Adequate quantity and quality of water in the long and short run with minimal impacts on lakes
- Recharge areas
- Runoff to White Bear Lake (WBL)
- A fair compromise that balances WBL water levels and regional groundwater (GW) use

Progress on land use and water supply connections can be tracked in the northeast and northwest subregions by:

- Review data collected to analyze water savings

- Keeping up to date records to track water quality
- Records to track infrastructure upgrades
- Maintenance records, community surveys
- Number of wells removed
- It's different based on sustainable sources of water
- Are communities in need collaborating effectively with shared vision and goals?
- Timely physical plan development with realistic timelines
- Agency/regulator support
- Consider regulatory modifications for programs such as stormwater reuse
- Impacts on critical resources
- Aquifer levels
- Tracked by continuing to rely on tools and data that exist

Actions addressing land use and water supply connections in the northeast and northwest subregions:

- Continue to fund water conservation projects (ev. Low flow toilets, smart sprinklers, etc.)
- Continue to fund storm water irrigation projects
- Develop written manual to show design guidelines for storm water ponds and irrigation systems
- What works and what needs improvement
- Public water supply systems have an update/accurate SWPP
- Monitor and manage the SWP and share info about the SWPA with public and planning and officials
- Be involved in any land use planning from the beginning and ordinances etc. in place when necessary
- Have an ASP or CIP that includes long range planning to meet capacity
- Optimize use for grants to strengthen ability to communicate importance of SWP
- Having a plan set and having a team/workforce that is passionate about community service and environmental preservation
- Continuing communication and education to the decision makers and community

- Collaboration to do what is right for the environment while also protecting the municipal water systems
- Communications, collaboration and shared planning
- Common goals and strategies (subregional and local)
- Local supportive and infrastructure support
- Allow flexibility in densities
- Have water stewardship built into land use decisions
- Plan for the long range in a collaborative manner
- Optimize sources of water and implement supply and treatment options

Strengths and opportunities to leverage in the northeast and northwest subregions when addressing land use and water supply connections:

- Water efficiency programs – grants, smart irrigation controllers, Met Council programs
- Support each other on sustainability
- Info about recharge areas
- Communications
- MDH, SWP grants
- DNR
- RO (Council staff note: unclear if this refers to reverse osmosis or something else)
- Watershed districts
- Knowledge exists through years of study, data, and evaluation – we understand the area well and there is awareness of problem
- Identification on sustainable use
- Support local plans - CIPS/SWPP
- NE metro on water supply
- Use existing data to design a manual for stormwater ponds and irrigation systems
- Capacity for greater surface water use (ex: SPRWS)
- Best understood system with multiple recent studies completed

- Options for alternative supplies of water are needed
- Identify recharge areas and coordinate
- Opportunities for more stormwater use, efficiency, reuse – share best practices

Threats and weakness to watch out for in the northeast and northwest subregions when addressing land use and water supply connections:

- What tools?
- City planners rarely take water supply issues into consideration; utilities are an afterthought
- Protecting source waters reach way beyond the borders of the city but vital to all regardless of political boundaries
- Competing interests
- Lake Elmo has major problems
- Lack of agency integration, siloed approaches and agencies not working together
- Collaboration among cities is needed
- Consistent set of measures
- Funding
- Shared values on what is important
- Contamination, including the next forever chemical
- Must supply water no matter what
- Education of elected officials
- Asset management - relaying true cost
- WBL water levels
- Recharge area loss, less recharge
- Changing climate - uncertainty in long term forecasts and greater extremes
- Agencies underestimating capacity for human change

WATER SUPPLY INFRASTRUCTURE

Successful water supply infrastructure in the west subregion looks like:

- Proactive vs. reactive planning (example: planning for aging infrastructure proactively)
- Looking past a 10-year CIP
- Public trust in water provider
- Coordination on projects, purchasing, policies, enforcement
- Holistic systemwide approach
- Similar costs across communities in the subregion
- Financial assistance provided through means & methods that everyone uses/has available
- Acceptable (predictable) cost per 1000 gallons produced …compared to a standard
- Map

Progress on water supply infrastructure can be tracked in the west subregion by:

- No boil orders being issued; no drinking water violations
- High customer confidence and satisfaction survey results
- Capital plans largely followed and unchanged
- Annually review costs (example: $/gallons produced); track investments (new & rehab/replacement) vs. total assets
- Would be different based on subregion
- Region different and subregion more close
- Community service
- Age of installation vs. pipe material

Actions for water supply infrastructure in the west subregion:

- Open and inclusive process for addressing emerging contaminants
- Uniform and constant public education
- Programs for financing for agencies of need

- Coordinated efforts for legislative efforts and funding
- Subregionally (Council staff note: unclear if this is a suggestion for subregional action)
- Categorical new vs. old residential
- Plymouth is nearly built out - neighbors to west are not

Strengths and opportunities to leverage in the west subregion when addressing water supply infrastructure:

- Financial stability
- Supply system stability
- Asset quality
- Water interconnections
- Availability to surface water as a backup to groundwater sources
- Well-informed, aware, and committed to act responsibly
- Pride
- Well represented by more than just easternmost communities in subregion
- Collaborative environment - Interaction with other communities (consistency, awareness)
- Pilot different ideas in various communities
- Using technology more to improve efficiency
- Meeting more often
- Reuse

Threats and weakness to watch out for in the west subregion when addressing water supply infrastructure:

- Lack of water interconnection agreements and water chemistry mixing understanding (non-softened vs. softened)
- Documentation is sporadic - both internally and shared
- Shared source water, all one source - quality and quantity
- Vulnerability

- Representation by entire subregion
- New or worsening impairments, stricter regulations (PFAS, chlorides)
- Workforce; inflation; supply chain; security; affordability
- Resources - work force/labor, supply chain, materials/chemicals availability and cost
- Inventory, inflation costs
- Security
- Dependency on groundwater
- Public trust
- New developments vs. old established turf

SUSTAINABLE WATER QUANTITY

Sustainable water quantity in the southwest and east subregions looks like:

- Transparency, accessibility & accuracy of information
- Unified goals and objectives
- Options
- Local and private reuse
- Allowing development but meeting water use goals
- Public trust
- Predictable and affordable
- Coordination
- Understanding the sustainable limits of GW and SW sources is OK for water quantity; what are the challenges for understanding sustainable limits based on water quality?; clear information on impacts to water quality (both anthropogenic - PFAS, VOCS, etc. - and geologic source (manganese, radioactivity)
- Consistency and equity of practices, investments, and policies regionally
- Have information at the right time when investment decisions are made
- We have decades of lead time to address; generational timeframes
- We know current and projected use and can model scenarios
- Incremental change
- Currently success is comparing static water levels through the years
- We strive to have enough surplus supply to rest our wells allowing for recharge

Progress toward sustainable water quantity can be tracked in the southwest and east subregions by:

- Quantifying infiltration achievements/recharge achievements to withdrawals
- Incentivized use monitoring private wells
- Widespread level monitoring
- Large map with colors; asset management
- Publicly available information on water quality

- Updates on reclaimed wastewater
- Locally and subregion
- Actual use vs. modeled sustainable use
- Set local goals
- Via manual or SCADA generated water levels reports
- Reports to DNR

Actions for sustainable water quantity in the southwest and east subregions:

- Use of social norms (example: comparative use amongst residents)
- Incentives (loss aversion)
- Information
- Menu of options
- GRANTS – reuse
- City council back up for funding needs
- Need regional plan and investment
- Experience is limited ROI for stormwater reuse approach
- Regional consistency of practices and policies will be necessary (example: conservation)
- For a majority of suburban communities, non-potable use for irrigation is the biggest demand on water supply. For communities to stay competitive, all communities need to be consistent in approaches to addressing this demand
- Set short and long term goals to measure progress
- Identify actions toward meeting those goals, focus on outdoor use at the local level
- Look at conservation rates (pricing)
- PFAS stuff

Strengths and opportunities to leverage in the southwest and east subregions when addressing sustainable water quantity:

- Data / information sharing and drive towards data-driven decisions
- Outside perspectives

- Use versus recharge
- Private well use
- Economies - social science for behavior change
- City networks between each other
- Financial stability in many systems
- More water reuse (wastewater infrastructure - water treatment)
- Provide long term (10+ years) cost-benefit analysis for water treatment vs. water reuse vs. current wastewater disposal
- Behavior changes; aware of use and its impact
- Coordinate on asset management, city council strategies on maintenance support
- Dashboards
- Technology

Threats and weakness to watch out for in the southwest and east subregions when addressing sustainable water quantity:

- Lack of usage tracking - to individual user (supply)
- Lack of private well use
- Messaging/transparency - communication needs to be efficient
- Public education
- Goal alignment
- Expectations vs. reality
- Competition on rates
- Documentation
- Climate change
- Contamination - Chloride; nitrate, PFAS
- Public trust
- Workforce
- Costs and inflation

- More interconnects and emergency planning – acknowledge interconnection challenges/opportunities with softening

Figure 6. The East and Southwest subregions each discussed the regional goal of sustainable water quantity.

WATER QUALITY

Water quality in the southeast and central subregions looks like:

- Conservation versus new development
- Safe clean water sources are available and abundant
- Providing safe drinking water to city populations – both private well and public water supply system users
- Understand concerns (private wells and public water supplies) and have resources and understand
- Treatment for private wells is affordable
- Educate public on usage
- Dakota County public water suppliers have understanding of contaminants of concern - emerging concern and resources to address
- Address contaminants like nitrate, PFAS, radium, manganese
- How are we factoring in people who rely on the large number of private wells in metro area?
- Lock step coordination between PWS response and private well response

Progress on water quality can be tracked in the southeast and central subregions by:

- Track usage
- Identification of priority pollutants at subregion and local levels
- Sampling trends over time
- Measures against HRLs/MCLs as both absolute values (point in time) and trends
- Groundwater quality and post-treatment quality
- Cost of treatment for PFAS
- Length of time for clean up
- Actions by residents
- Need full community buy-in

Actions to address water quality in the southeast and central subregions:

- Development of affordable alternative treatment
- Development of unclaimed water for reuse purposes - sale of rain barrels
- Provide water that meets all health standards
- Know concerns
- Resources to address
- Community participation (residents, businesses)
- Resources for sampling, testing, treatment, and remediation or on the ground practices to address
- Prevent contamination from moving
- Regional investment in clean up
- Identification of best practices
- Reporting (annual)
- Financial incentives

Strengths and opportunities to leverage in the southeast and central subregions when addressing water quality:

- Collaborations; subregional groups are beneficial - good for ensuring policies don't become one size fits all
- Bring all information together and send out to all
- Met Council clearinghouse of info/data for communities (can be improved upon)
- Known sampling
- If there is political will (if good protections for both cities), it is good planning to have interconnections
- Unpredictable climate - rain barrel usage, water reuse
- Practice application tracking
- Funding for more efficient processes
- Amount used to irrigate fields

Threats and weakness to watch out for in the southeast and central subregions when addressing water quality:

- Elected officials have differing opinions across boundaries
- What are the data gaps/needs?
- Misinformation can lead to distrust
- Need community buy-in, including residents, business (ie. on ground practices)
- Bacteria problems may not be solved by interconnections
- Infrastructure costs can be a challenge
- One size does not fit all
- Funding for resources
- Climate change - unpredictable weather drought, flood
- PFAS - Apple Valley

UNDERSTANDING GROUNDWATER-SURFACE WATER INTERACTION

Understanding groundwater-surface water interaction in central subregion looks like:

- For long-term supply sustainability
- Shared source water protection planning across municipal boundaries
- Protection planning by aquifer rather than municipal boundaries

Progress on understanding groundwater-surface water interaction can be tracked in the central subregion by:

- Aquifer plans developed
- Action steps implemented

Actions to understanding groundwater-surface water interaction in the central subregion:

- Voluntary collaboration
- Get the land planners from multiple cities engaged in water supply, source water protection

Strengths and opportunities to leverage in the southeast and central subregions to understand groundwater-surface water interaction:

- Educating internal city departments about water - through inclusion and engagement
- Use subregional groups to address wellhead protection by brining land planners to the table
- Big question is: where do we start?
- CONNECTIVITY is the big opportunity

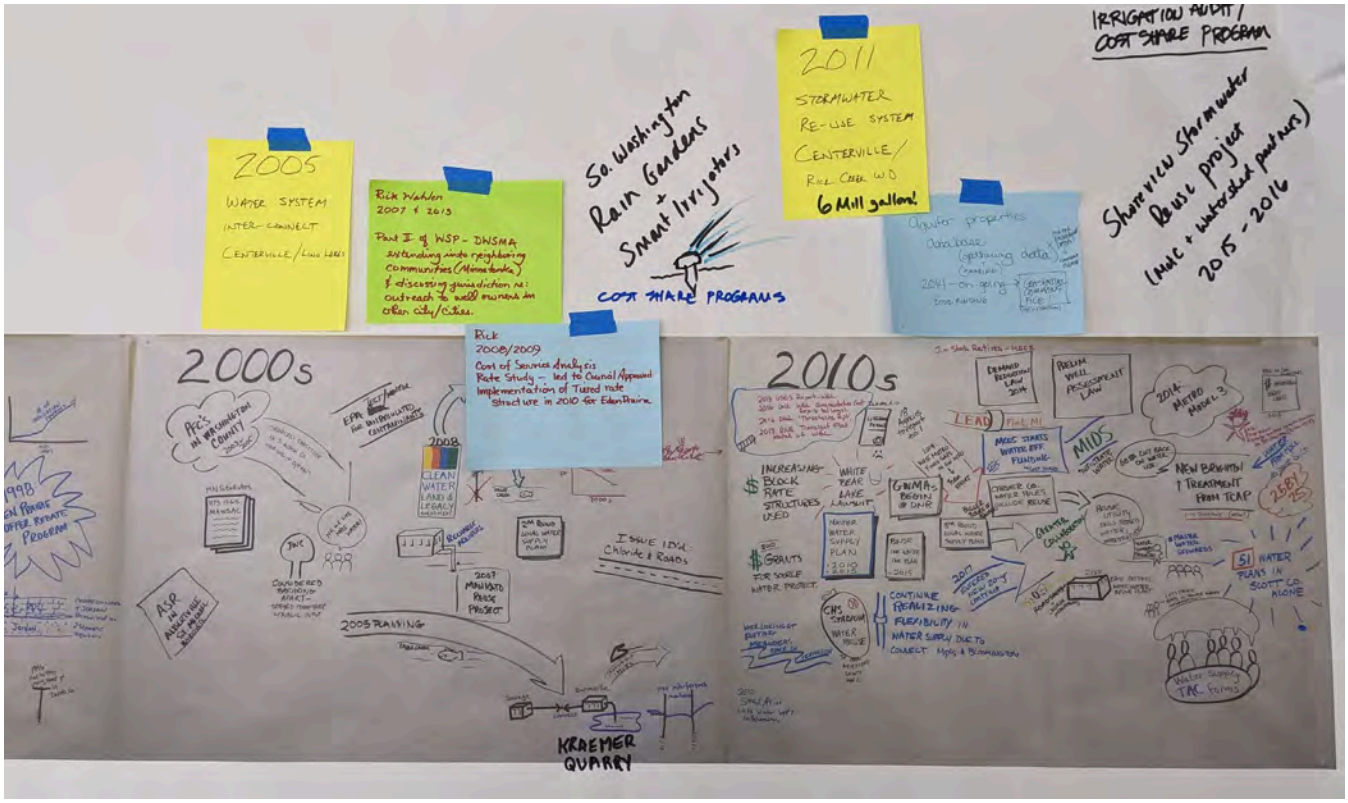
Threats and weakness to watch out for in the southeast and central subregions to understand groundwater-surface water interaction:

- Communities that do not qualify for some of the grant/loan programs because of their MHI
- Educating other departments at the city about the importance of water
- Questions around contaminated water (chloride, PFAS, MCLs) - how does PFAS get into GW or SW? In 30 years will chloride levels be too high?
- Infrastructure renewal funding for urban suppliers
- Need for more funding, thru rates, while addressing affordability
- Cross-jurisdictional wellhead protection
- Home water softeners – chlorides, metals

Highlights: Group discussion #2 – History mapping

The history mapping exercise generated information about some key water supply collaborations in the region. The information will help draft content for the Metro Area Water Supply Plan (particularly background information) and also provides examples of the range of issues that the Council's plans and projects should be prepared to address.

Figure 7. This exercise built on the history map created at a 2017 workshop of subregional water supply groups. Workshop participants were asked to share examples of collaboration with neighbors.



Participants shared these examples of past and current collaborative work:

- 2005: Water system interconnection between Centerville and Lino Lakes
- 2007 and 2015: Development and update of Part 2 of the Eden Prairie Wellhead Protection Plan, with the Drinking Water Supply Management Area (DWSMA) extending into neighboring communities like Minnetonka. Required discussing jurisdiction re: outreach to well owners in other cities.
- 2008-2009: Eden Prairie cost of service analysis rate study led to city council approving implementation of a tiered rate structure in 2010
- 2000s: South Washington County established a cost-share program to promote rain gardens and smart irrigators
- 2011: Centerville and Rice Creek Watershed District worked on a stormwater reuse system

- 2014: State started development of the aquifer properties database. This includes gathering and sharing data. Results can be downloaded from the MN Geospatial Commons. Additional data can be requested from DNR. Questions and corrections are welcomed.
- 2015-2016: Shoreview worked with Met Council and watershed partners on a stormwater reuse project
- 2019: HRA irrigation audit and water conservation program
- 2020: Collaborative response to covid-19 conditions
- 2020: Met Council developing covid-19 surveillance in wastewater
- 2020: Minnetonka coordinated with adjacent communities on language and communications around enhanced water restrictions during drought conditions. The goal was to implement water restrictions across the subregions.
- 2022: Multi-community wellhead protection pilot project scope of work discussion
- Fall 2022: Chemical supply chain issues benefited from collaboration among neighbors
- 2023: New EPA limits on PFAS
- April 2023: County-wide flooding (over-supply) coordination in Washington County, watershed districts, and cities
- Spring 2023: Water conservation messaging workshop for Dakota County water stakeholders

Participants had these plans and predictions of possible future conditions:

- Summer outdoor water efficiency programming like university of Minnesota turfgrass education trailer in Shoreview
- Discussion around possible regional (multi-community) water treatment, started in early 2023 (1/26/23), is likely to go forward with Brooklyn Park, Brooklyn Center, Champlin, Maple Grove, and Plymouth. Began with exploration of a softening plant and continuing as other water treatment challenges arise (like new PFAS limits)
- Prepare for labor market challenges – declining birthrate has made job market more challenging to public works. How to attract new workers?
- Prepare for Clean Water Land and Legacy funding changes (expires in 2034)
- Risk of major energy grid failure
- Pressure to export water to the southwest U.S.
- Chloride: in drinking water supply including from home water softeners
- Opportunities for decentralized water supplies as water treatment needs and options change

- Water reuse (both stormwater and wastewater)
- Need for consistent messaging across political boundaries
- Politics – how to address the tendency for people to want to take the path of least resistance?
- Artificial intelligence:
    - Opportunities to predict near-future water demand fluctuations (based on transportation patterns, weather, etc.)
    - Smart meters for commercial and residential customers
- For more predictions, see the recent AWWA report on 2050 projections: https://csengineermag.com/awwa-releases-insights-report-from-water-2050-sustainability-think-tank/

Highlights: Group discussion #3 – Shared concerns and projects

A final group discussion was designed to be sure of ending the workshop with the outcomes identified at the beginning of the workshop, specifically shared concerns in the different subregions and as a region and thoughts about projects of interest in each subregional group.

This activity referred back to the first activity (SWOT analysis of regional goals) and to a draft water supply planning atlas, which is still in development.

Overall take-aways from the group discussions included:

- One attendee noted that, when thinking about the concerns and needs in each subregion: "the water resources are the difference – leads to local needs and priorities."
- A key take away from the group discussion what that a subregional approach plus convening together can lead to strong, supportable planning.
- Concerns and projects mentioned by multiple subregions: funding (4), growth (4), climate (3), contaminants (2), work force (2)

Each subregional group had a different group of concerns and projects of shared interest. Highlights of the full group report out are listed below. More detailed comments left by individuals are included in Table 2.

Figure 8. Summary of information shared during the full-group report after small group discussions. Also included in Figure 4.

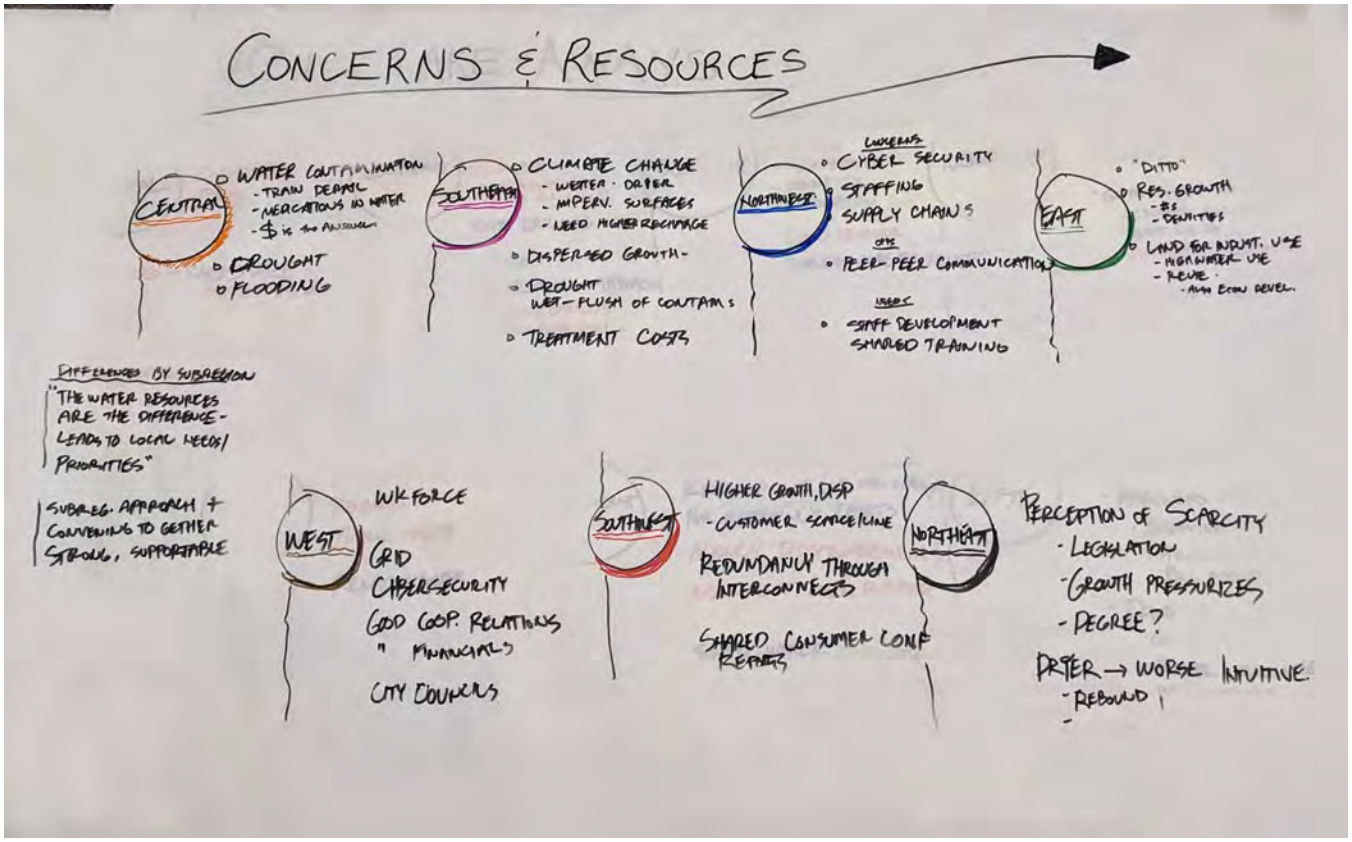


Table 2. Summary of information shared during the full-group report after small group discussions. Also included in Figure 4.

Northwest
• Cyber security
• Staffing
• Supply chains
• Opportunity: Peer-to-peer communications
• Need: Staff development, shared training
	Northeast
	• Perception of scarcity
	  o Legislation
	  o Growth pressurizes
	  o Degree?
	• Drier = worse, intuitively

West
• Workforce
• Grid cybersecurity
• Good cooperative relationships
• Good financials
• City councils
	East
	• "Ditto" – similar to what has been shared by other subregional groups
	• Residential growth
	  o Numbers (amount)
	  o Densities
	• Land for industrial use
	  o High water use
	  o Revenue, also economic development

Southwest
• Higher growth, dispersed
  o Challenges for customer service lines
• Redundancy through interconnections
• Shared consumer confidence reports
	Southeast
	• Climate change
	  o Wetter and drier
	  o Impervious surfaces
	  o Need higher recharge
	• Dispersed growth
	• Drought followed by wet – flushing contaminants
	• Treatment costs

Central
• Water contamination
  o Train derail
  o Medications in water
  o Money is the answer
• Drought
• Flooding	

Northwest subregion

Top three threats, shared concerns

- Emerging contaminants
- Money to fund water conservation efforts
- Outside controls
- Quantity and quality of available water
- No impact if planning is implemented
- Water supply source could be threatened by rising population - as population grows, the increase and demand for water rises

Top three strengths, opportunities to support

- Communication between departments

Resources of shared interest

- None identified at this time

Figure 9. Small group discussion in the Northwest subregion.

Northeast subregion

Top three threats, shared concerns

- Water shutoff with joint powers agreements – White Bear Township (WBT) & North Oaks
- Water availability for proposed uses (industrial, commercial, schools, etc.)
- White Bear Lake water levels and lawsuit outcome - what volume to remove worries of lawsuit?
- How best to interconnect
- Groundwater withdrawals not being sustainable (climate change, growth landscape changes)
- Climate wetter - big storms, more runoff, less infiltration; drier climate - less recharge, more groundwater use for irrigation
- Disbursed growth - more infrastructure, possibly higher dependance on groundwater
- Perceived scarcity - resulting litigation, regulation, legislation increase with growth, more if growth is dispersed, worse if climate is drier
- Contaminants in DWSMA may increase with growth (demand) and perhaps if wetter climate
- Lack of infrastructure investment – depends on rates
- Lake augmentation
- Western WI; both create problems; emerging contaminants
- Access to water for all concerns
- Placing infrastructure in poor soils

Top three strengths, opportunities to support

- Conservation efforts within a community - continued grants
- Interconnectivity of systems to provide water
- Removal from individual wells to common system
- Subregional planning to marshal common solutions to common problems (technology, regulatory framework supporting reuse)
- Development or expansion of infrastructure starting with surface water reuse
- Confronting obstacles to reuse starting with stormwater
- Collaborative
- Support funding

- Continue water reuse/retention projects
- Community buy-in on water conservation (promote through city council)

Resources of shared interest

- Continued support for conservation projects from Met Council, DNR and provide actual plans to build stormwater ponds/irrigation systems and how to manage them

Figure 10. Small group discussion in the Northeast subregion.

West subregion

Top three threats, shared concerns

- Contaminants, including emerging contaminants like PFAS
- Groundwater dependency
- Interaction/vulnerability of surface water and ground water
- Skew of demand due to irrigation
- Adequate supply
- All one source - all groundwater in this subregion; higher growth results in more reliance on one source; if growth dispersed - one source must span longer/greater distances
- Work force - we're all competing for same labor pool that is diminishing / comparison of compensation dictated by differing unions; labor pool is mostly form outer suburbs like Waconia, Belle Plain, etc. which causes difficulty for recruiting
- Influx of new immigrants from other cities/regions to re-establish our already high level of public trust
- Money - more threatening if growth is high, costs of maintenance and growth projects are inversely affected by a great number of rate payers UNLESS more people who can't pay their bills come to our community
- Power and internet security, cyberterrorism
- Compact versus dispersed growth creates different concerns – more supply resources are needed with higher growth with a dispersed density and drier climate; emerging contaminants may also be worse in these conditions, as well as cyberterrorism risk

Top three strengths, opportunities to support

- Stability of assets and finance - strong customer base and support, fiscally responsible
- Collaboration – wellhead protection planning, project partnerships, watershed partners
- Communication - disturbing alarmist narrative
- Best practices, lessons learned sharing, and data sharing
- East portion of this subregion is well-represented, but areas in outside rings are not
- Workforce; terrific relationship with one another's utilities and public works departments means common shared solutions will be possible - shared recruiting already occurs
- Public trust - think about joint council meetings following the regional plan approval to build public awareness of the partnership

Resources of shared interest

- Monitoring new trending data
- Workforce advocacy to support stable workforce and material supplies; could take advantage of METC workforce support

East subregion

Top three threats, shared concerns

- PFAS - regulatory changes; groundwater supply issues; wellhead protection - DWSMA overlap; Cybersecurity of our systems
- Growth patterns are changing - after civil unrest growth is moving to outer ring suburbs; the density will increase in the suburbs; density will increase; industrial growth is high- need water for jobs and tax bases
- PFAS contamination could limit our growth - residentially and commercially
- Water quality sustainability – contamination, growth

Top three strengths, opportunities to support

- Good partnerships with adjoining communities - collaboration on procurement like joint purchasing for water treatment (GAC carbon), interconnections for water supply , DWSMAs, and a combined political voice
- Money
- Water reuse - wastewater for industrial cooling or processing water
- Change resident perspective that green lawn is best
- Seek industries that bring good jobs with low water use

Resources of shared interest

- Don't connect me to surface water!
- If, as a state, we want to attract big business - then we need water to support the economy
- Communities need a healthy balance of jobs and affordable housing; water plays a part in growing our community
- Money

Southwest subregion

Top three threats, shared concerns

- Most significant current threat is high summer demand associated with non-potable use for irrigation; higher growth with traditional sized lots has the potential to exacerbate this issue. More compact growth could potentially reduce the significance of this increase but may lead to other system challenges related to transportation and server capacity; a wetter climate could help this concern
- Availability of a good workforce
- Poorly planned community growth
- Availability of goods, pricing

Top three strengths, opportunities to support

- The development of a regional groundwater model that local communities can use for long range planning or available water supply would be beneficial
- More and better alignment of DNR regulations of appropriations and Met Council land use planning and requirements of local communities
- Regionally developing uniform water use rates per capita to eliminate individual local community control or acceptance of public use levels of water will be necessary to effect a measurable change
- Redundancy; interconnects with adjacent supplies

Resources of shared interest

- Consumer Confidence reports (CCRs)
- Some effort needs to be made to inspire confidence in water suppliers; the water supply planning atlas shows areas of concern; maybe some mention can be made to areas of no concern

Southeast subregion

Top three threats, shared concerns

- Climate change
- Stricter MCL requirements
- New contaminants; if wider - is outstate prepared?
- Increased population growth (increase if dispersed); need for more drinking water; some communities are already exceeding permits
- Nitrate and PFAS - especially eastern county due to soils; more susceptible based on precipitation patterns
- Infrastructure is aging – challenges to address emerging contaminants; extension of pipes, etc.
- Increased impervious with more and more concentrated growth exacerbated under wetter climate; more runoff, potentially less recharge; outlook improves with lower growth; perhaps neutral for mor dispersed; climate growth emissions heat (heat island)

Top three strengths, opportunities to support

- Subregional groups and other collaboration - opportunity for shared resources
- Interconnects
- Watering essential / non-essential
- Making all our info understandable to everyone
- Addressing identified needs during new development
- Programs utilizing funding available - water efficiency grants, soil health grants (BWSR)
- Focus on managing open space and infiltration opportunities; plan for recharge in areas where infiltration / permeability would benefit recharge

Resources of shared interest

- None identified at this time

Central subregion

Top three threats, shared concerns

- Water contamination - spills from all the railroads going through our communities; emerging contaminants
- Climate: drought and low river flow, flooding
- Drawing down water supply aquifers
- Lack of funding for renewing infrastructure and meeting new regulations
- Trust in water
- Siloed approach and lack of connectivity with other key stakeholders (such as Council Members, other city departments, etc.); need coordinated action (ie. planning, pumping, protection) on regional water supply resources
- All the infrastructure will age at the same time
- Workforce
- Synching or coordinating land use management with water supply planning to balance development and redevelopment with water use; some cities have high single family redevelopment and some have multifamily/commercial; need to tie development with water supply - separate reuse piping for irrigation?
- Public communication on irrigation habits - urban vs. more rural have different drivers
- There are limited policies and programming to support private well users
- Higher growth = increased demand; compact growth climate is a threat; dispersed growth is less efficient and higher per unit cost; resource capacity; matching infrastructure to demand; sufficient capacity; contingency; drier climate puts more demand on system; droughts are usually limited in duration

Top three strengths, opportunities to support

- Treatment technologies; cost; river intake modifications
- Increase redundancy - back-up wells/water supply
- Addressing aging infrastructure
- Workforce developments
- Proactive and collaborative thinking/planning
- Good examples (track record) of cities working together; emergency planning together; groundwater sustainability modeling - Chanhassen had concerns in the past - are some well locations long term problems with a dry climate?; less issues than other regions; reuse; training

- Renewal of the Clean Water Land and Legacy Amendment
- Education through inclusion and engagement - expand outreach/education beyond just English and ensuing culturally appropriate concepts and materials
- Bloomington is in a good position regarding supply thanks to its good relationship with Minneapolis
- Coordinated contingency planning; cyber security; emergency power supply

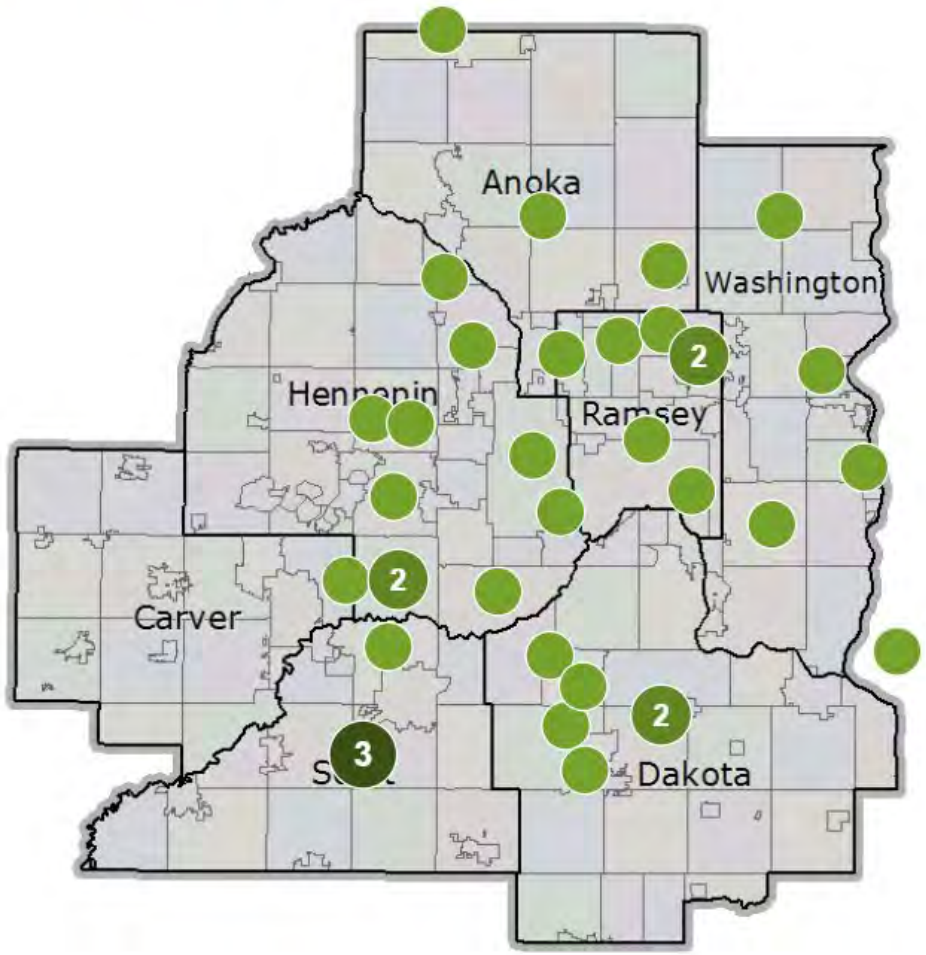
Resources of shared interest

- Use agreements; water chemistry variation (CCR)

Figure 11. Small group discussion in the central subregion

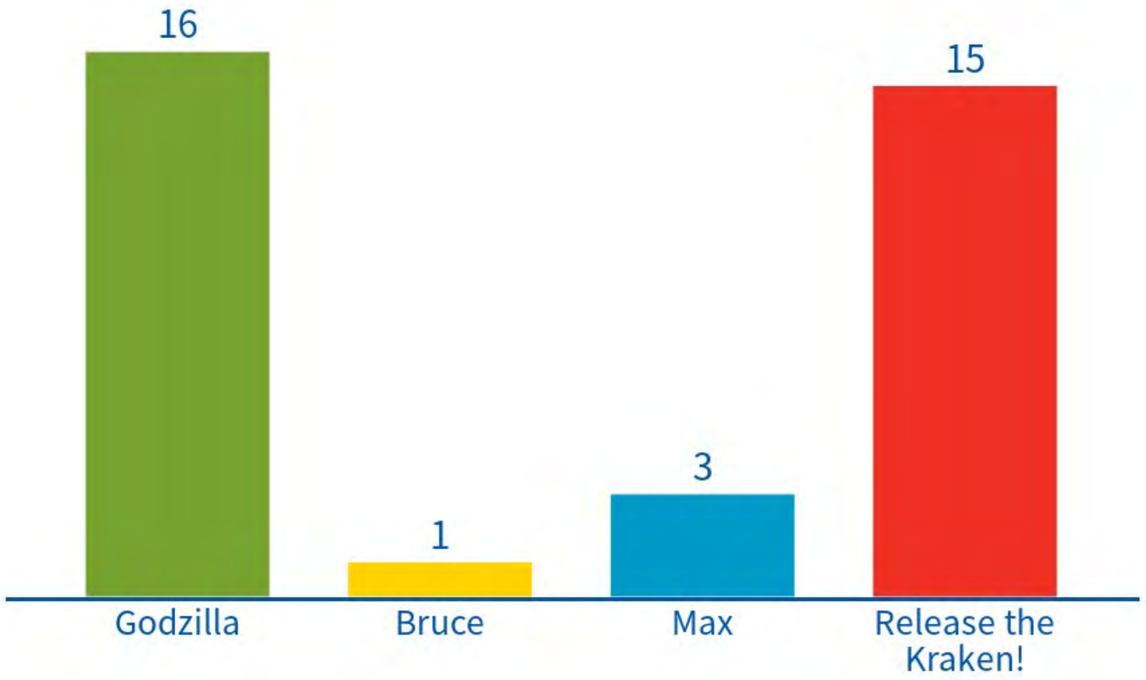
Survey results

Where are you from?



ONE WORD: Most important thing about water supply (without using the word "water")

Most Legendary Water Monster



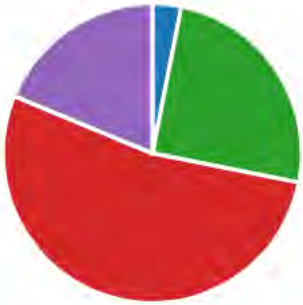
Water Planning and Service

1. **Enter your zip code**
2. **How receptive is your community or client(s) to implementing non-potable <u>stormwater</u> reuse projects?**
   Choose one:

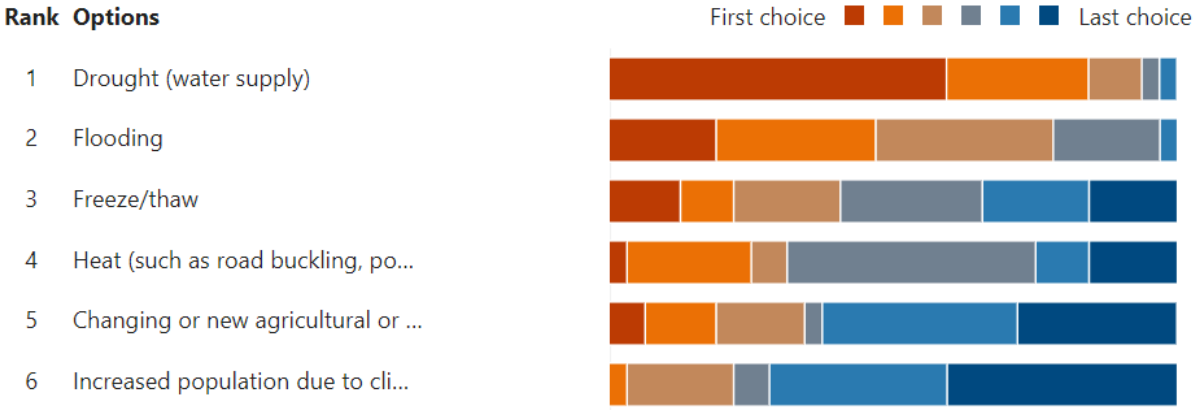
We have implemented current o...	13
We are working on pilot projects.	5
We are discussing the need.	10
No opportunities have been ide...	2
Does not apply to my work.	2

3. **How receptive is your community or client(s) to implementing non-potable <u>wastewater</u> reuse projects?**
   Choose one:

We have implemented current o...	1
We are working on pilot projects.	0
We are discussing the need.	8
No opportunities have been ide...	17
Does not apply to my work.	6



4. **What will be the biggest climate change challenges for your residents in the next 10 years?** Rank these from highest to lowest, move up or down clicking on the arrows.



5. **Is your city/township prepared for climate change impacts in the next 10 years?**

6. **Community engagement is key for successful projects and services. Generally, how do you engage your residents?**

Responses
Public meetings
We have public meetings on a regular basis to discuss these issues.
Social media, direct mail, pop up meetings on sites, public hearings
Multimedia; go to the constituents
City council workshops, HOA communication
Neighborhood meetings, newsletters
Many methods. Social Media, mailing, council listing secession…
Town halls. Newsletters. web.
Face to face meetings, focus groups, planning
Electronically, Facebook, website, Electronic newsletter. Print materials, handouts, news letter. Commissions and council presentations.
E-blast, community meetings, website
Social media, mailings, website
We include residents on a project basis. We definitely need to do a better job engaging the public in defining the projects.
Community surveys that have been adapted by teams working in various communities.

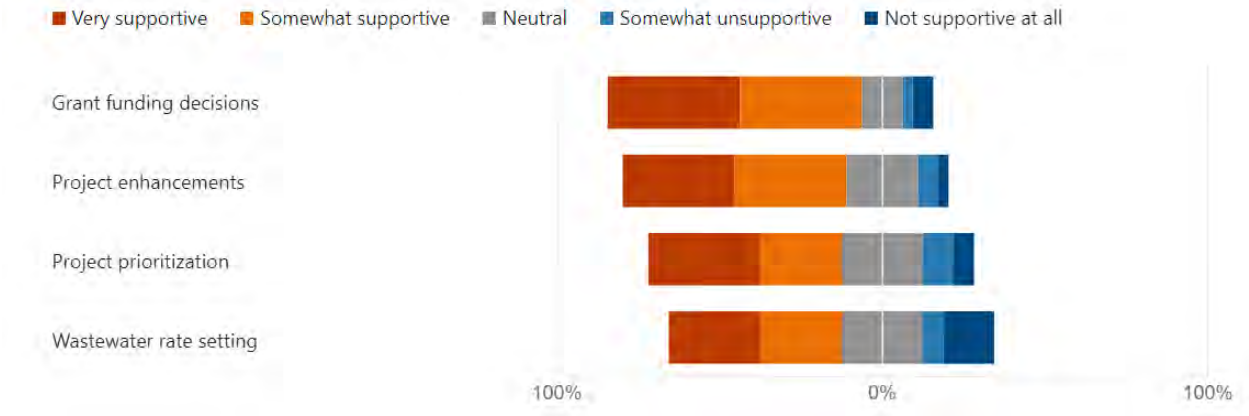
Responses
Newsletter, social media, website
Mail, social media, email, in person or virtual engagement meetings
Various methods - newsletters, open houses, website, social media, community survey, etc.
Website, social media, and mailings
Newsletters, booths at public events, website topics
Try to develop win-win partnerships and offer financial incentives
Public's hearings and specific project outreach.
Online, surveys, social media, open houses, hearings, commissions, task force
Water conservation ordnances and public outreach
Survey
Social media outreach, mailings, community meetings, engagement staff.
Neighborhood meetings
All platforms (SM, web, in-person, etc)
Multi-media, website, city paper, social media, surveys, Town Halls, home visits

7. How do you reach underserved communities and include them in important decision making?

Responses
Direct outreach
We have a task force that works with underserved communities.
Same as above
Go to them
Neighborhood meetings
Specific community outreach and engagement coordinator and actions

Responses
Meetings in apartment buildings where they are concentrated.
Direct communications
We look to inform, educate and welcome participation.
Directly connect with them to get them to engage and explain why their input is important.
Haven't done this enough or haven't looked at any project from "underserved communities" lenses.
Utilize the expertise of departments and teams that work in these communities to shape surveys, questions, and engagement opportunities.
No specific examples to mention
Rely on connections within the community to bring to table for discussions
Use various methods of outreach.
In addition to the items in #6, we had public meetings in diverse neighborhoods in our city.
Specific focus on outreach development for traditionally underserved and new transplanted communities.
Utilize resources to try to engage communities and groups where they are.
City commissions, meeting them in their environment, online, focus groups, task force
Municipal website, surveys, city meetings
Outreach, oversampling method in survey
Cooperative citizen city committee
Take town hall meetings to their neighborhoods

Equity is a key outcome for the Met Council: All residents share in the benefits and challenges of growth and change. How supportive are you of MCES including an equity measure in the following:



Have examples of water inequities in your work or personal life? Please share.

Responses
Lead service lines, affordability, water quality and low pressure
Private wells have limited protection from government.
Impacts to residents on wells from PFC contamination.
PFAS contamination
Lead in drinking water (older homes)
Conservation rate structure impacts on large households.
Base rate affordability tier for residential customers Flood protection
Private well users have far fewer safeguards in place to ensure safe drinking water when compared to public water systems
Residents of large apartments receive water of diminished quality due to poor/ lack of maintenance of the facility owners
In my personal life, I live on a farm and am wholly responsible for my own water supply and on-site septic system. For that reason, I appreciate the value and the cost of sanitary services more than most people. I have replaced my well pump, drop pipe, pressure tank system and water conditioning equipment all at my own expense. My water community's water supply customers have a great deal by paying a small monthly fee for these services.

What does the One Water concept mean to you?

Responses
Integrated water from the supply source to wastewater discharge.
Surface water, groundwater, wastewater, storm water, gray water
Water policy needs to consider water in all forms
Integrate stormwater, wastewater and water together
Subregional coordination on water related items
Water planning should be holistic.
All water is interconnected. Chloride and PFAS are great examples of one water contaminants.
Effective regional planning so limited water resources are used equitably and sustainably.
We need to work together from all agency level to implement the plan
Collaboration across municipalities boundaries to tackle issues within regions (ie water supply).
Looking at the complete water cycle
Plan water resources in an integrated fashion.
The interconnectedness of water, wastewater and storm water.
Water is all interconnected
Water is everyone’s & should be available to all.
Planning and implementation of diverse water needs and values through a comprehensive and collaborative approach.
Comprehensive planning and coordination of operations of storm water, wastewater, and drinking water with an emphasis on sustainability, quality, and access.
Water cycle and shared resource
Simply, all water is connected.
Coordinated agency policies

Responses
All the water that has ever been and ever will be is on the earth today in one form or another.

How do you use the 2040 Water Resources Policy Plan?

Responses
We use it as a reference when setting our own policies.
To ensure we comply
General alignment for local plans, help city council identify priorities that reflect on their CIP
As a guide
Have not use it, but may.
Helps to develop work plans
Currently don't
Have not used - new to position and public side. Hoping todays workshop enlightens me on its relevancy for long term planning in my municipality.
Local strategic plans
As a guidance & resource document.
Guidance for more local and specific planning.
Ensure local efforts align with regional goals.
Water supply planning, land use planning
As a guiding framework
We don’t
To guide my community planning efforts to a sustainable water future.

What are some benefits of including subregional content in regional planning?

Bottom up vs top down

Teat

Test

Pays deference to different community priorities, structures, and make ups. Water resources has a similar subset of issues, but they may be ordered differently depending on your location.

Subregions have their own issues that doesn't get captured in a regional plan

Lots of good info that should be shared with others.

Common goals similar results

To make sure voices are heard, and communities interests are clear. Shared goals is reliant on people being candid about issues.

We have regional issues and regional opportunities.

What are some benefits of including subregional content in regional planning?

- Better serve their constituents
- Great opportunity to interact with neighboring communities and learn from one another
- Reflect local needs
- Cities are more likely to work on something they participated in and can see themselves in
- To have an Avenue to express your communities needs and hear your neighbors issues
- Options for collaborations brought to the table
- Addresses unique concerns for each region
- Capture smaller scale issues within subregions that don't translate to other subregions. Water sources differ.
- Provides an opportunity to address more localized conditions related to water supply.

What are some benefits of including subregional content in regional planning?

Common issues amongst other regions

It helps city leaders to know how their challenges compare with others in the state. They often wonder who else is facing the same issues.

Knowing/understanding each other

Water supply is a localized issue.

Diverse needs

Water is not equal. Each area has different water resources, and different problems.

It provides the best chance to have locally relevant and specific conversations about similar issues.

Can have the plan really focus on issues that are important to the region and have clear plans to address the issues

Shared resources in this era of workforce shortages . Ability to

What are some benefits of including subregional content in regional planning?

Because the problems as well as possible solutions vary across subregions.

Develop solutions at subregional level - not all communities are the same

Multi opinion and different contributors from surrounding areas that help each other in creating water resources planning

Their future drinking water depends on everyone protecting together

Specific content to region

Specificity in planning moving from regional to local plans

Makes it closer to home, tangible, related, and real

Develop a common goal of optimizing resources the are impacted and overdoing be obstacles

Plan can address specific issues that resonate at a subregional level

What are some benefits of including subregional content in regional planning?

Understanding of localized issues/challenges so that generalization can be avoided.

It adds different planning ideas that may also apply to regional planning

Contacts to share and gain information

Providing direction for our communities moving into the future

Every subregion has the ability to curtail the area plan to there issues and challenges

Provide sub-regional centric solutions.

It's very beneficial and informative

Arrive at a plan that is more relevant to the individual water suppliers within each region rather than a one -plan-firs-all approach.

Improve collaboration among partners

What are some benefits of including subregional content in regional planning?

Issues impacting other regions may or will eventually impact the other sun regions

There are a number of issues and challenges that cover all regions.

Improve understanding and communication on issues of concern

The overall info information an Vfd collaboration will benefit each group

Sharing of information

The plan will be more considerate of the sub-regional needs and concerns and more appropriately address planning steps to address those concerns.

We will able to identify specifically to the as challenges. I would suggest that maybe a sub subregional planning component

Sharing of information

To get a practical and logical outcome

Who needs to contribute to subregional content for it to be most useful?

Suppliers

Public Works, community development and economic development

Water suppliers and users.

Cities, DNR, DOH, MC

Operational and administrative staff

City Engineers, Public Works Directors, Water/Utility Superintendents, City Planners, Water Resource staff.

Wellhead protection plans, county groundwater plans

Both policy makers and implementers

Water utility managers and stakeholders

Who needs to contribute to subregional content for it to be most useful?

Local practitioners.

City, DNR DOH MC

City Engineers. Not politicians.

All stakeholders including cities, counties,agencies

As many perspectives and sets of related expertise as possible.

Municipals

Collaboration with cities

Cities and utilitiesWatershed districtsCommunity groups Private industry

Community and municipal / provider direct experience with the industry

Who needs to contribute to subregional content for it to be most useful?

Leaders and doers of the local government units in the subregion

Operators, public works staff, engineers, planners - this needs to be your brain trust.

Water managers & technical specialists.

The managers that actually compile the numbers for their supplies. They usually have the best grasp of the issues.

MGS MDH DNR MPCA cities watersheds county public health

Local gov.,, large water users, watersheds - all need to work together to identify concerns develop solutions through shared resources

Upper level water suppler staffThey are the ones with the knowledge, and the planning duties

Industry leaders, commercial water users, municipal suppliers. These are the ones who know the issues and potential solutions

Municipal staff and public and private stakeholders. Local solutions are usually most robust.

Who needs to contribute to subregional content for it to be most useful?

Utilities in the subregion.

Key stakeholders, such as watershed districts, industries, wastewater agencies, regulatory agencies, consultants, and county bodies.

Engineers and utility superintendent

public works directors, public works supervisors, anyone in the water treatment industry

Community water supply planners

City planners

Each supplier, MDH, DNR, Met Council. Systems have specific details about operations and community needs. Agencies can bring resources and guidance.

Public works directors

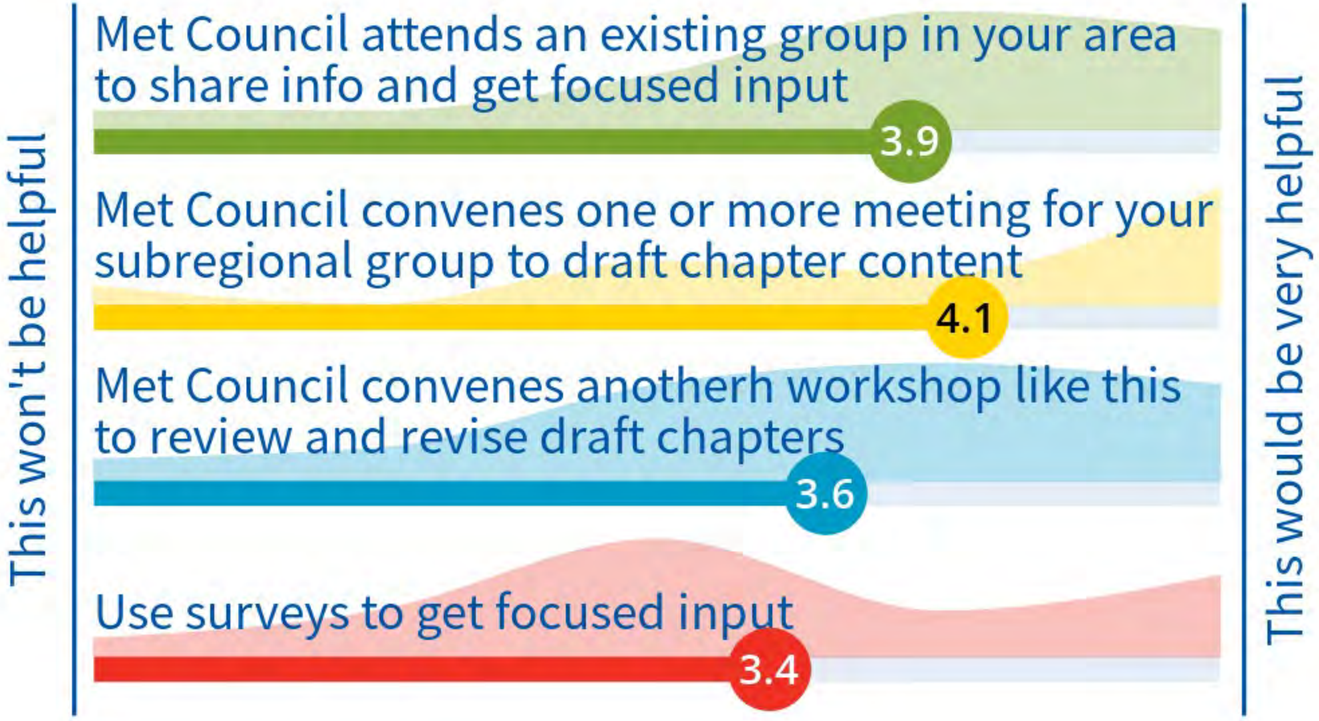
City engineers

Who needs to contribute to subregional content for it to be most useful?

City political leader

Everyone. Subject matter experts, policy decision makers, stakeholders - system users, educators/ communications experts

What is your advice on bringing people together to work on this?



How has your thinking changed over the day as you talked with your colleagues?

Other options and how things function

Lots of good ideas & interesting questions.

Want to look into well interference and interconnects that exist between my neighboring communities.

People are passionate about water

Many awesome resources that need to be used and that you are not alone

I have become aware of other communities issues and concerns.

We have similar issues.

It is a good time to connect. We have a lot of shared challenges, yet our opportunities are all different.

How has your thinking changed over the day as you talked with your colleagues?

Lots in common, big shared problems more collaboration than I thought

Different challenges but can share experiences

Simply good to be back together and refresh relationships

More clarity on the different variables people need to consider as they think about infrastructure and supply.

Slightly less concerned with Met Council take-over of DNR role in water supply planning.

Being new to water resources, it is fascinating to me to see how different issues are across the subregions

Staffing challenges

We have a lot of really great partners in this space

How has your thinking changed over the day as you talked with your colleagues?

Perspectives not considered before.

I had not been thinking about Workforce concerns lately. That is wide scale, not different across subregions.

Gave perspective of other utilities.

Learned a few more things to focus, and reinforced already focal points

Some of us are on the same page, especially regarding long-term outlook, some do not appear to be (not enough forward thinking, counter productive agency bashing).

We are all similar and different at the same time

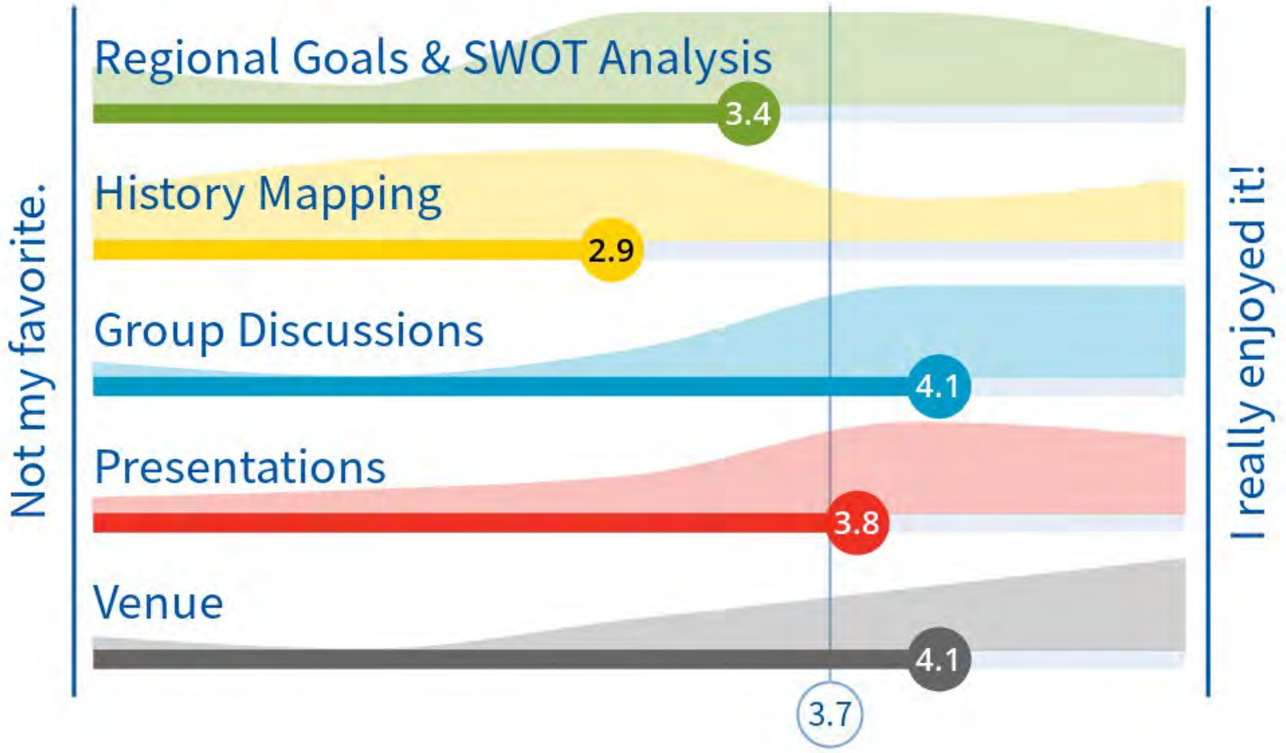
Better insight

Increased my opinion on the value of having sun-regional chapters.

How has your thinking changed over the day as you talked with your colleagues?

Everyone reinforced my thoughts.

What worked and where could we improve?



Presentation slides

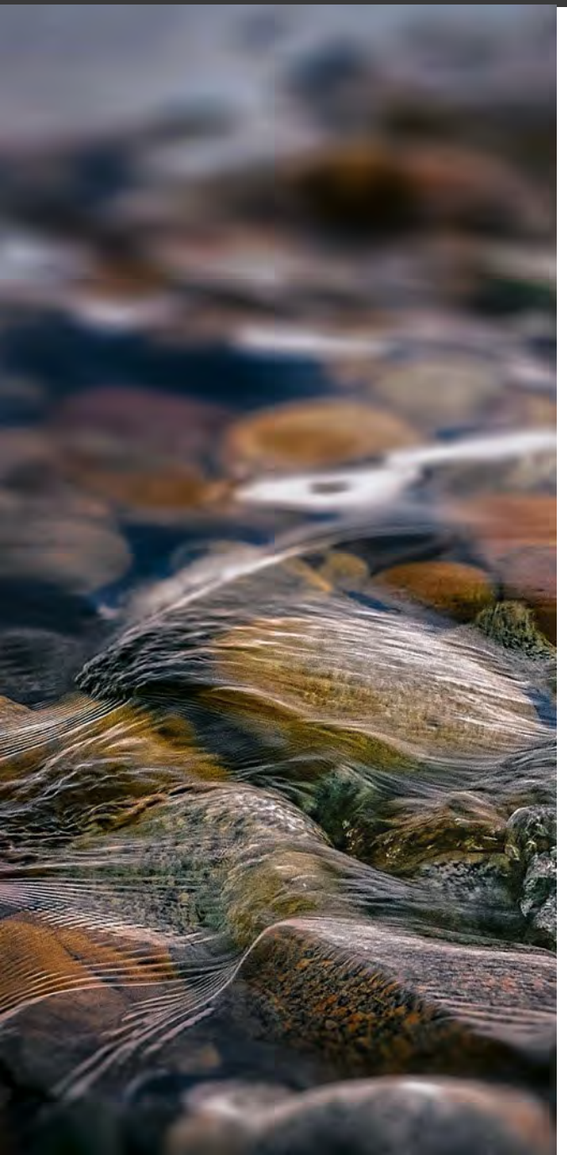
Workshop for Subregional Water Supply Groups & Partners

Sharing insights to strengthen collaboration and planning

METROPOLITAN COUNCIL

March 15, 2023 Lanya Ross metrocouncil.org

Welcome!



Goals for today

Local water leaders share your collective insights, information and advice.

MAWSAC, TAC, and Met Council listen.

End the workshop with:

1. Some good conversations and connections among colleagues
2. Shared concerns
3. Thoughts about projects you'd like to work on as a subregional group, and what support would be helpful for that
4. Clear next steps – upcoming regional planning milestones and how you want to work with Met Council over 2023 and 2024

Introductions

Survey #1

Use your laptop, tablet, or smartphone:

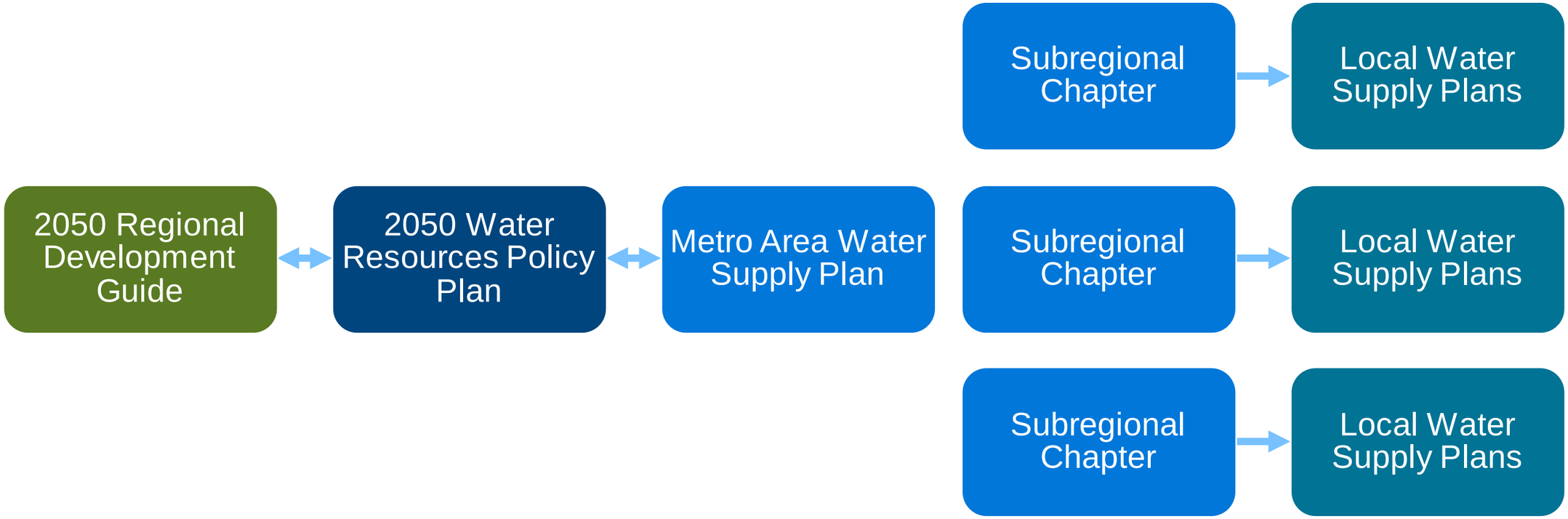
Go to

www.menti.com

Enter the code

1799 1811

Water planning framework in the metro area



RDG sets the framework for our region, including land use policy and other cross-divisional issues

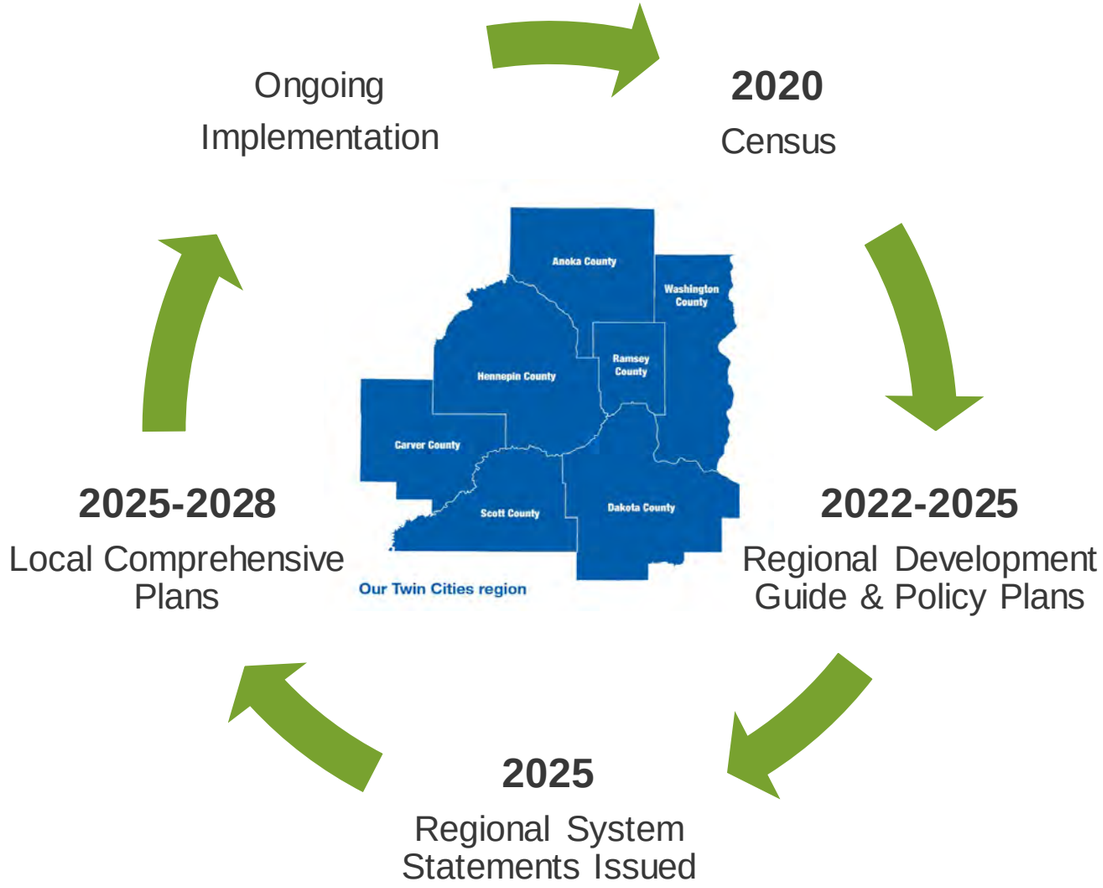
WRPP provides a framework for integrated water panning (wastewater, water supply, and surface water)

MWSP provides water supply-related considerations for developing regional, subregional, and local plans and supporting programs

MWSP also provides subregional context, shared objectives and strategies, and direction for implementation and partnerships

LWSP provides information and identifies local actions for a sustainable water supply

Regional Planning Cycle



Metropolitan Council

Regional Values, Vision, and Goals

Values

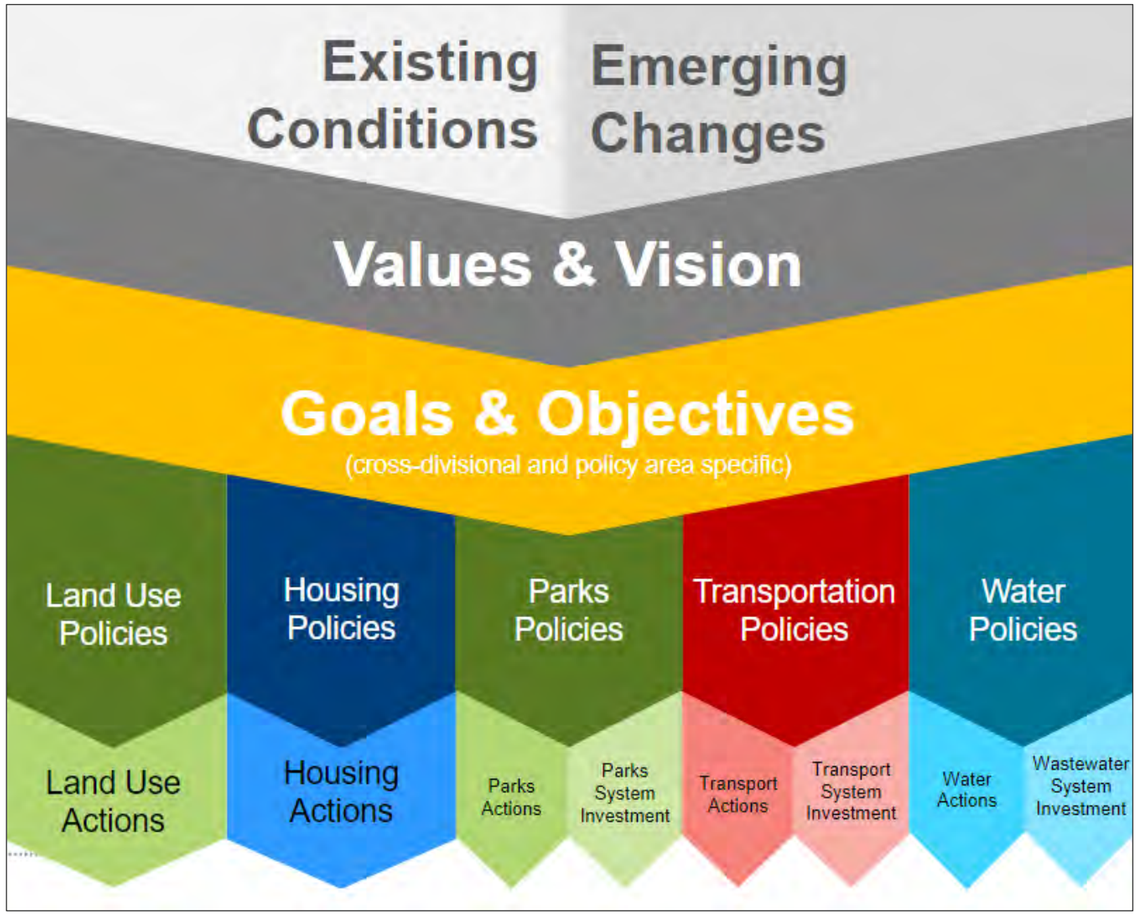
Values are core beliefs or principals that guide the work of the Council, our expectations of partnerships, and our policy and program development.

Vision

Our vision is what we want to achieve for the region through our policies, practices, programs, and partnerships.

Goals

Our goals broadly describe the *desired outcomes* that we want to achieve for the region.



Working regional values and vision statement

Metropolitan Council Committee of the Whole 2/1/2023

Regional Core Values

Equity: We value the people and communities of our region.

Leadership We value those in our region who inspire and motivate others for positive change.

Accountability We value being effective in our work and achieving measurable outcomes.

Stewardship We value our region's abundant resources.

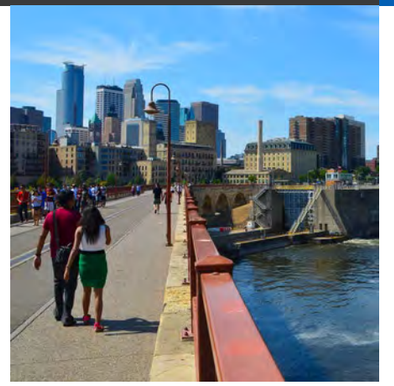
Regional Vision

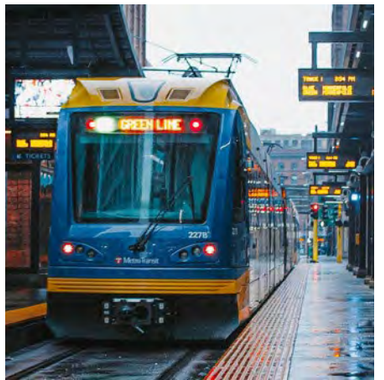
Our Region is Equitable, Inclusive, and Welcoming Our quality of life is high by national standards but not all communities share in this. We envision a future where inequities and injustices have been eliminated and all residents and newcomers feel welcome, included, and empowered.

Our Communities are Healthy, Safe, and Vibrant The wellbeing of our region depends on the strength and inclusiveness of our economy as well as the quality, safety, and reliability of our public services. We envision a future where all our region's residents can live healthy, productive, and rewarding lives with a sense of security, agency, and wellbeing.

We Lead on Addressing Climate Change Our region leads on the critical issue of climate change. We envision a future where we have eliminated or mitigated greenhouse gas emissions and have adapted to ensure that our communities and systems are resilient.

We Protect and Restore Natural Systems Our region has world class parks and abundant natural resources. We envision a future where natural systems are increasingly protected, integrated, and restored to ensure a high quality of life for our growing region.



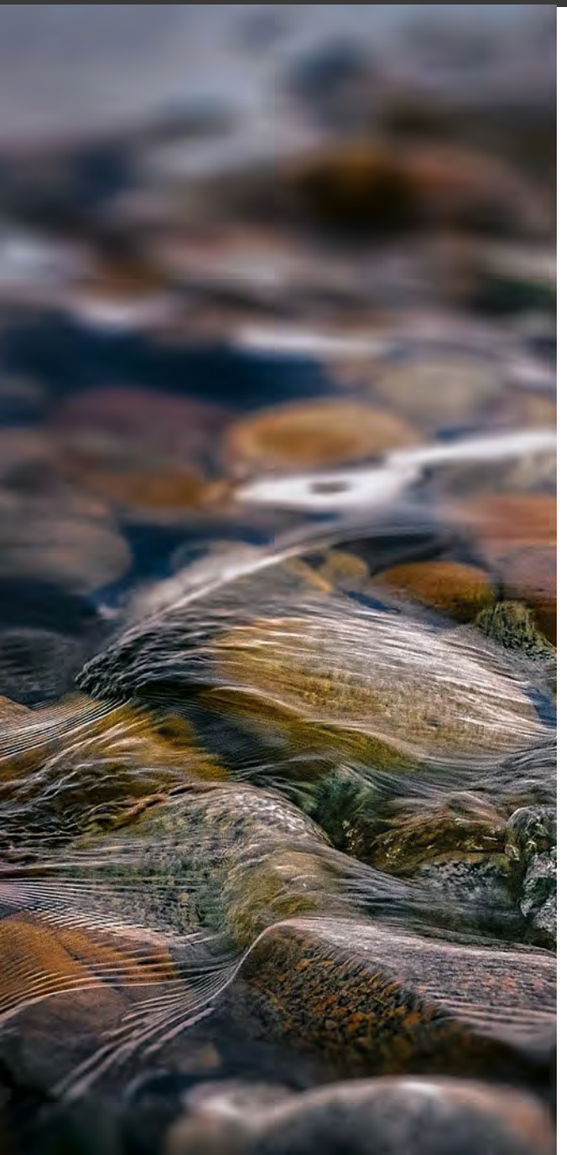


ES Policy Research Project

Supporting the update of the Water Resources Policy Plan

METROPOLITAN COUNCIL

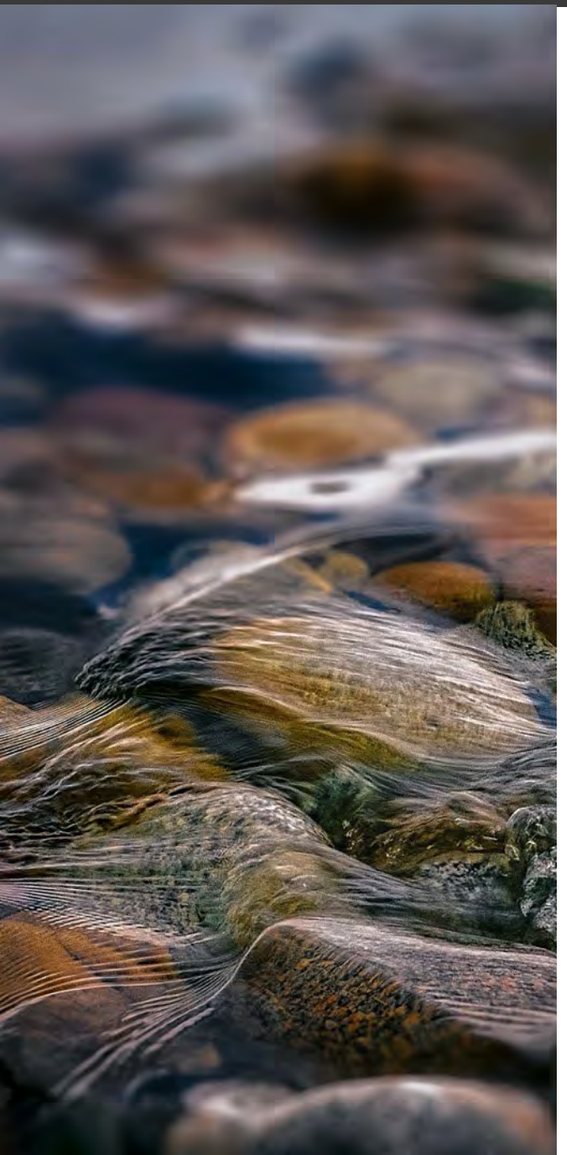
Water Resource Policy Plan (WRPP)



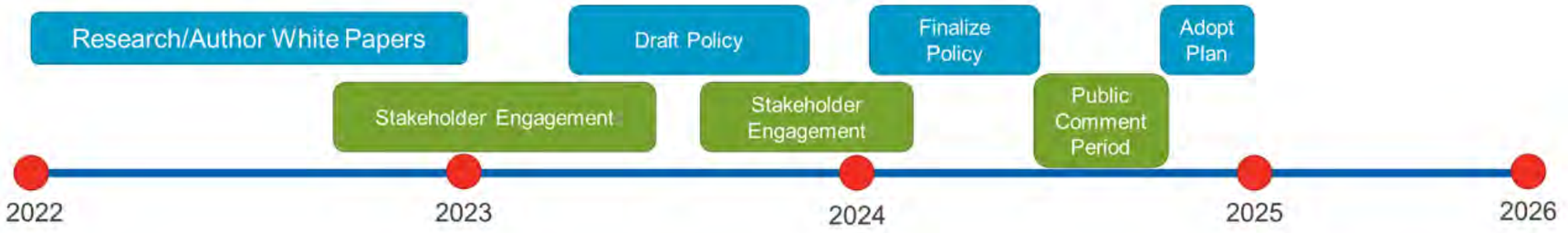
Plan Purpose

- 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.

Water Resource Policy Plan (WRPP)



Overall Process Timeline



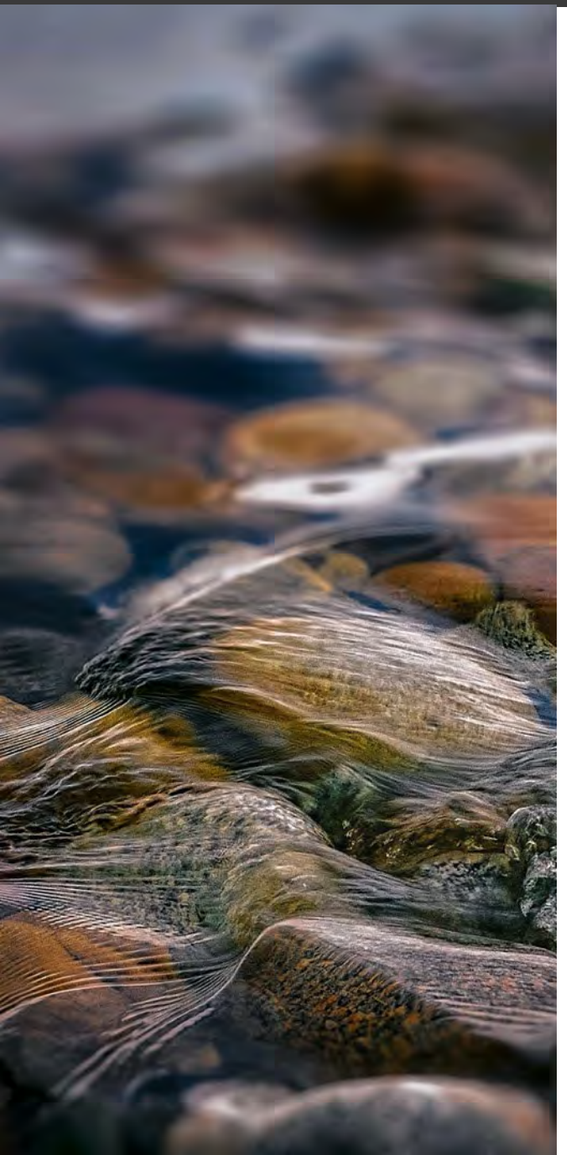
Policy research topics

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

Paper contents

- Introduction
- Issue Statement
- Our Role
- Primary Drivers
- Contaminants of Concern
- Connections to Current Policy
- Policy/Action Recommendations
- Next Steps

Key takeaways



Next Steps

- **Share your thinking – use instructions at your table to take the survey**
- The research papers will be released over the next few months. Come to our website to provide feedback.
- Stay tuned for more info over the year as we draft the policy plan.

Key Message

- We are gathering feedback and creating 2050 WRPP content – please be a part of it!

Share Input for 2050 Water Policy

Use your laptop, tablet, or smartphone:

Key roles in regional water supply planning

Met Council

Regional Development Guide
Develops and approves the plan

Water Resources Policy Plan
Develops and approves the plan

Metro Area Water Supply Plan
Adopts the plan and collaborates to support its implementation

MAWSAC, TAC, WAG

Regional Development Guide
Recommends water supply-related content (ex: vision, goals)

Water Resources Policy Plan
Involved with the development of water supply-related content

Metro Area Water Supply Plan
MAWSAC (with TAC input) approves the plan and recommends Met Council adoption

Subregional Work Groups & Partners

Regional Development Guide
Consults on water supply-related content and stay informed about the full scope of work

Water Resources Policy Plan
Consults on water supply-related content and stays informed about the full scope of work

Metro Area Water Supply Plan
Involved with the development of subregional chapters and recommends MAWSAC approve the complete plan; collaborates to support its implementation

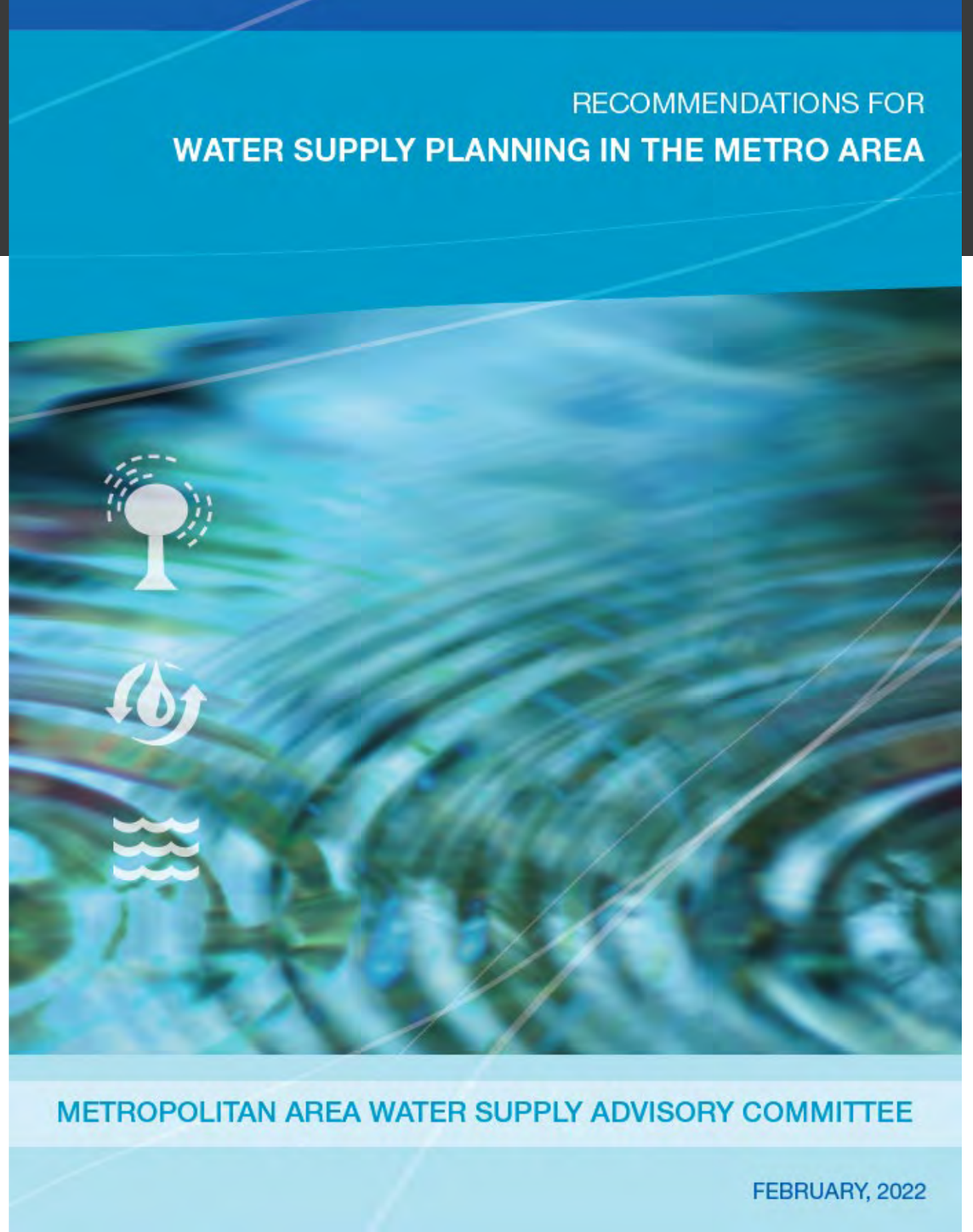
MAWSAC recommendations

2022 Report to Met Council and MN Legislature

“A collaborative regional or subregional approach will provide the best thinking about risk and trade-offs by pooling a wide range of experience and expertise across the full water supply system.”

Access the report on the Met Council website at:

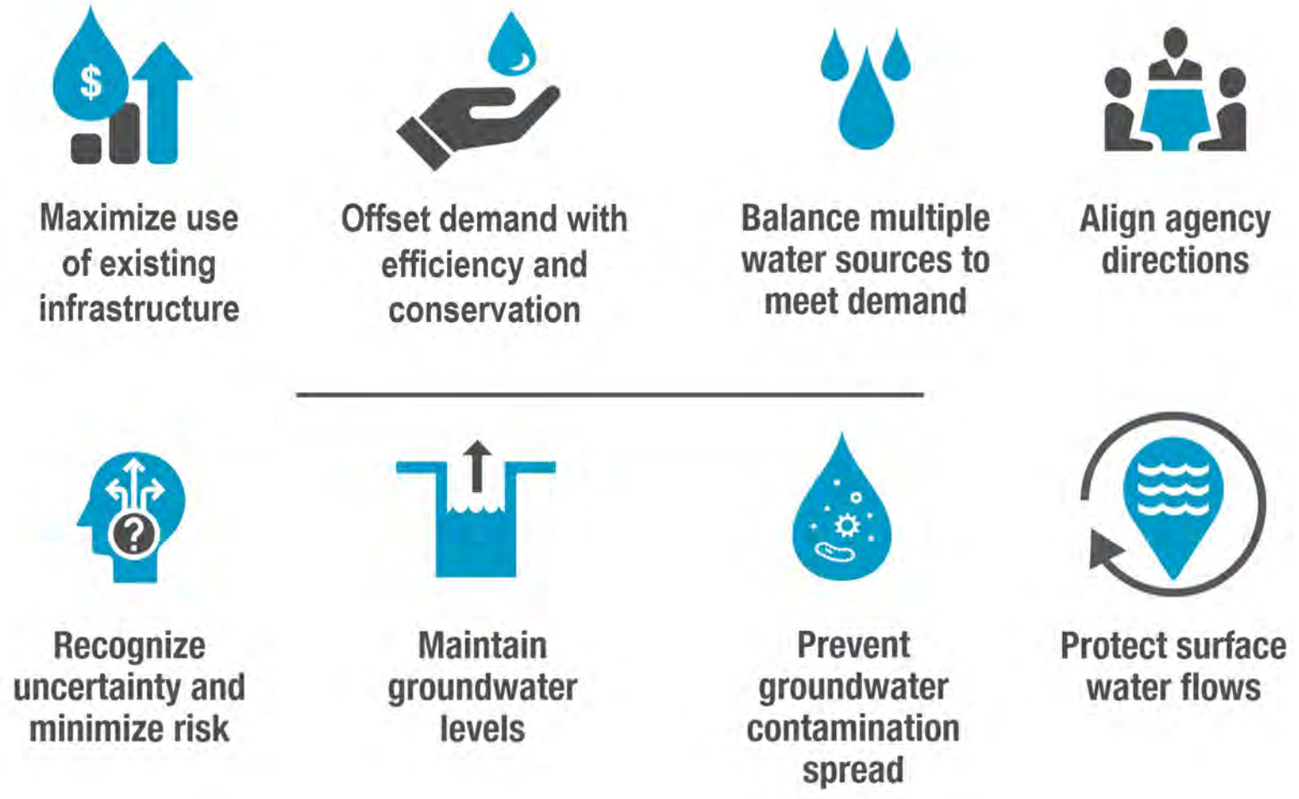
https://metrocouncil.org/Council-Meetings/Committees/Water-Supply-Advisory-Committee.aspx



MAWSAC vision for water supply

Sustainable water supply now and in the future

- All people have access to clean, safe, affordable water and wastewater services.
- All water and wastewater systems have sufficient funding to provide affordable services.
- All communities share in the economic, social, and environmental benefits of investment in water systems.



MAWSAC goals for water supply

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 a, 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.

**Added after 2022 report to Met Council, Legislature.*

GROUP ACTIVITY
SWOT analysis

Activity A

SMALL GROUP CONVERSATION / SWOT

03/15/2023 Workshop for Water Supply Subregional Groups

Goal:
Use a modified SWOT analysis to identify your local concerns and opportunities and start to articulate measures for regional goals. The information you share will:

1) Help draft content for the updated metro area water supply plan (particularly refining regional goals, describing different subregional challenges and opportunities, and framing thinking about more measurable objectives or regional performance measures)
2) Help prioritize proposed projects for Clean Water Fund support

Directions:

1) Share your zip code: _____. Facilitators will use this information to compile input for each subregion.
2) Take a couple of minutes to consider the **bolded goal** on the back of this page (each group has been assigned a different goal):

    - Water supply infrastructure
    - Water quality
    - Land use and water supply connections
    - Understanding and managing groundwater and surface water interactions
    - Sustainable water quantity

3) Then spend 3 minutes in silence individually reading your goal and writing down your ideas that are top of mind (use back of this page)

BREAK - 5 minutes

Reminder of Survey #2 - Share input on 2050 water policy

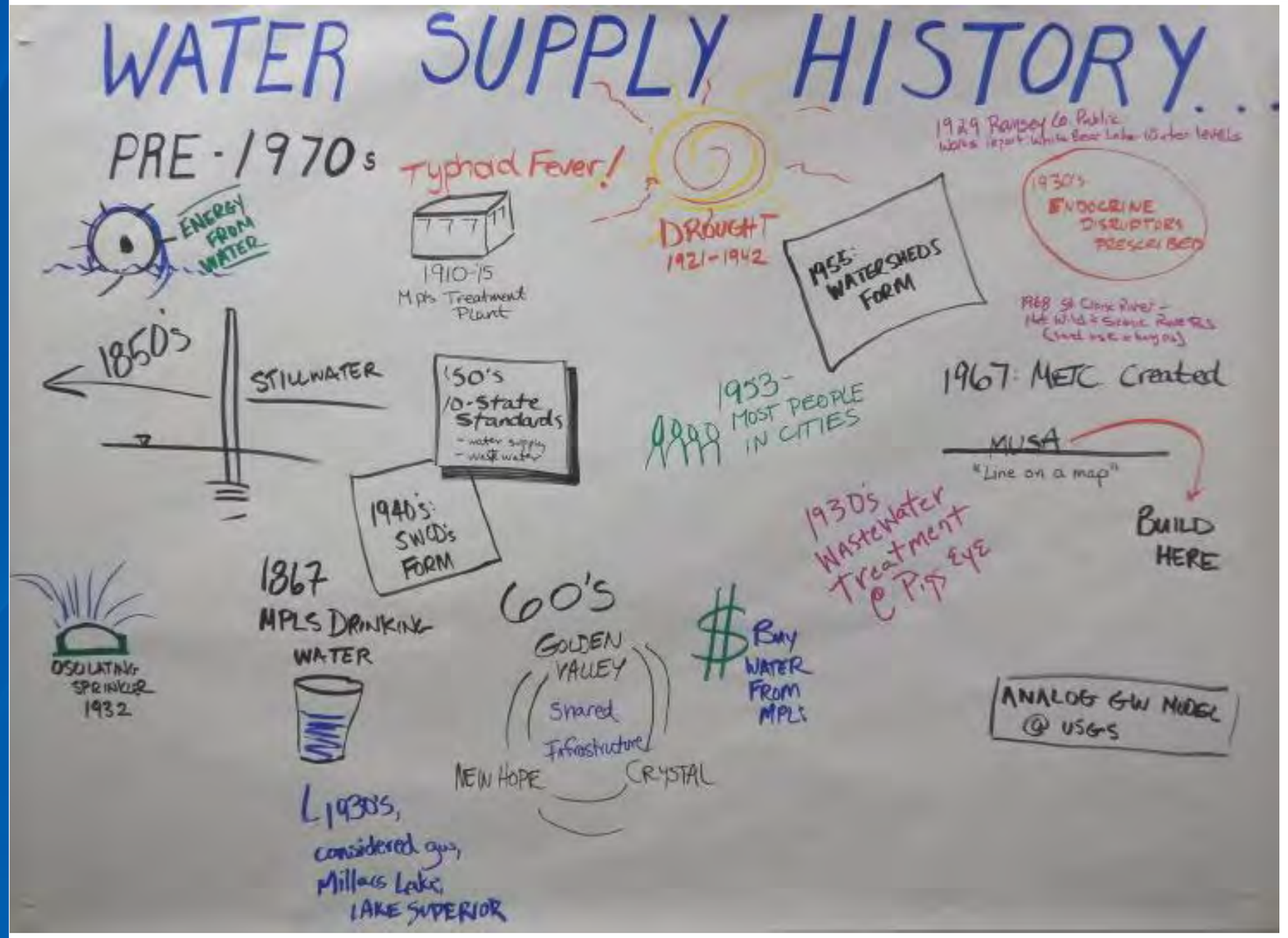
Use your laptop, tablet, or smartphone:

GROUP ACTIVITY
History mapping

What is a memorable time you reached out to a neighboring community?

When?

What issue – why?



Over the lunch break, check out:

Water Resources Policy Plan White Papers: *SURVEY*

U of M Resources to Support Water Efficiency Programing

MDH Statewide PFAS Testing

Steve Robertson, MDH I Metropolitan Council Water Supply Workshop

March 15, 2023

PROTECTING, MAINTAINING AND IMPROVING THE HEALTH OF ALL MINNESOTANS

Presentation Overview

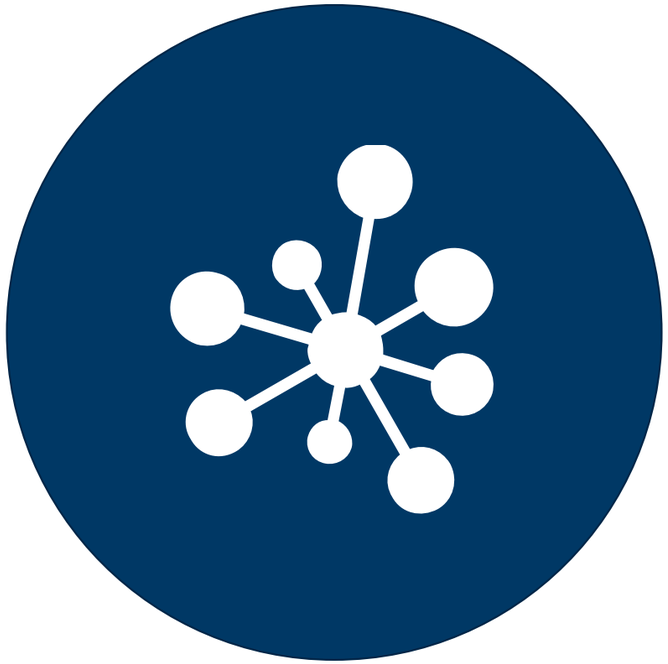
- What is Statewide PFAS
- Description of monitoring effort
- What will MDH do with results
- Future expectations

Statewide PFAS Monitoring Goals

- Sample all community public water supplies by (early) 2023
  - Participation is voluntary
- Determine if any detections are above health-based guidance values

Statewide PFAS Monitoring: Phase I

- Sample entry points at community and non-community PWS
  - Nearby known sources of PFAS and detections of PFAS in groundwater
  - Geologically vulnerable drinking water sources



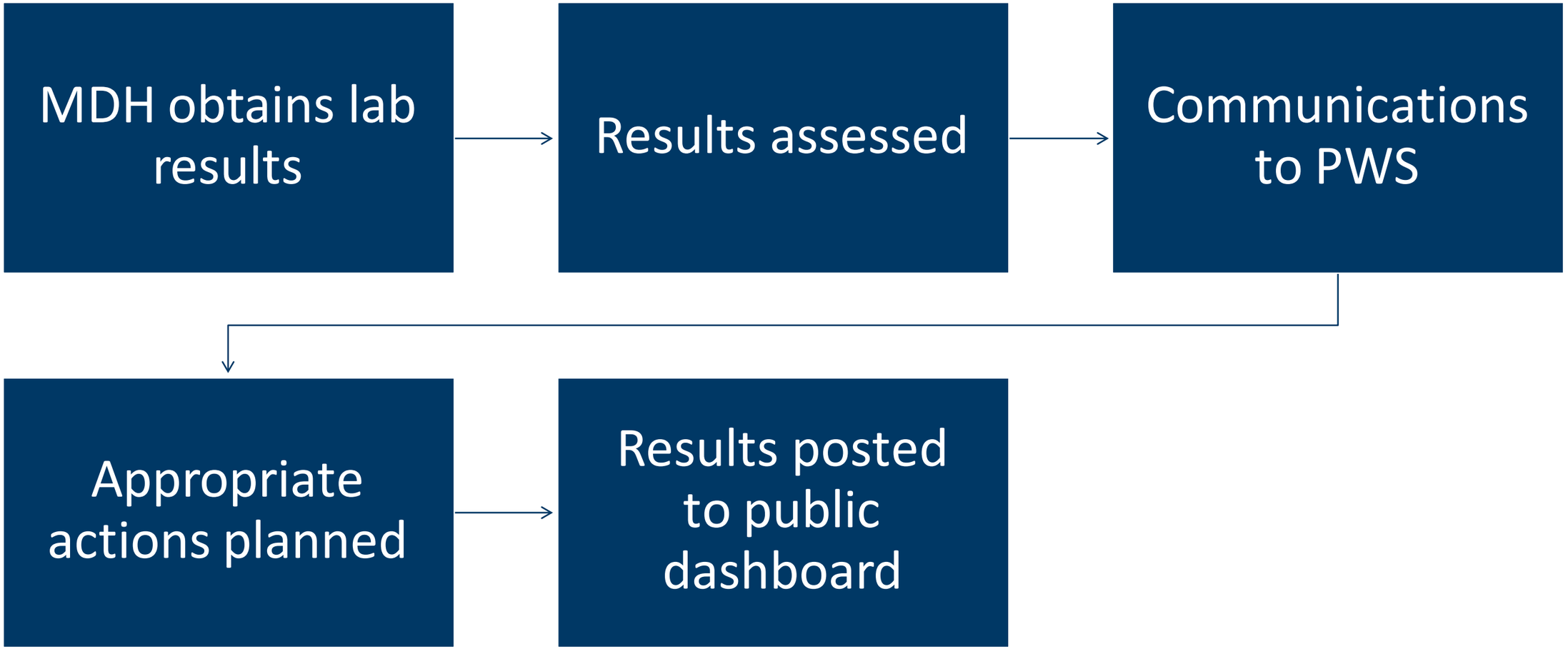
PFAS Monitoring Phase I: Site Selection

AFFF Sites

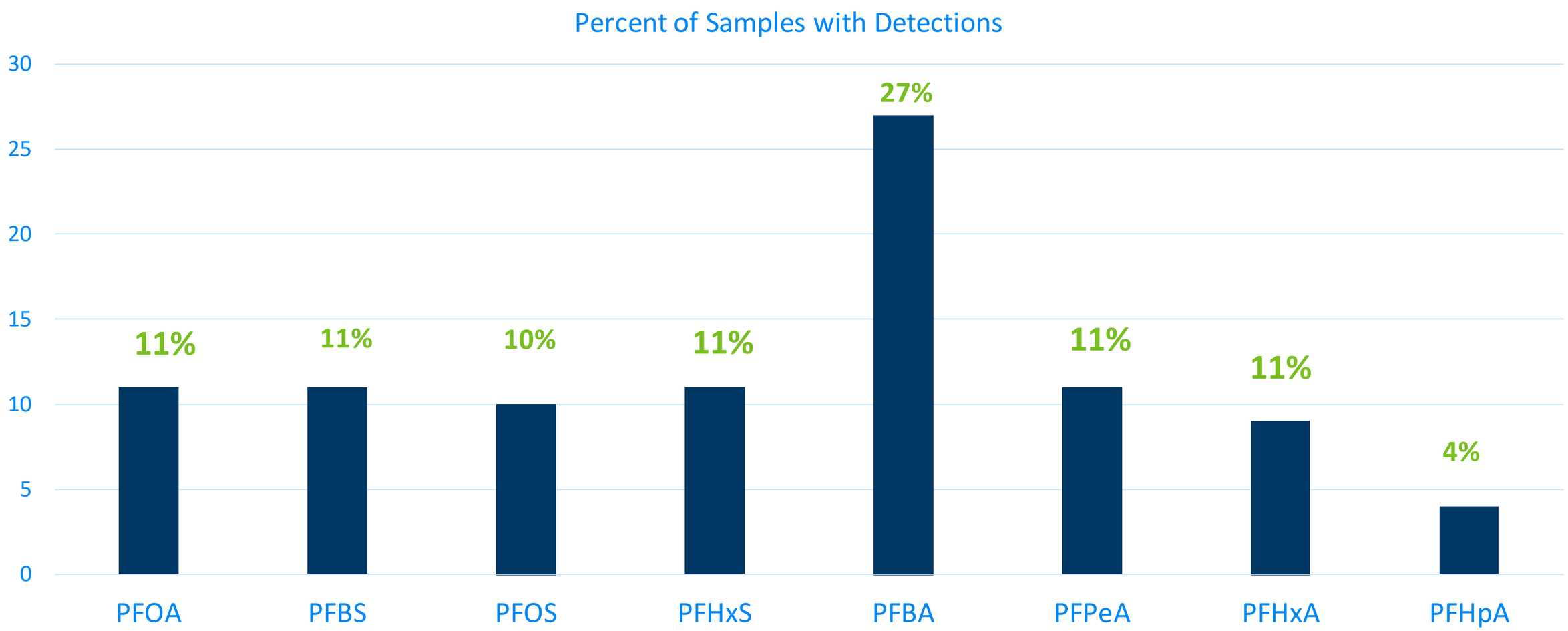
Spray Irrigation

Closed Landfills

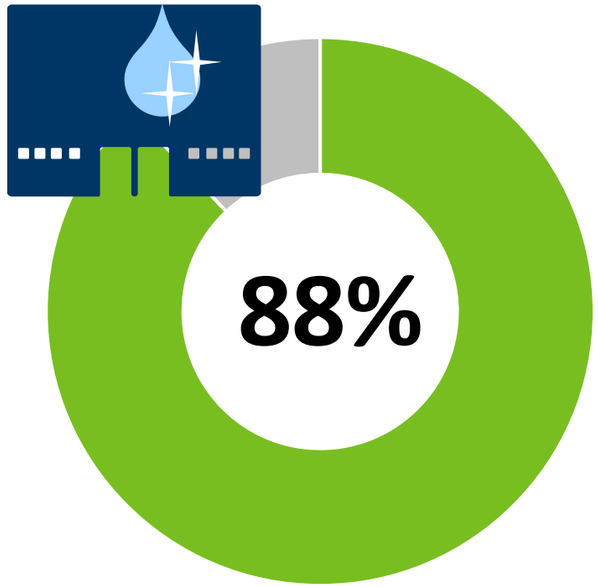
After the sampling – using the results



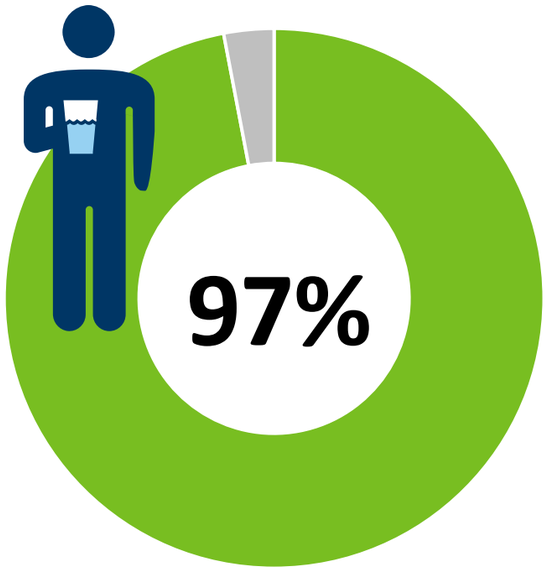
Statewide PFAS Project Most Widely Detected Compounds



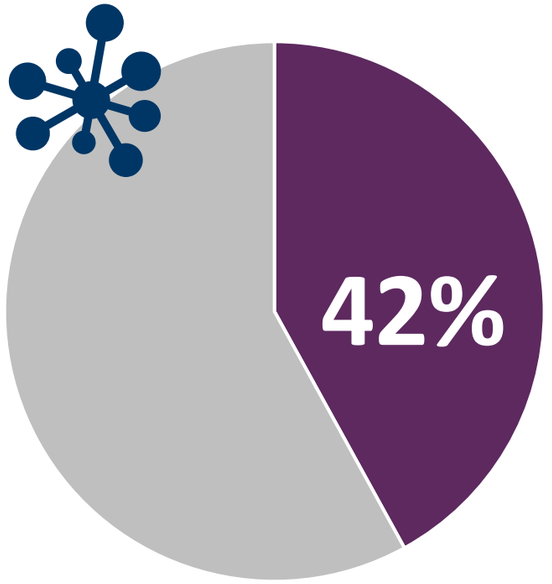
Testing PFAS in drinking water: status and preliminary results



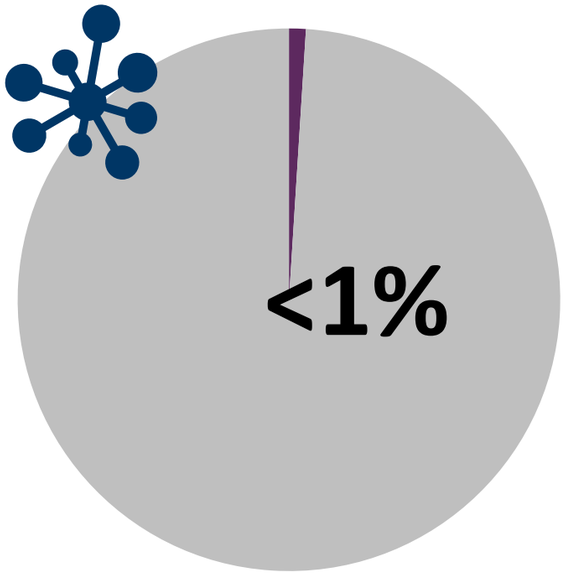
88% of community water systems tested or in progress (854)



97% of community water system customers covered under testing (4.4 million)

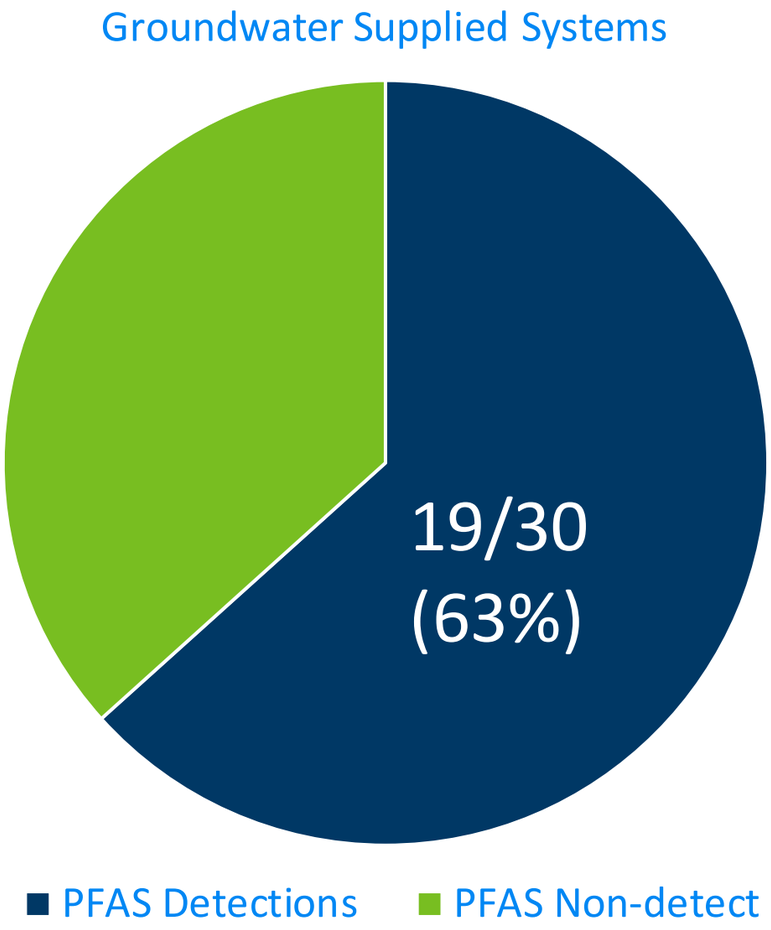


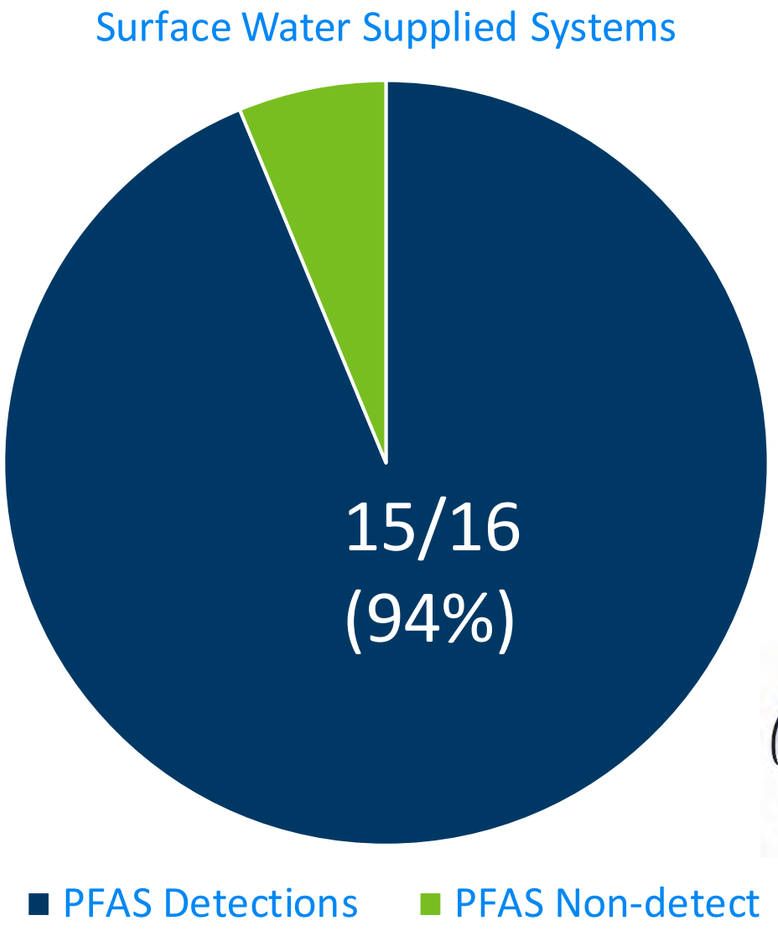
Roughly 42% of systems tested had a PFAS detection



<1% of systems tested have results above health guidance (5)

UCMP Sampled Groundwater vs. Surface Water Supplied Systems

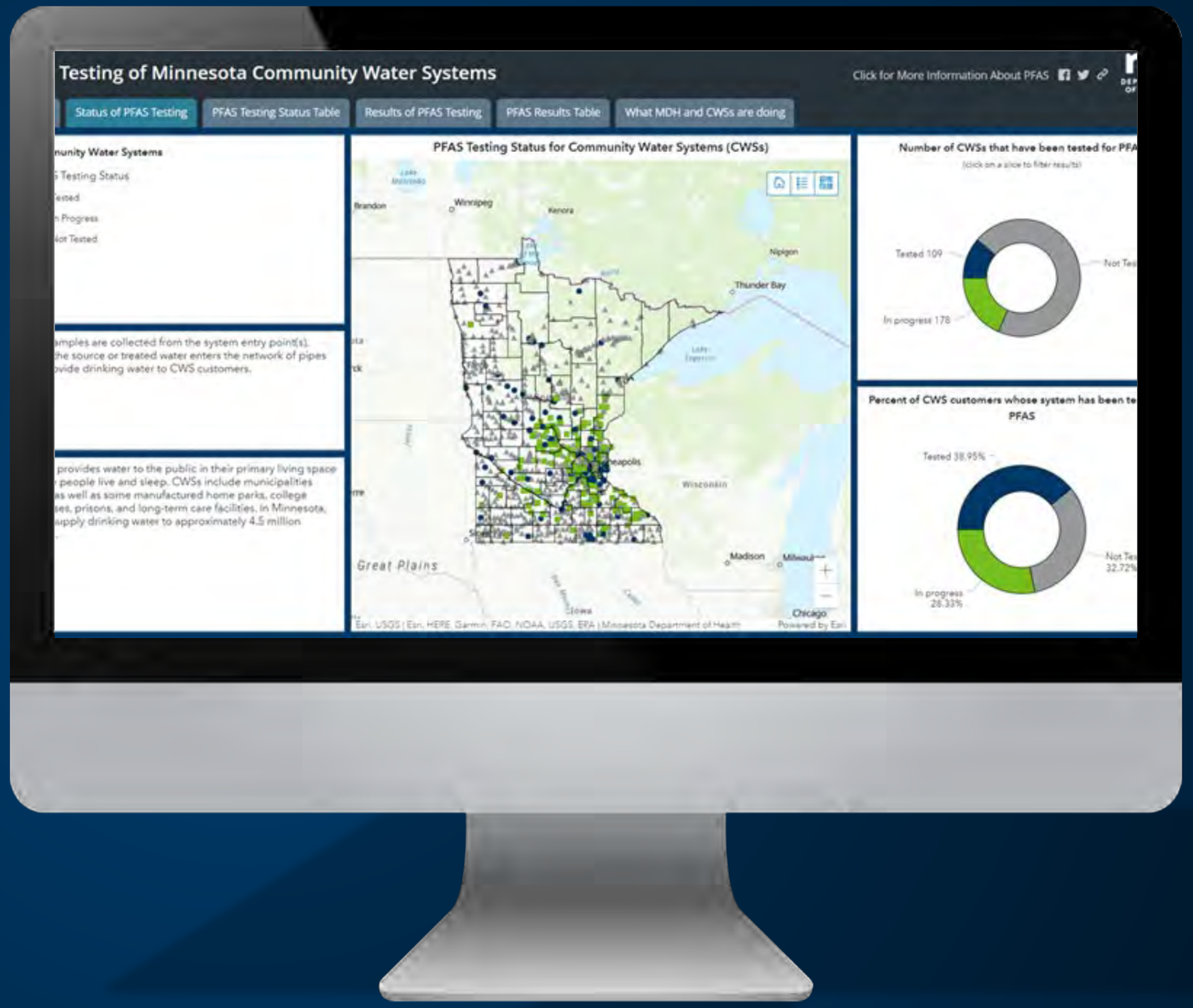




ENVIRONMENT AND NATURAL RESOURCES TRUST FUND

Interactive web dashboard

- Status of PFAS testing in drinking water
- PFAS testing results
- Health guidance
- Actions MDH and systems are taking
- [MDH Dashboard Landing Page]



Acknowledgements: Participating Public Water Systems
Many MDH staff

Thank you.

steve.robertson@state.mn.us

jane.de.lambert@state.mn.us

Multi-Community Wellhead Protection Pilot Project

Subregional Water Supply Group Planning Workshop

METROPOLITAN COUNCIL

March 15, 2022 Emily Steinweg metcouncil.org

MAWSAC support:
Stronger Source Water Protection

Working Together

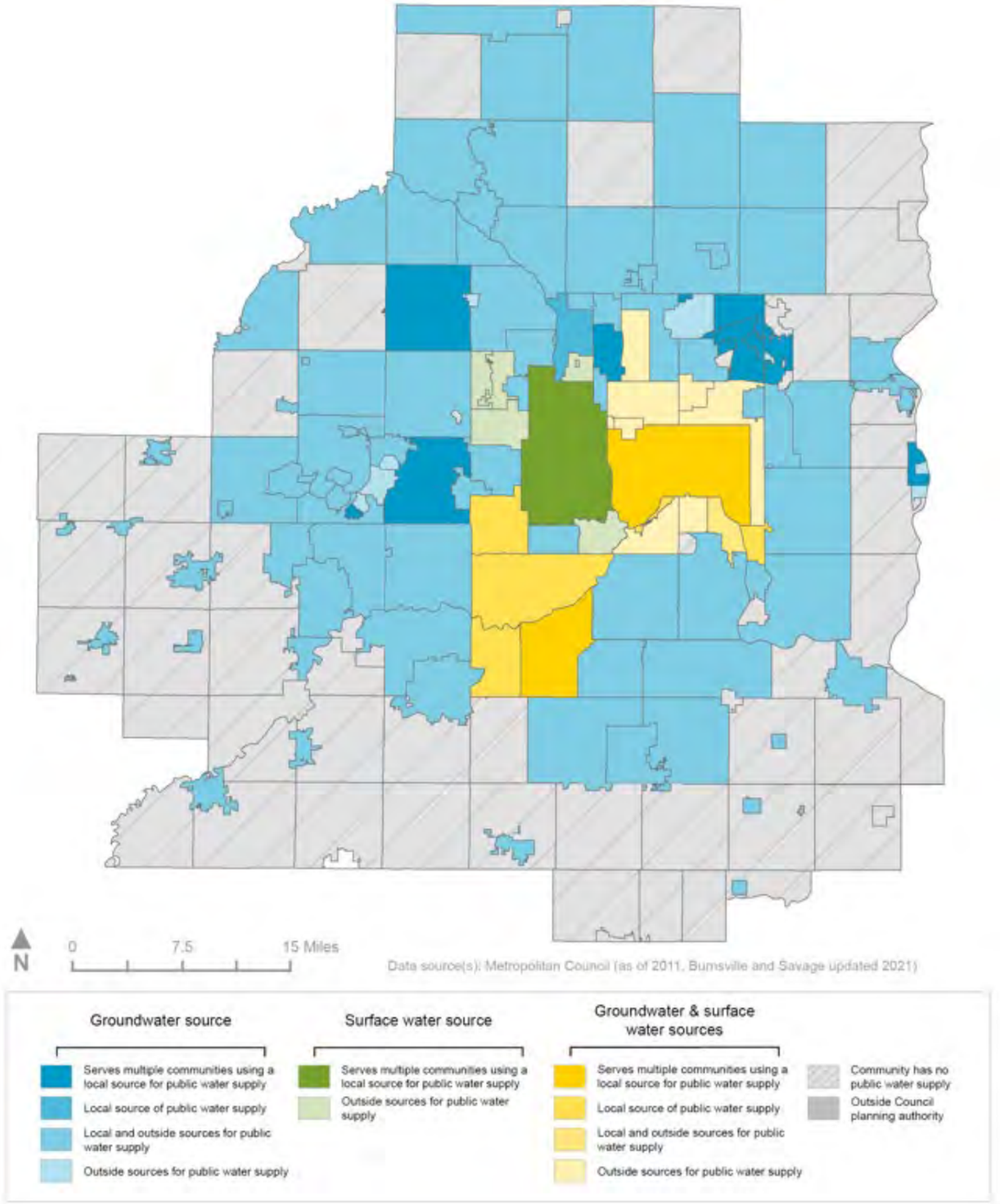
Metro Area Water Supply Advisory Committee (MAWSAC)

- Informs Metropolitan Council's water supply planning activities and preparation of its regional development framework.
- Pools collective expertise to address increasingly complex water problems that require a collaborative approach.

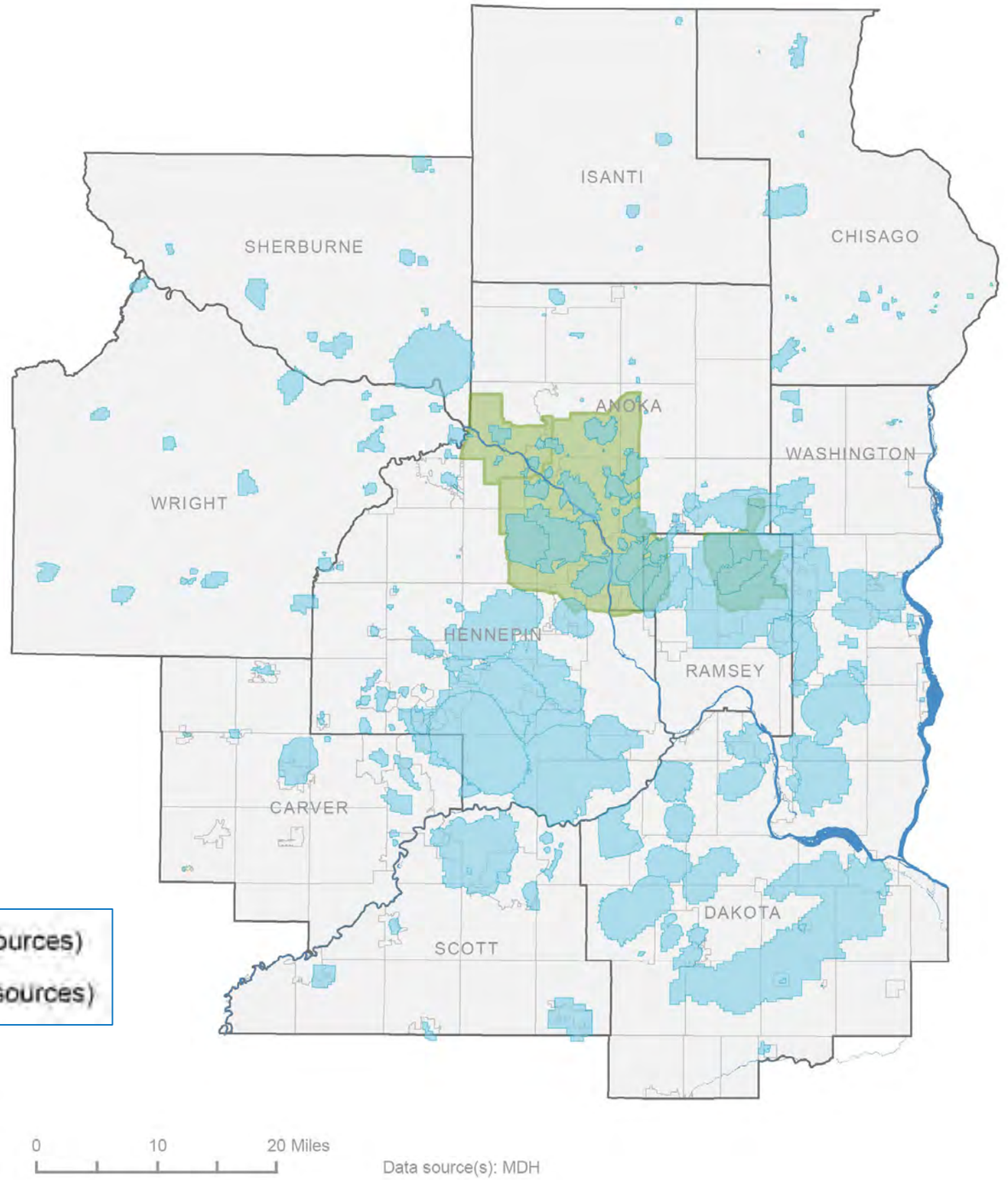
Concerns

- Need for long-term integrated water management
- Need for development that protects quantity and quality of sources waters while balancing communities' economic needs/goals
- How to better understand groundwater and surface water interactions
- How to maximize the value that the region receives from existing and future water supply infrastructure investments

Metro area water supply sources

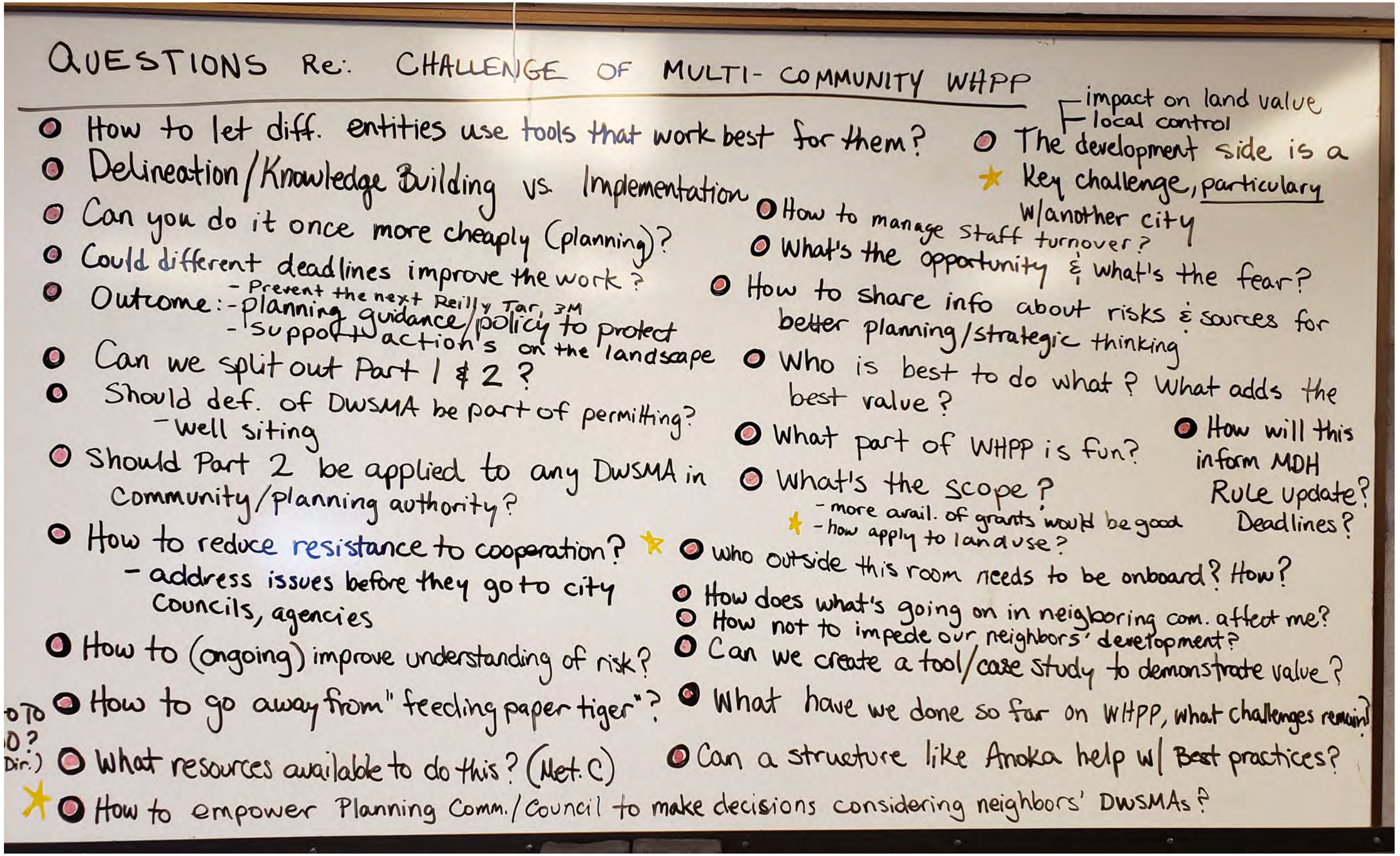


Drinking Water Supply Management Areas (DWSMAs)



Project


Multi-Community Wellhead Protection (WHP) Pilot Project
CLEAN WATER LAND & LEGACY AMENDMENT
METROPOLITAN COUNCIL
DEPARTMENT OF HEALTH
Metropolitan Council

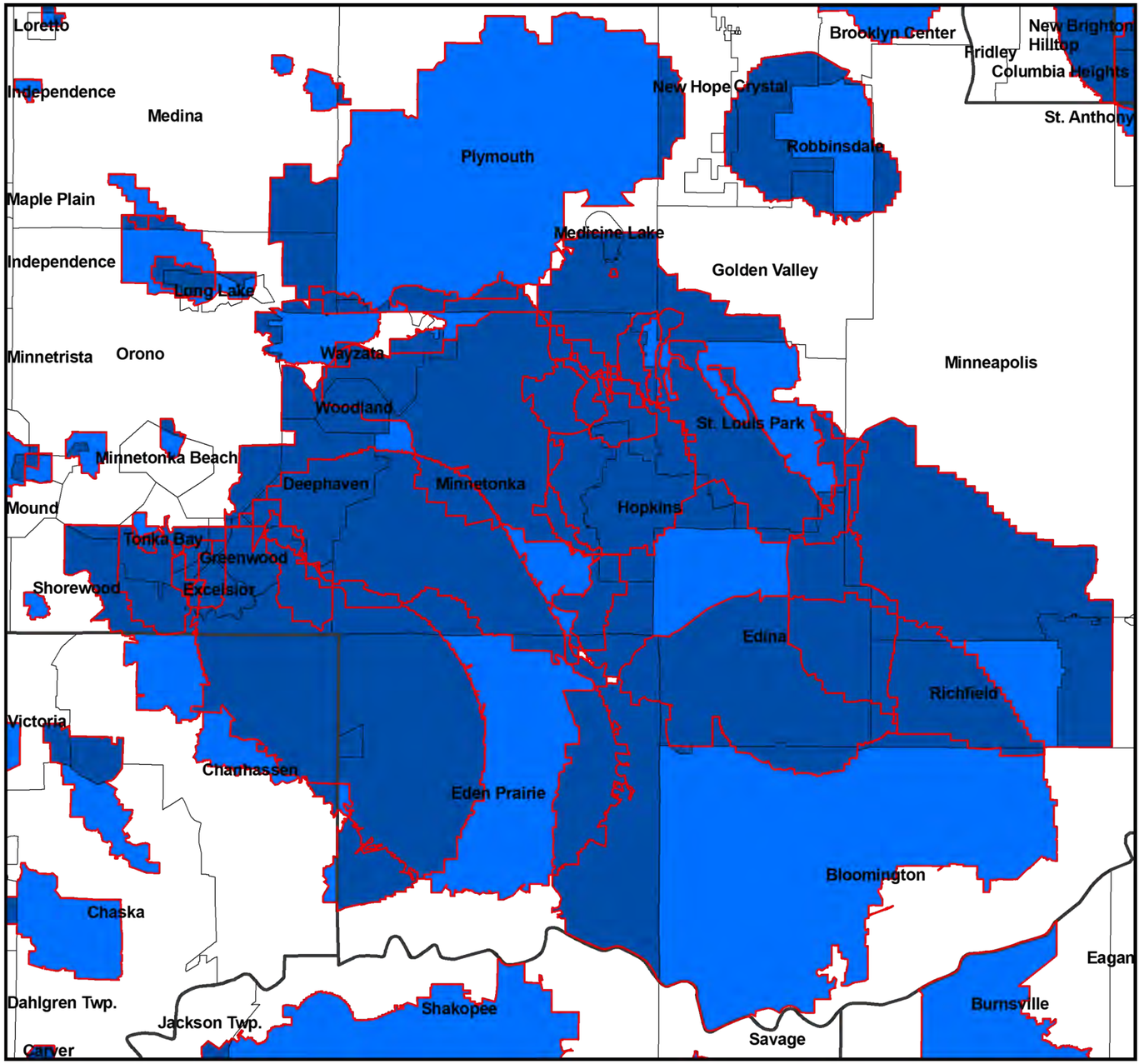

QUESTIONS Re: CHALLENGE OF MULTI-COMMUNITY WHPP
How to let diff. entities use tools that work best for them?
Delineation/Knowledge Building vs. Implementation
Can you do it once more cheaply (planning)?
Could different deadlines improve the work?
Outcome: - Prevent the next Reilly Tar, 3M
- planning guidance/policy to protect
- support actions on the landscape
Can we split out Part 1 & 2?
Should def. of DWSMA be part of permitting?
- well siting
Should Part 2 be applied to any DWSMA in Community/planning authority?
How to reduce resistance to cooperation?
- address issues before they go to city Councils, agencies
How to (ongoing) improve understanding of risk?
How to go away from "feeding paper tiger"?
What resources available to do this? (Met. C)
How to empower Planning Comm./Council to make decisions considering neighbors' DWSMAs?
How to manage staff turnover?
What's the opportunity & what's the fear?
How to share info about risks & sources for better planning/strategic thinking
Who is best to do what? What adds the best value?
What part of WHPP is fun?
What's the scope?
- more avail. of grants would be good
- how apply to land use?
Who outside this room needs to be onboard? How?
How does what's going on in neighboring com. affect me?
How not to impede our neighbors' development?
Can we create a tool/case study to demonstrate value?
What have we done so far on WHPP, what challenges remain?
Can a structure like Anoka help w/ Best practices?
The development side is a Key challenge, particulary w/another city
- impact on land value
- local control
How will this inform MDH Rule update? Deadlines?

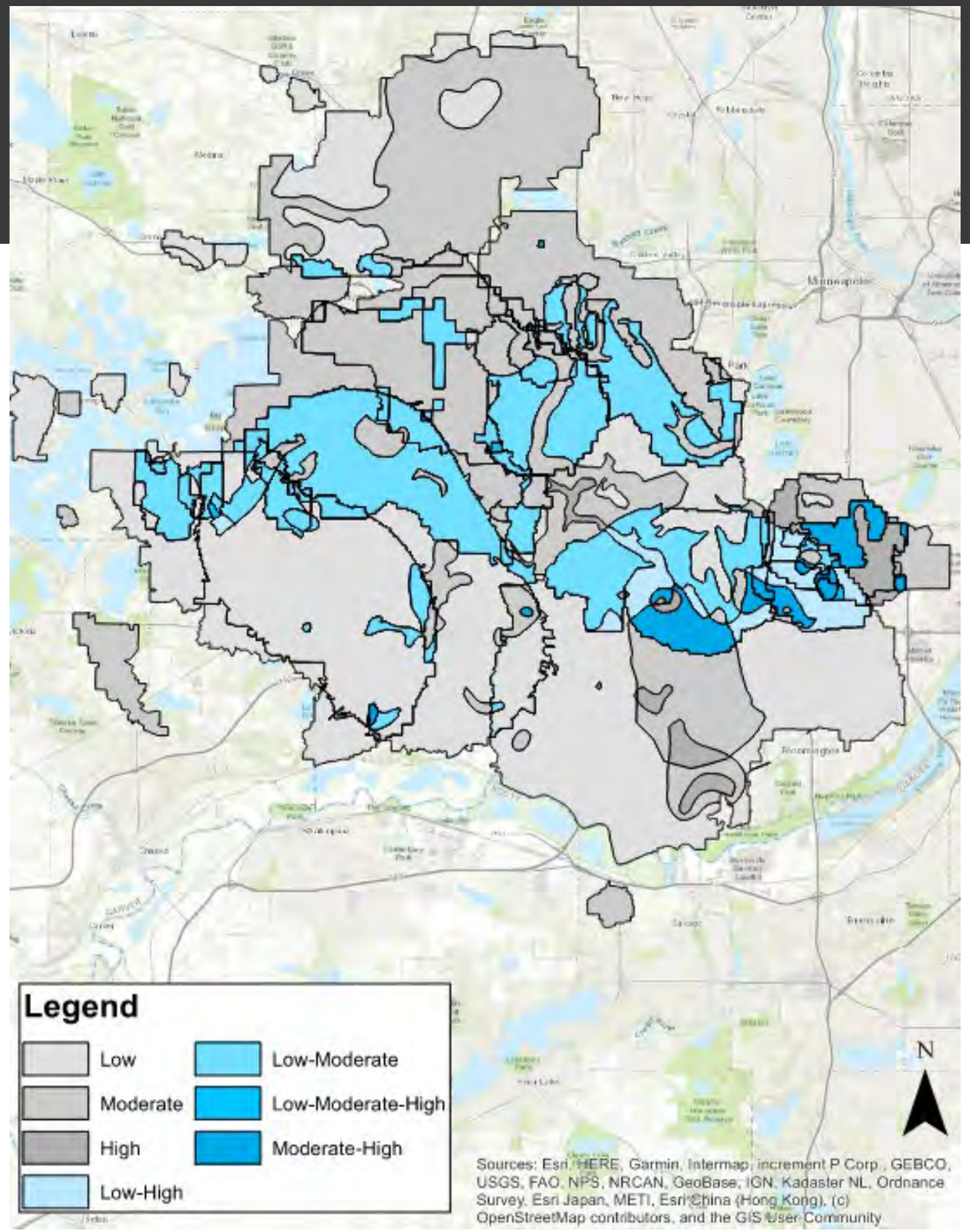
Drinking Water Supply Management Areas in the West Metro

DWSMA boundary

DWSMA within the community responsible for it

DWSMA outside of the community responsible for it

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Low-Moderate-High
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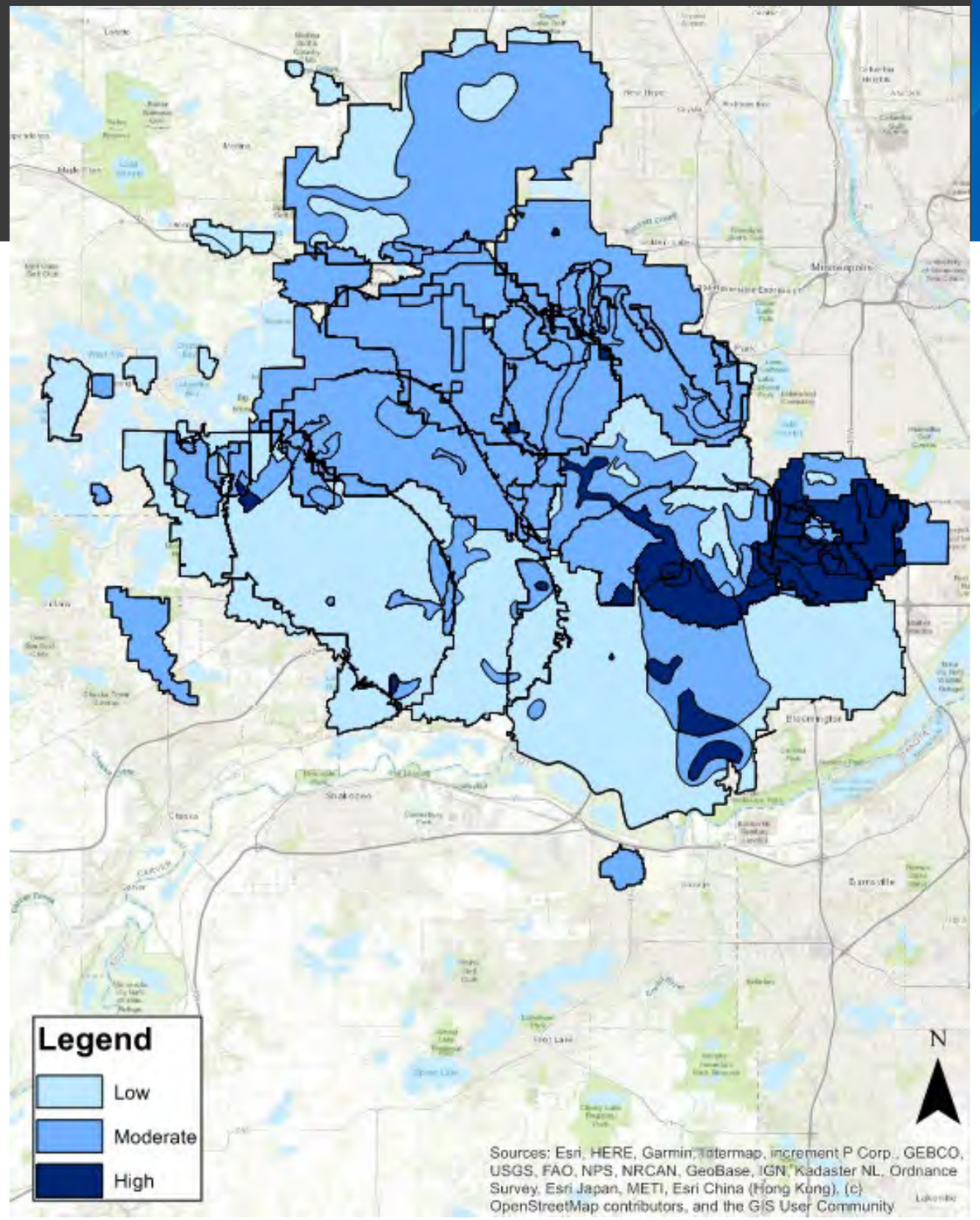
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community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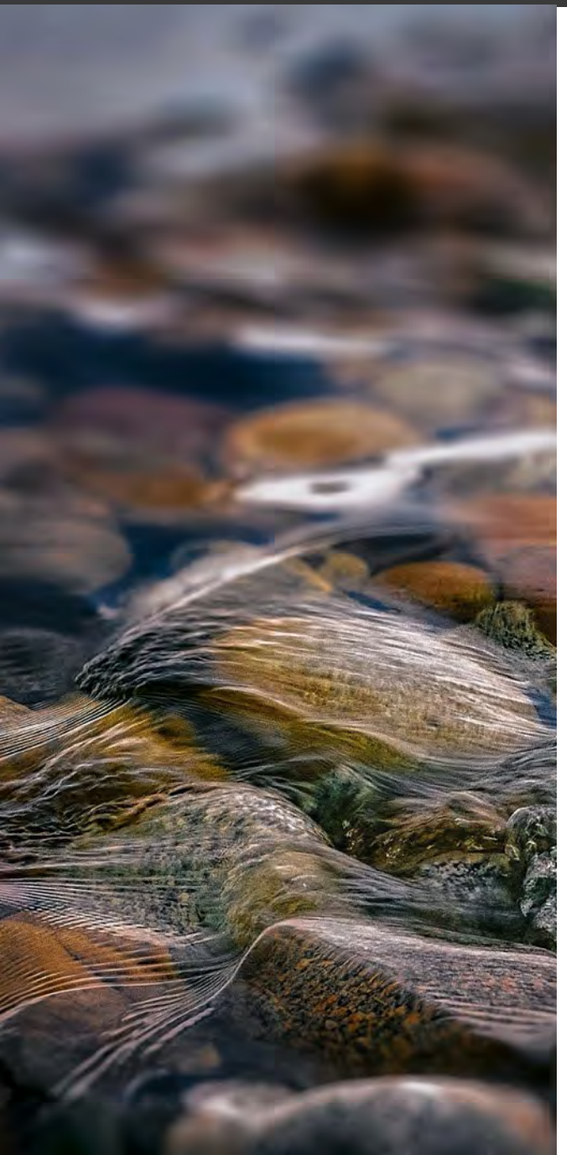
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Data!

Communities in DWSMA		Community Acres within DWSMA	Percent of DWSMA within Community
Bloomington DWSMA		**32,926**	
	Bloomington	16,816	51%
	Eden Prairie	6,021	18%
	Edina	6,672	20%
	Minneapolis	349	1%
	Richfield	3,069	9%
Chanhassen DWSMA		**19,124**	
	Chanhassen	5,609	29%
	Deephaven	2	0%
	Eden Prairie	7,247	38%
	Excelsior	434	2%
	Greenwood	219	1%
	Minnetonka	846	4%
	Orono	98	1%
	Shorewood	4,205	22%
	Tonka Bay	466	2%
Chaska North DWSMA		**1,495**	
	Chanhassen	476	32%
	Chaska	830	56%
	Victoria	189	13%

Key takeaways from DWSMA analysis



West metro results

A DWSMA for the 22 communities analyzed here would cover a total of 180,220 acres.

There is general agreement about the vulnerability of 67% of total acres:

35% of the total DWSMA area is **low** vulnerability

31% of the total DWSMA area is **moderate** vulnerability

2% of the total DWSMA area is **high** vulnerability

There is disagreement, however, about the vulnerability of 33% of total acres:

26% of the total DWSMA area is considered **low** and **moderate**

3% of the total DWSMA area is considered **low** and **high**

3% of the total DWSMA area is considered **moderate** and **high**

0.2% of the total DWSMA area is considered **low**, **moderate**, and **high**

Initial proposal

Project Definition

- Project area
- Project leaders
- Project stakeholders
- Criteria for participation
- Benefits of participation
- Commitments of MDH, Met Council, Communities/PWS

Partners and stakeholders - roles

Project Management Team

Responsibilities:

- Draft and do detailed review of scope of work
- Direct contract manager to send work order
- Shape schedule and approve agenda for steering team engagement
- Main point of contact with consultant

Steering Committee

Responsibilities:

- Revises proposed scope of work and draft deliverables
- Provide higher level direction
- Commit to sharing information as needed to ensure communities' needs are addressed

GW Modeling PM Team

Responsibilities:

- Issue work orders to consultant PM
- Offer input to pilot project management team and help finalize proposed SOW
- Provide regular updates to the pilot PM team and steering committee
- Deliver the agreed-upon SOW

Re-imagining wellhead protection

Part 1 – Updated Groundwater Modeling

- New groundwater model
- New vulnerability designations
- Document process and note improvements

Part 2 – Implementation

- Goal – collaborative implementation, seeing the resource as one shared resource, reduce submittal work for individual communities and MDH.
- Document process and note improvements
- More info coming…..

Lessons/Advice

What we've learned and tried so far….

- Set clear purpose and roles
- Ensure resources are available (staff and funds)
- Find local champions
- Define benefits to your audience
- Understand stakeholder interests and goals
- Provide incentives to overcome barriers
- Allow time for multiple reviewers and drafts

Thank you

Emily Steinweg

Principal Engineer
Environmental Services
Emily.Steinweg@metc.state.mn.us

METROPOLITAN COUNCIL

BREAK - 5 minutes

Reminder of Survey #2 - Share input on 2050 water policy

Use your laptop, tablet, or smartphone:

White Bear Lake Water Levels & Drinking Water Supply Planning

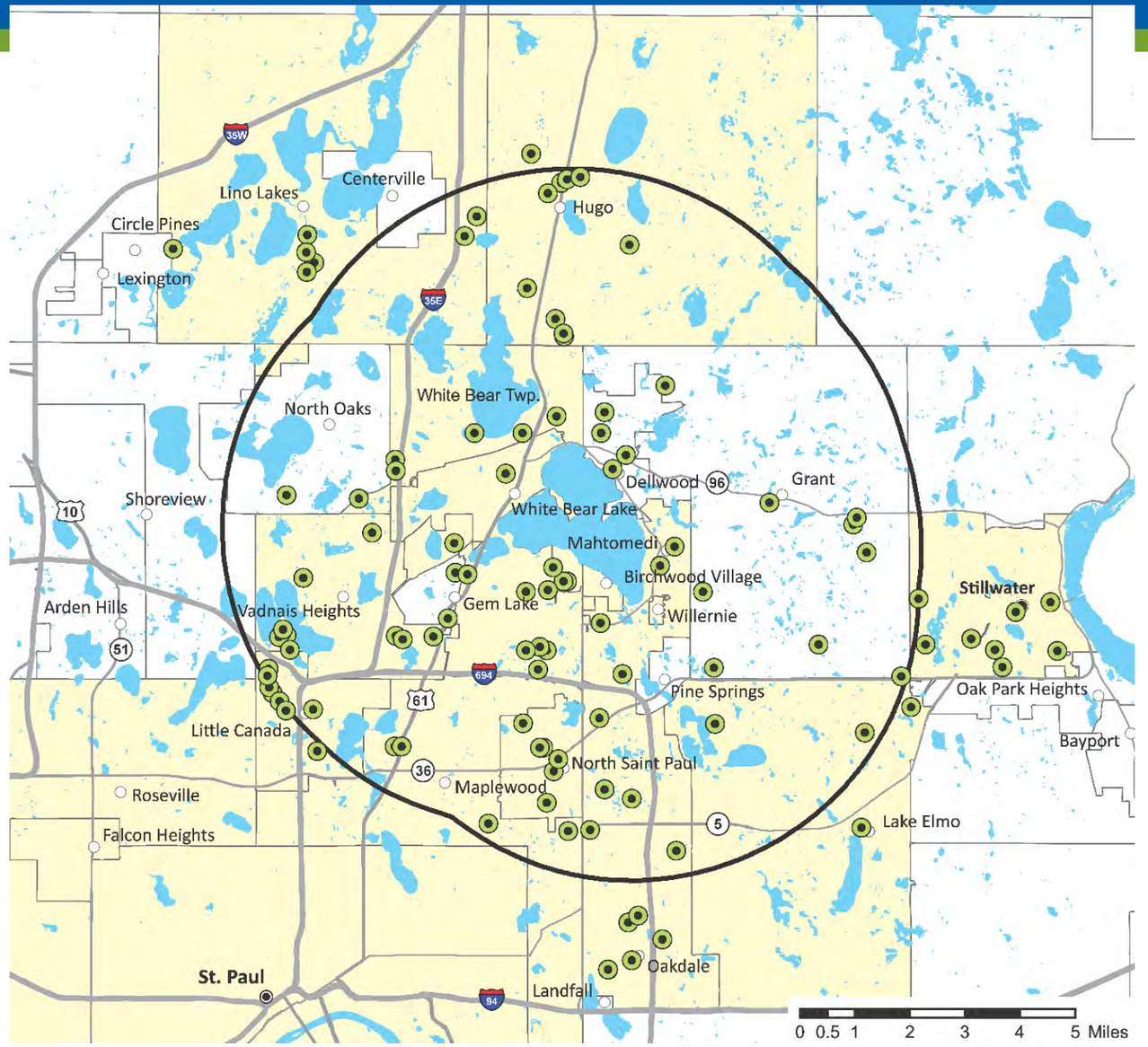
- Jason Moeckel – Section Manager, DNR Ecological and Water Resources

DEPARTMENT OF NATURAL RESOURCES

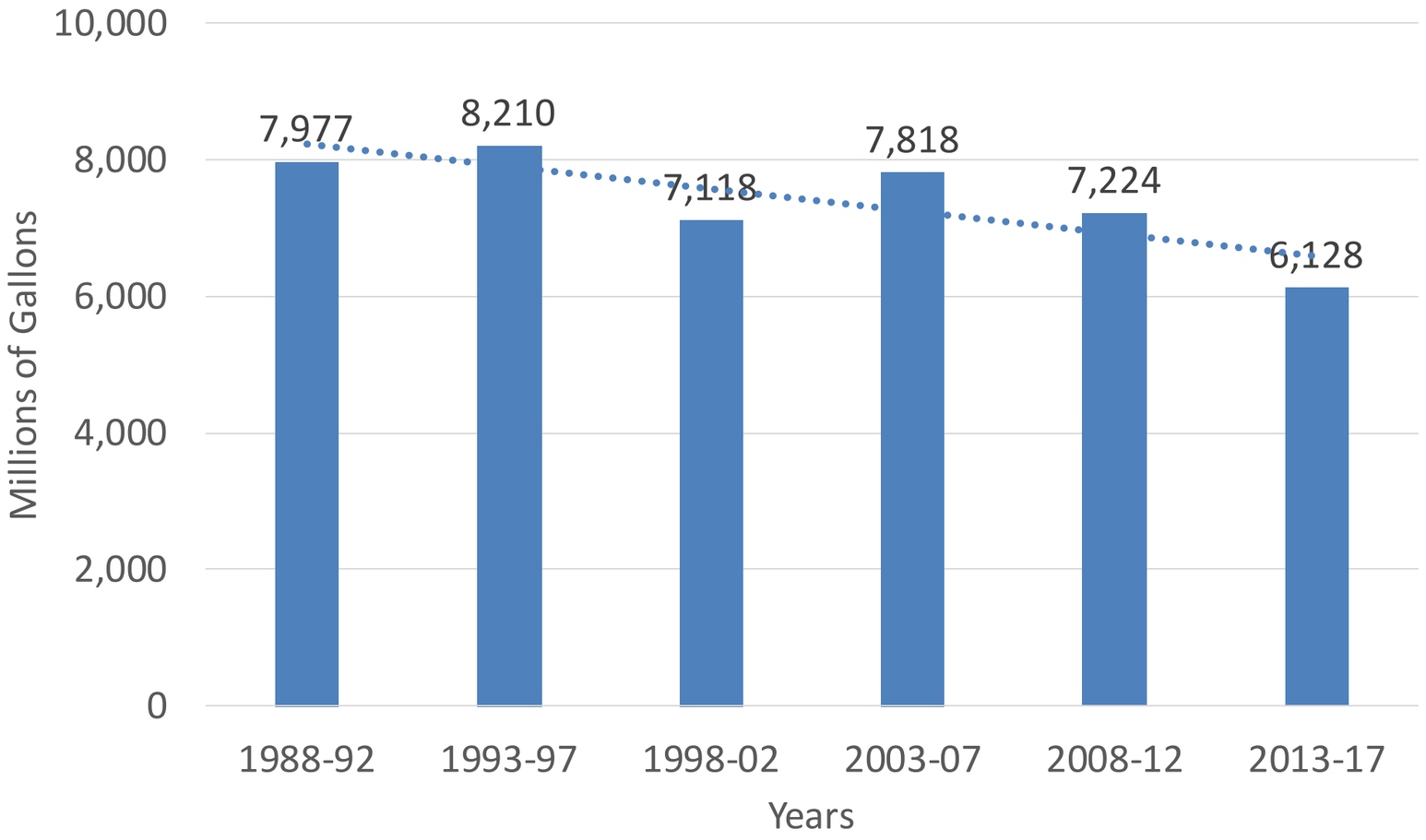
Key Elements of Court Order

- DNR is prohibited from issuing new permits or increases within 5 miles unless certain conditions are met
- Residential irrigation ban at 923.5 lake elevation as trigger to the protective elevation
- Residential goal of 75 gpd per capita water use and total 90 gpd
- Requires public water suppliers to develop a contingency plan to shift their source of water from groundwater to surface water
- No groundwater permits can be issued unless the DNR has sufficient hydrologic data to understand the impact on White Bear Lake and the Prairie du Chien-Jordan aquifer
- DNR to set a collective annual withdrawal limit for White Bear Lake and adjust permits accordingly
  - Applies to all water use, including private wells

Permits and Wells w/in 5 Mile Area

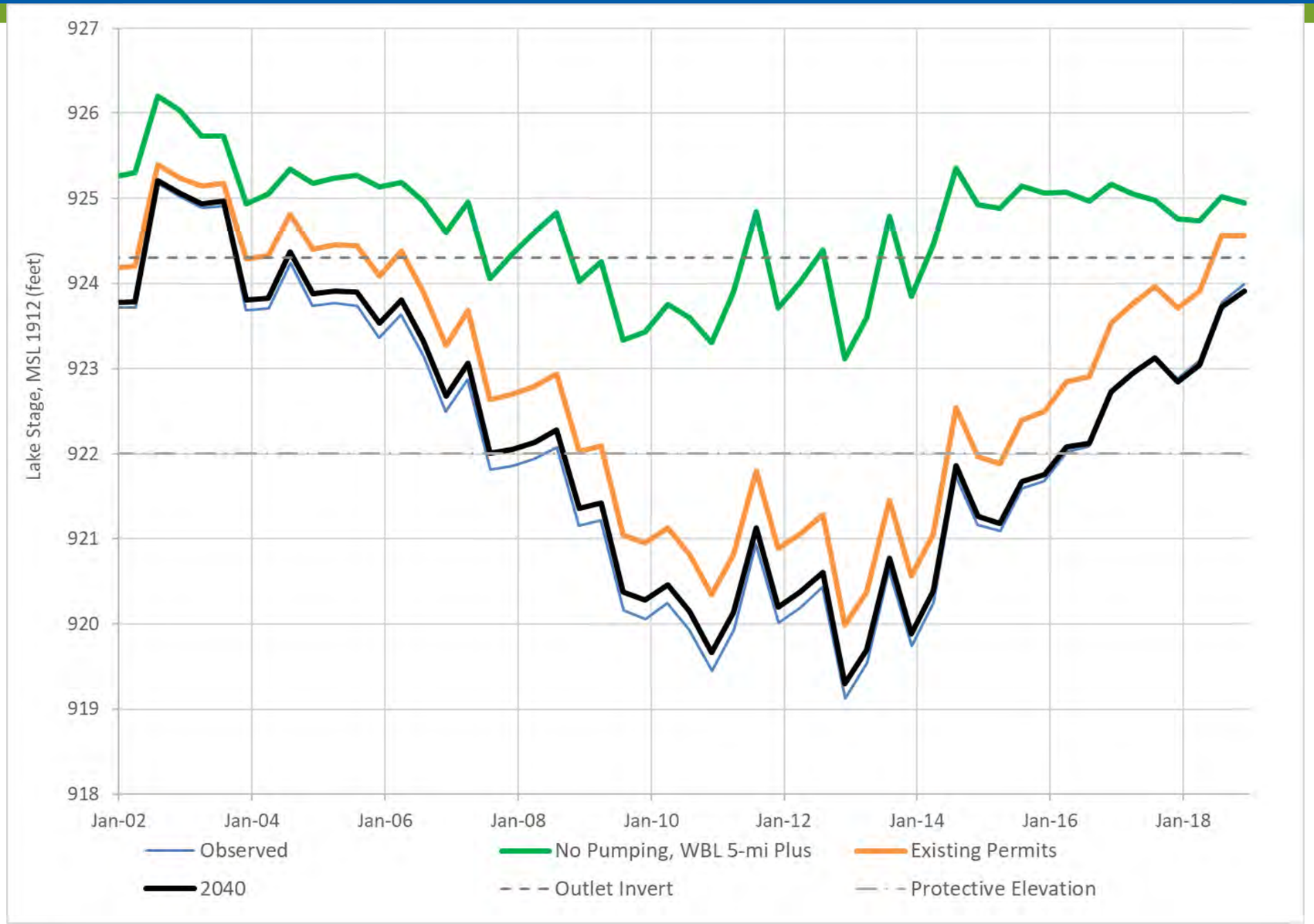


5 Yr Annual Avg Groundwater Use Within 5 Miles of WBL

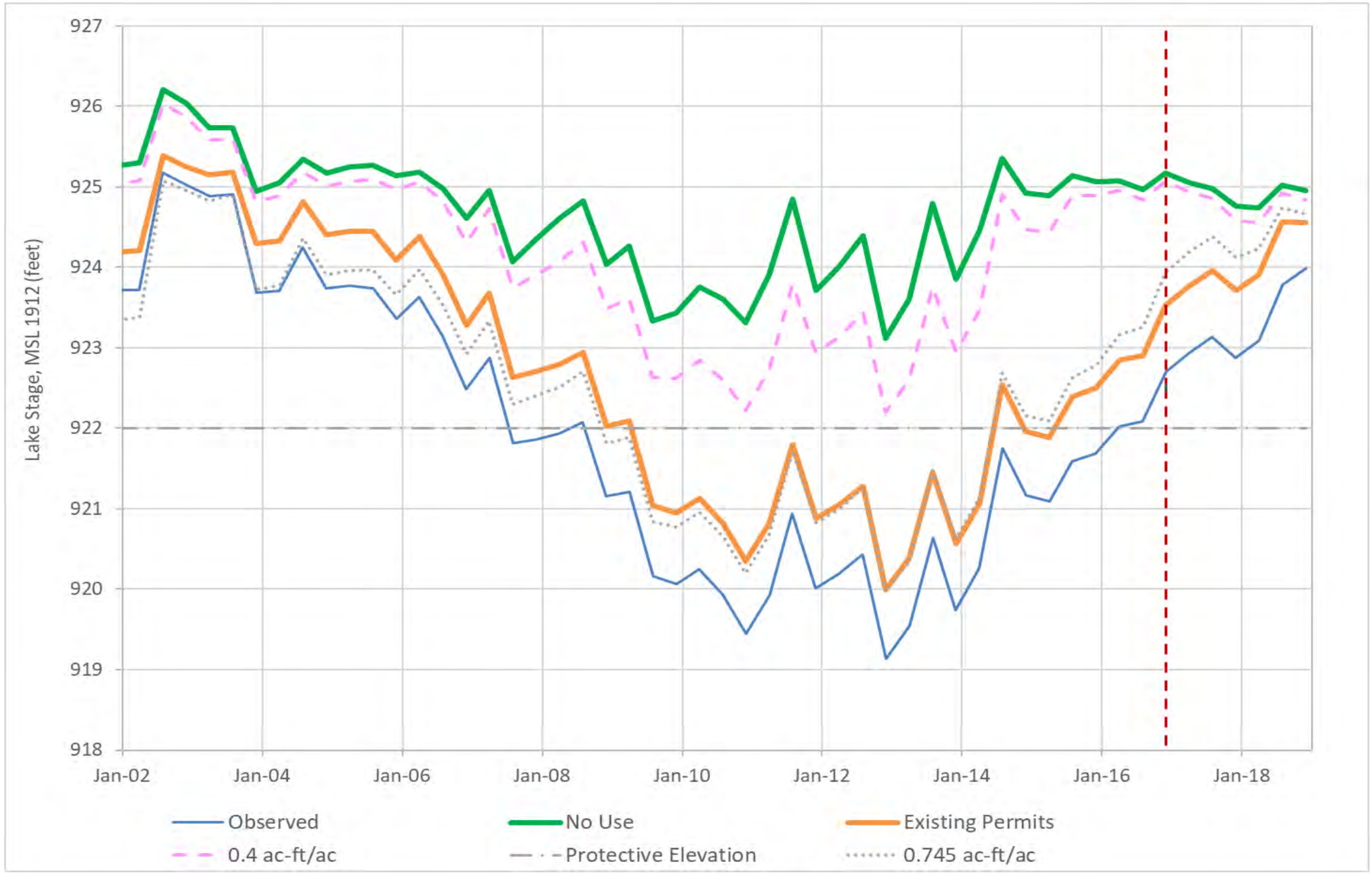


Note: St. Paul Regional Water Services no longer relying on groundwater

White Bear Lake – Projected Lake Levels Under Average 2040 Water Use in North and East Metro Area



Collective Annual Withdrawal Limits

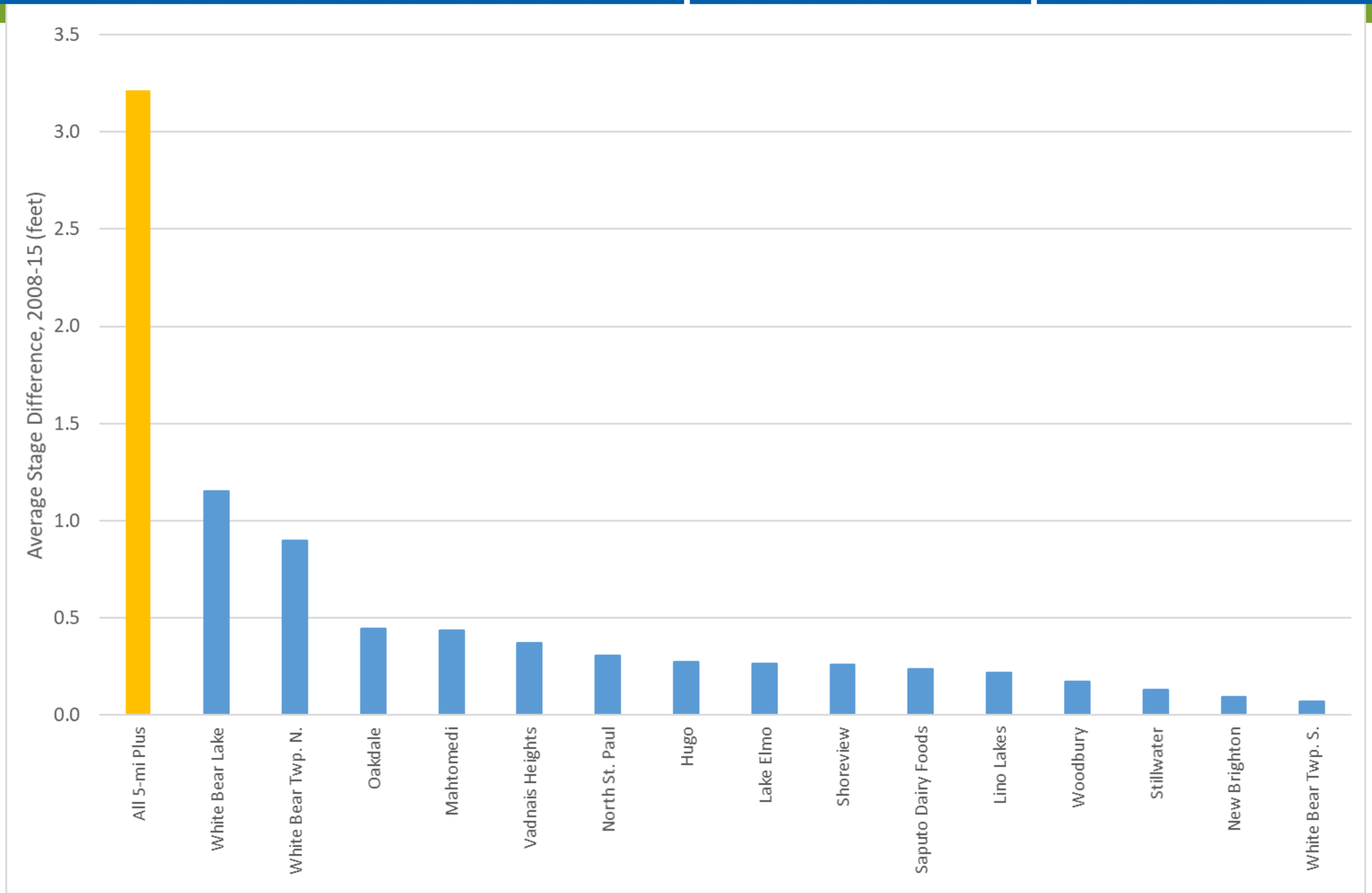


- M.S. 103G.285 limits 0.5 ac-ft/ac
- Protective Elevation - 0.4 ac-ft/acre 314 MGY
- Existing use – 0.745 ac-ft/acre comparable withdrawal – 585 MGY

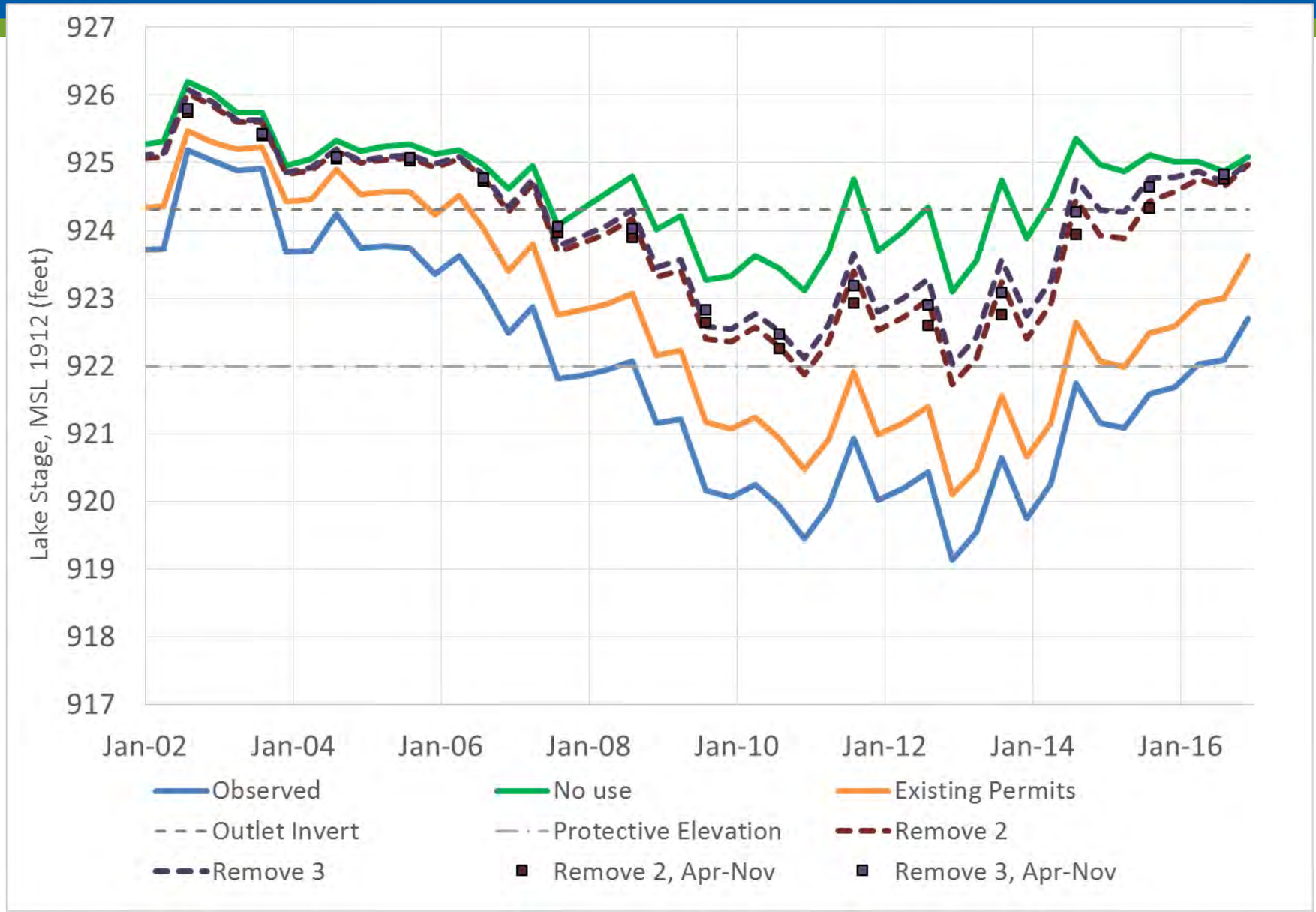
Analysis to Ensure Domestic Supply

- Our modeling analysis indicates limiting total water use to the equivalent of about 55 gallons/day/capita (gpcd) would maintain lake levels near or above 922 feet under normal range of conditions.
- This is essentially limiting water for 1st priority uses, which does not include the use of water for schools; hospitals; medical offices; government buildings; commercial uses such as restaurants, gas stations, grocery stores, or any other store, hotels, or industrial uses.
- This analysis assumes 2020 population as the basis and pumping volumes from existing municipal water supply wells. (pop.) x (55) x (365) = allowable volume
- Any increases in domestic use or allowing lower priority water use would not maintain lake levels above 922 ft.

Relative Influence of Individual Permits on Lake Levels Under 2040 Water Use Projections - Top 15 Influencers



White Bear Lake – Results of Using an Alternate Source of Water for Several Public Water Suppliers



2014 Feasibility Study on Northeast Metro water supply

Northeast Groundwater Management Area Meeting

METROPOLITAN COUNCIL

June 2022

Ali Elhassan

metrocouncil.org

2014 Findings

- Current SPRWS ***excess*** capacity: 30 MGD
- To bring water to the study area, a new water main from McCarrons Water Treatment Plant would be necessary.
- The six communities nearest to Saint Paul's system could be served without expanding major water treatment facility or raw water delivery system to the plant.
- Service beyond these six communities, would require additional large-scale infrastructure improvements.
  - Would significantly increase the capital costs

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Summary of Costs (2014) – Water Supply Approaches

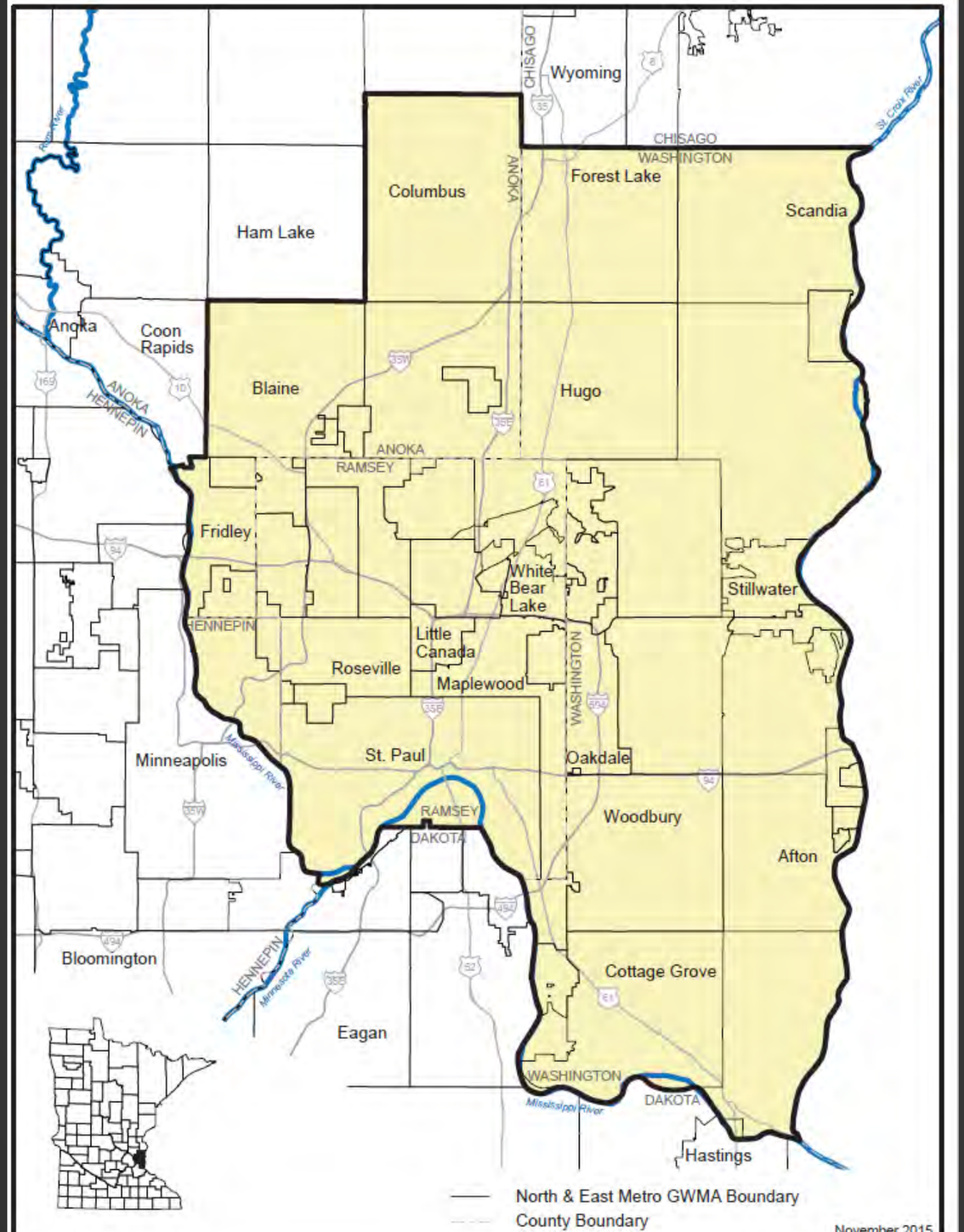
	Description	Capital Cost	**Capital Cost** (Per Person Served)
Alternative 1A	SPRWS - N St Paul	$5,191,000	$396
Alternative 1B	SPRWS - 6 Communities	$155,363,000	$1509
~~**Alternative 1C**~~	~~SPRWS - 13 Communities~~	~~$623,178,000~~	~~$2969~~
-	-		-
Alternative 2B	New Water Treatment Plant - 6 Communities	$229,739,000	$2231
~~**Alternative 2C**~~	~~New Water Treatment Plant - 13 Communities~~	~~$609,701,000~~	~~$2905~~

Augmentation and Recharge - Capital Costs - $ Millions

COST ITEM	SUCKER LAKE ALTERNATIVE	EAST VADNAIS LAKE ALTERNATIVE
Grading and Restoration	$14.7	$15.7
Filtration Facility	$6.9	$6.5
Pump and Pipe Work	$8.0	$7.8
Tunneling	$9.6	$1.1
Permits/Easements	$2.0	$2.7
Total Construction Cost	$41.2	$33.8
Contingency @ 20%	$8.2	$6.7
Total Construction Cost with Contingency	$49.4	$40.5
Engineering, Legal and Administrative @ 25%	$12.4	$10.1
Total Cost in 2015 Dollars	$61.8	$50.6
Total Cost at Mid-Point of Construction (2018-19)	$67	$55

Annual (Operations & Maintenance) Costs - $ Millions Per Year

ITEM	$ MILLIONS PER YEAR
Filtration System	$0.11
Pumping	$0.17
Pipeline	$0.07
Water Purchase	$0.22
TOTAL	$0.57

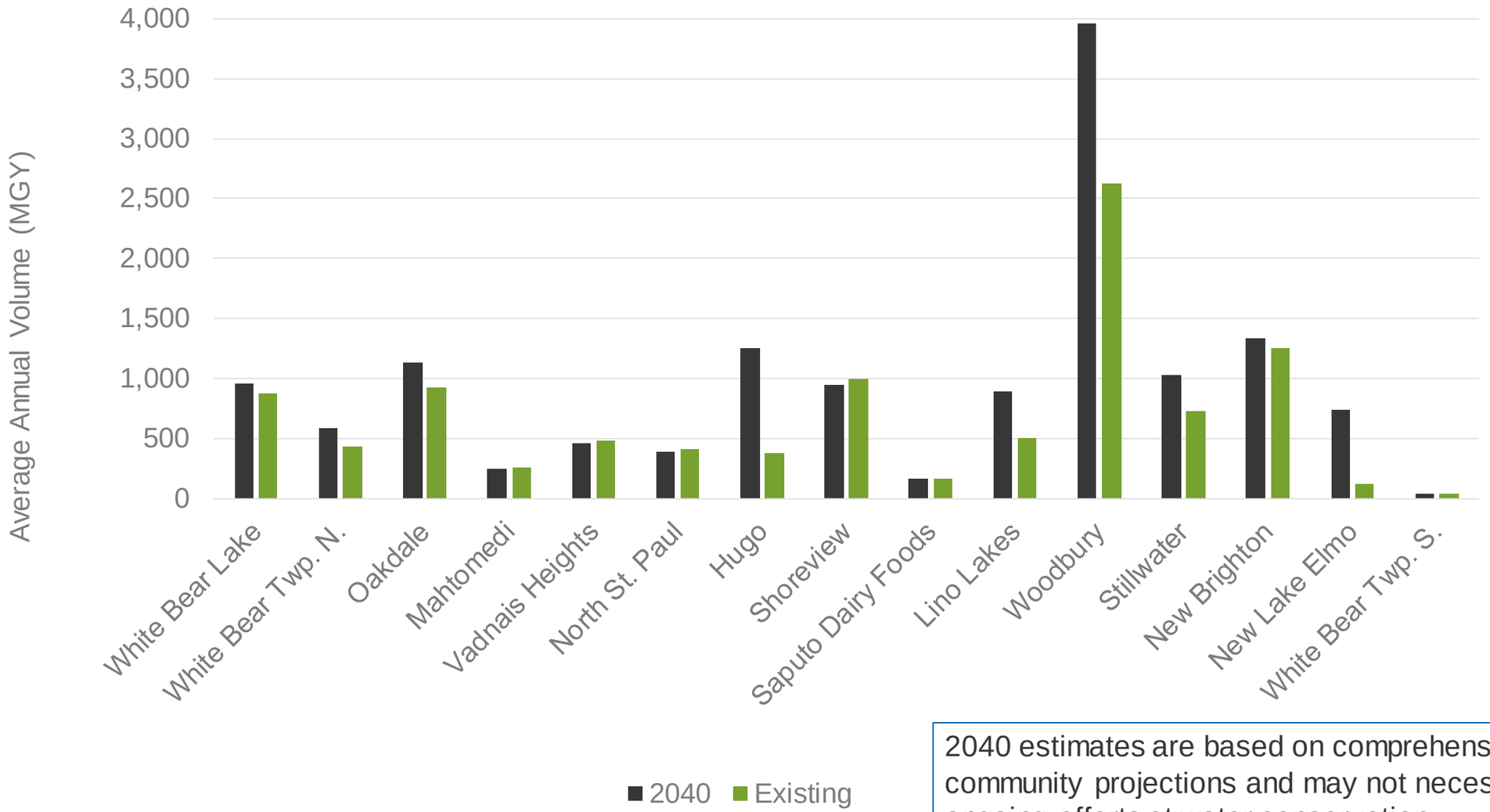


North and East Metro Groundwater Management Area

DEPARTMENT OF NATURAL RESOURCES

Supplemental Slides

Average Annual Volume of Water Use – Existing and Projected for 2040



2040 estimates are based on comprehensive plans and community projections and may not necessarily reflect ongoing efforts at water conservation

Review Augmentation Report January 2016

- Focused on two different alignment alternatives
- Identified items with highest impact on cost
- Identified unknown items that affect cost
- Define key assumptions
  - Flow rate = two (2) billion gallons per year
  - Treatment based on aquatic invasive species
- Developed costs using engineering best practices
  - Unit costs, equipment supplier quotes, past project bids
  - Peer review process to validate estimates

Considering Uncertainty

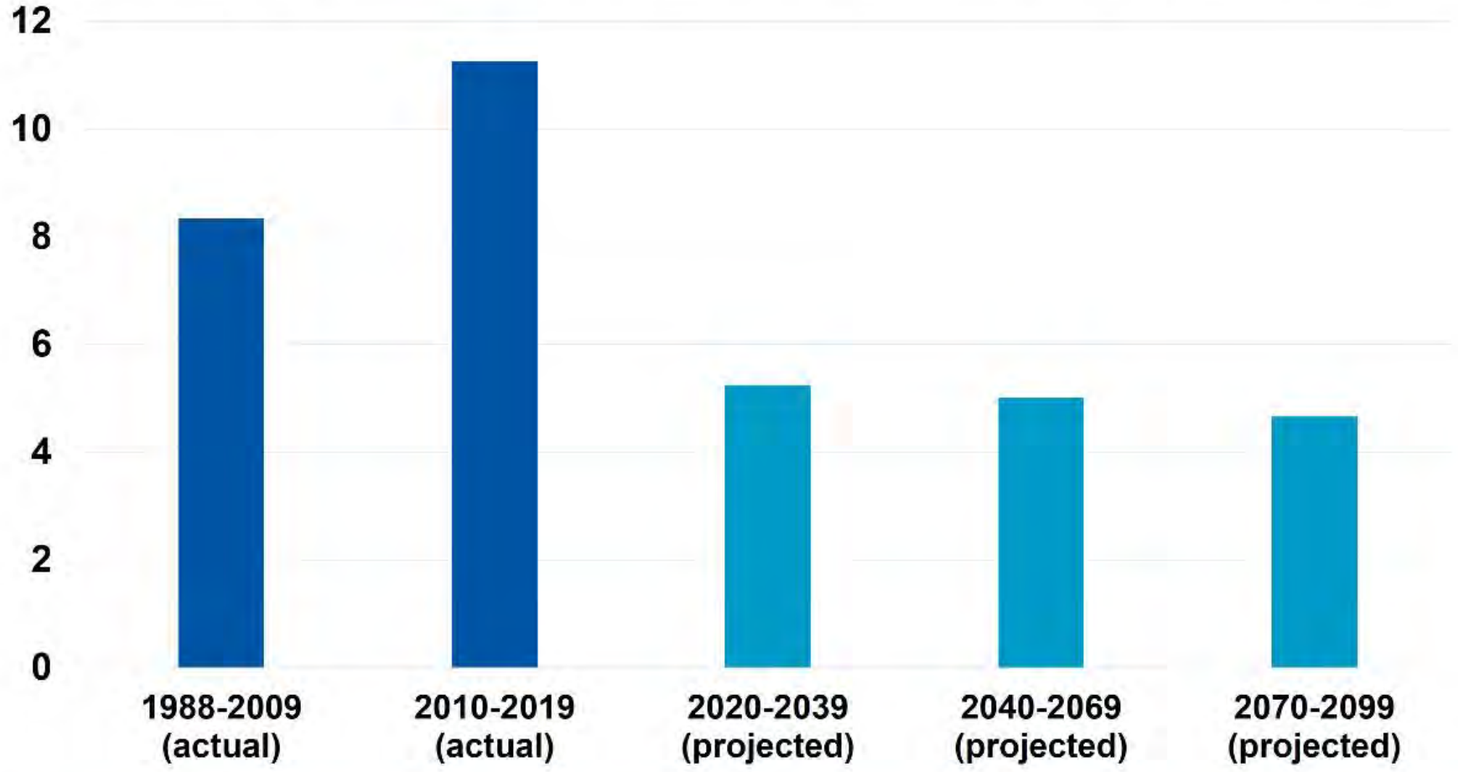
Subregional Water Supply Group Planning Workshop

METROPOLITAN COUNCIL

March 15, 2023 Dan Marckel metcouncil.org

Climate projections and uncertainty

Regional modeling is a tool that may help explore how projections of precipitation and temperature could change the amount of water available to recharge groundwater



Calculated Model-wide Mean Infiltration (Inches per Year)

CLEAN WATER LAND & LEGACY AMENDMENT

Metropolitan Council

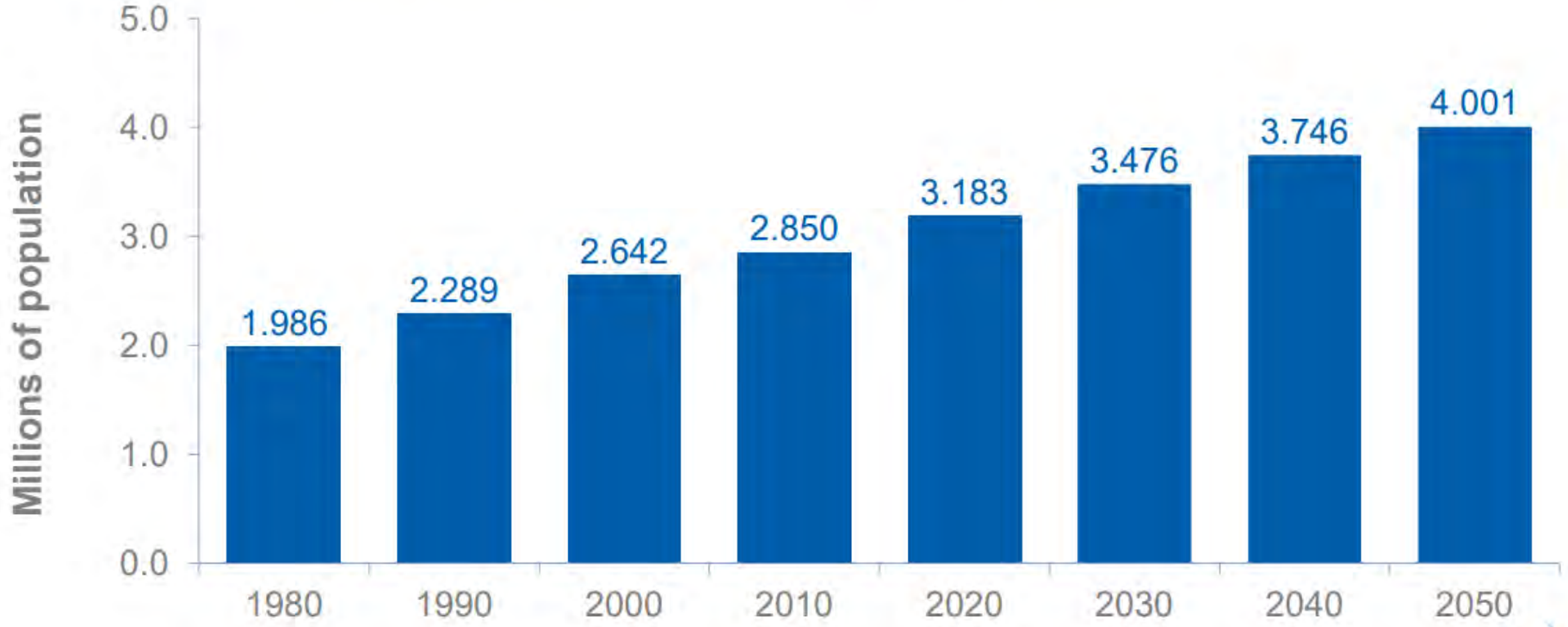
Why we forecast

Any good plan includes expectations about the future

- Where and when are new developments expected?
- Those expectations inform service plans
    - And capital improvement plans
    - And city budget projections
    - And coordination with transportation agencies (county, state, Met Council)
    - And coordination with regional water management
- All of the above considerations relevant for all cities – metro or elsewhere

2050 regional population forecast

Population growth: 4 million in 2050



Source: 1980-2010 population from Census Bureau; 2020-2050 from Metropolitan Council regional forecast (2021)

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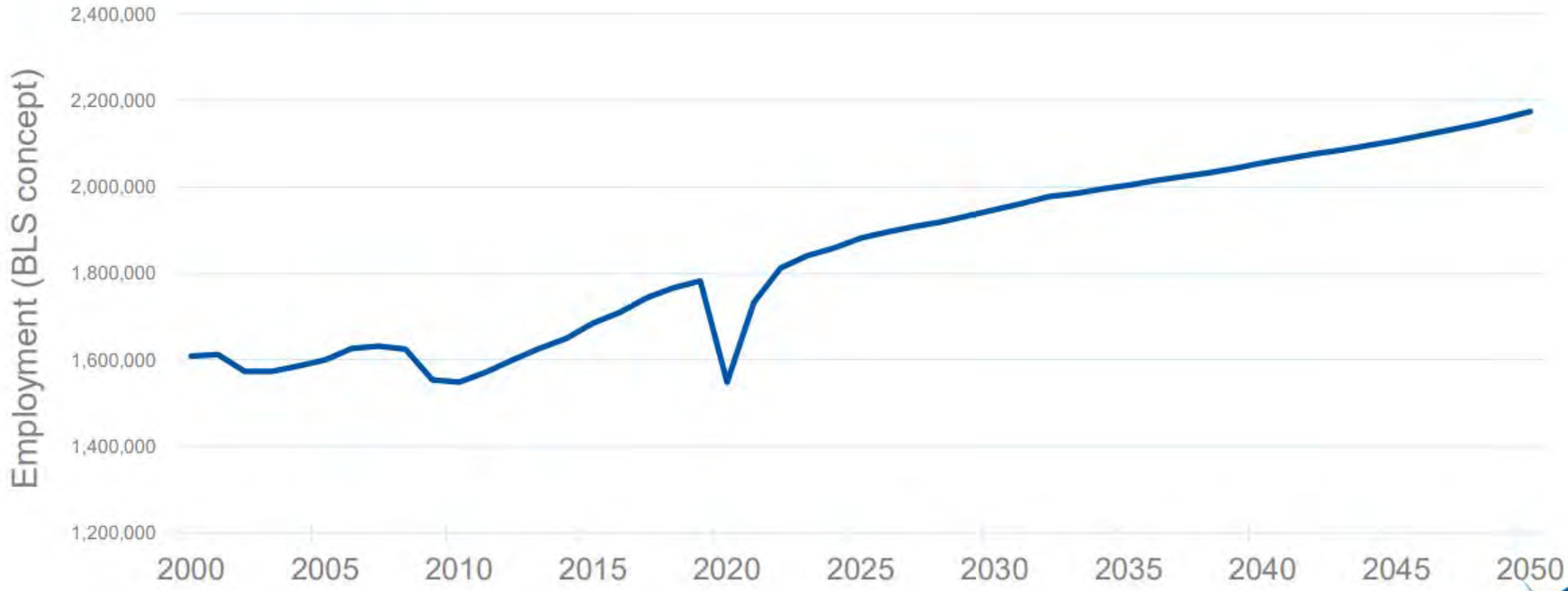
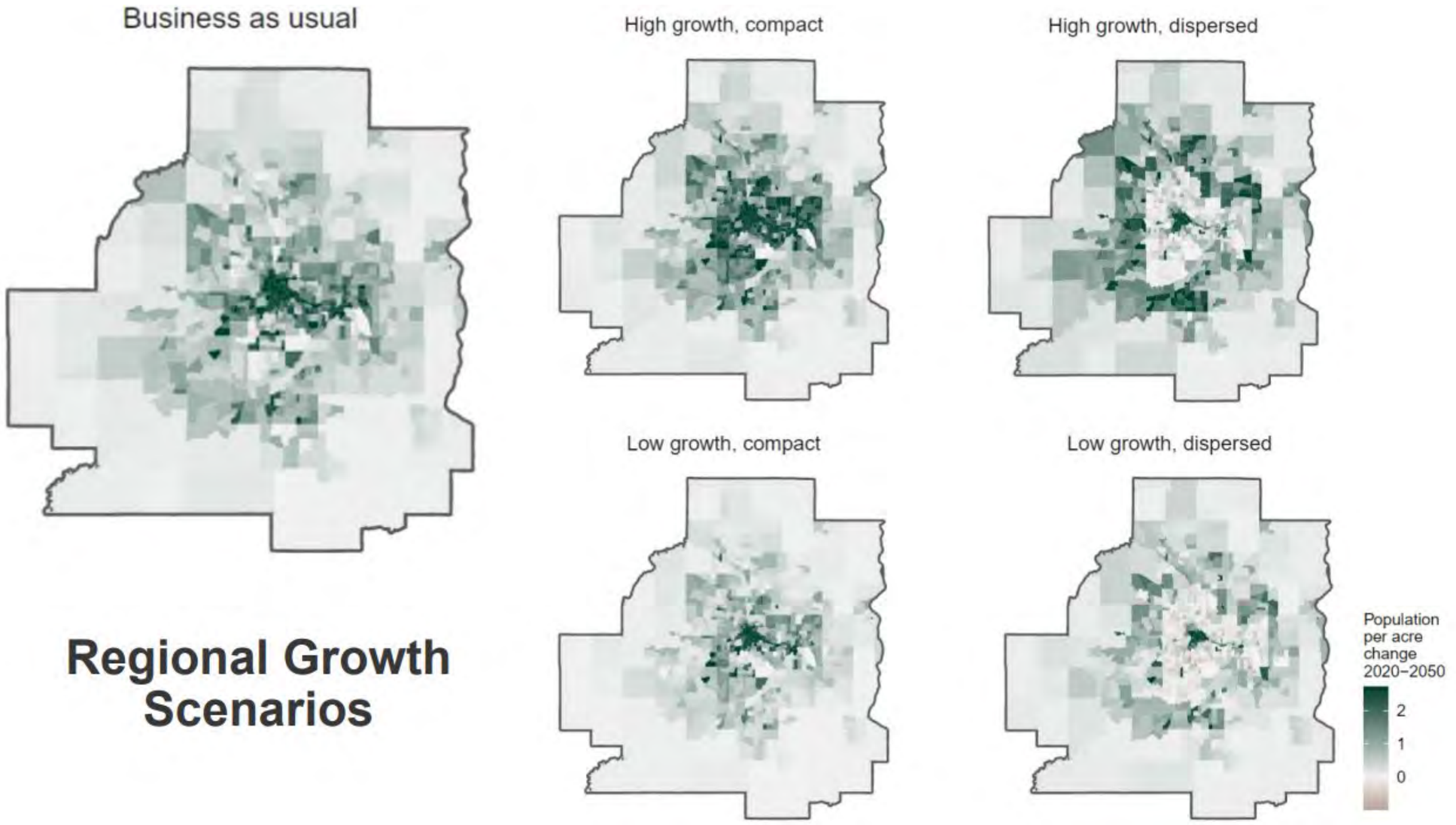
2050 regional employment forecast

Employment: Rapid rebound now, steady growth going forward

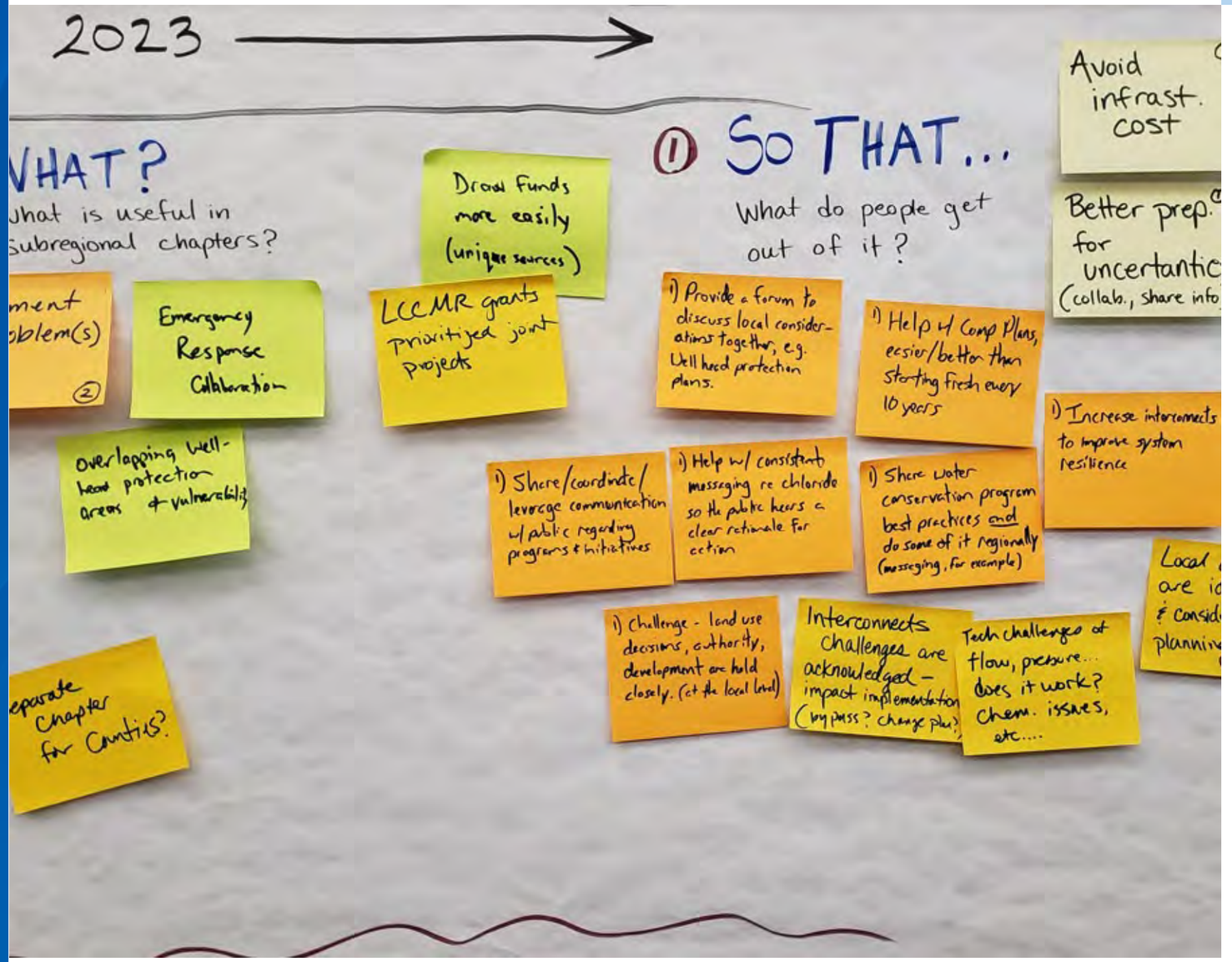


Source: 2010-2021 employment from Minnesota DEED; all remaining data from Metropolitan Council regional forecast (2021)

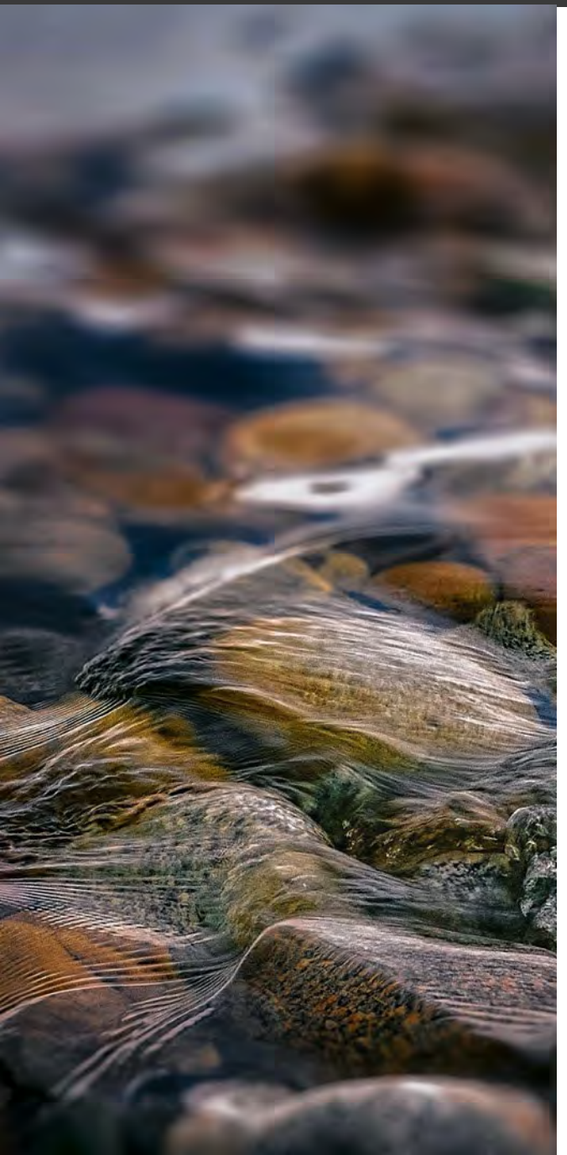
Different possibilities for future growth



Updating the metro area water supply plan to add a more subregional focus



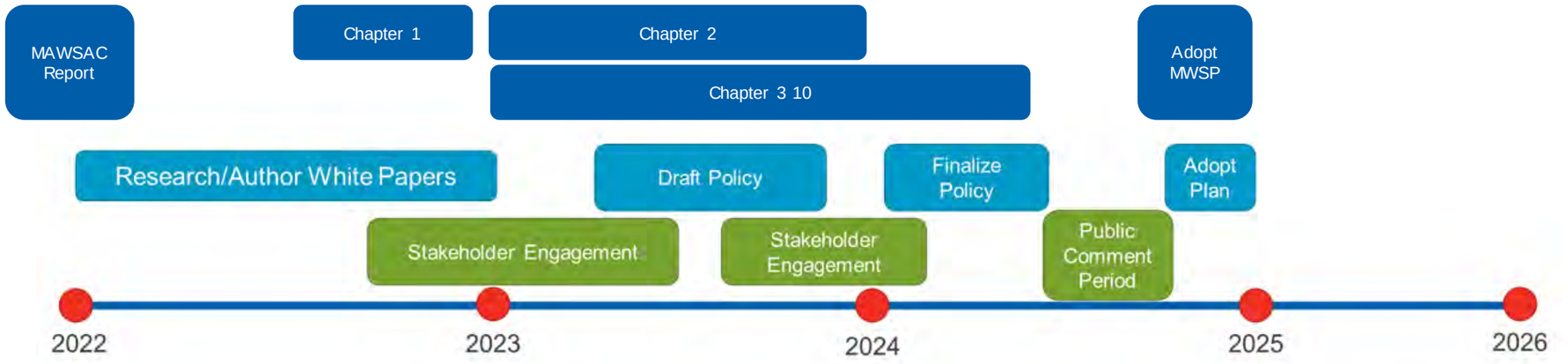
Metro Area Water Supply Plan (MWSP)



Plan Purpose

Provides water supply-related considerations for developing regional, subregional, and local plans and supporting information. May also provide subregional context, shared objectives and strategies, and direction for implementation and partnerships.

Overall Process Timeline



How subregional chapters might be used

Potential examples:

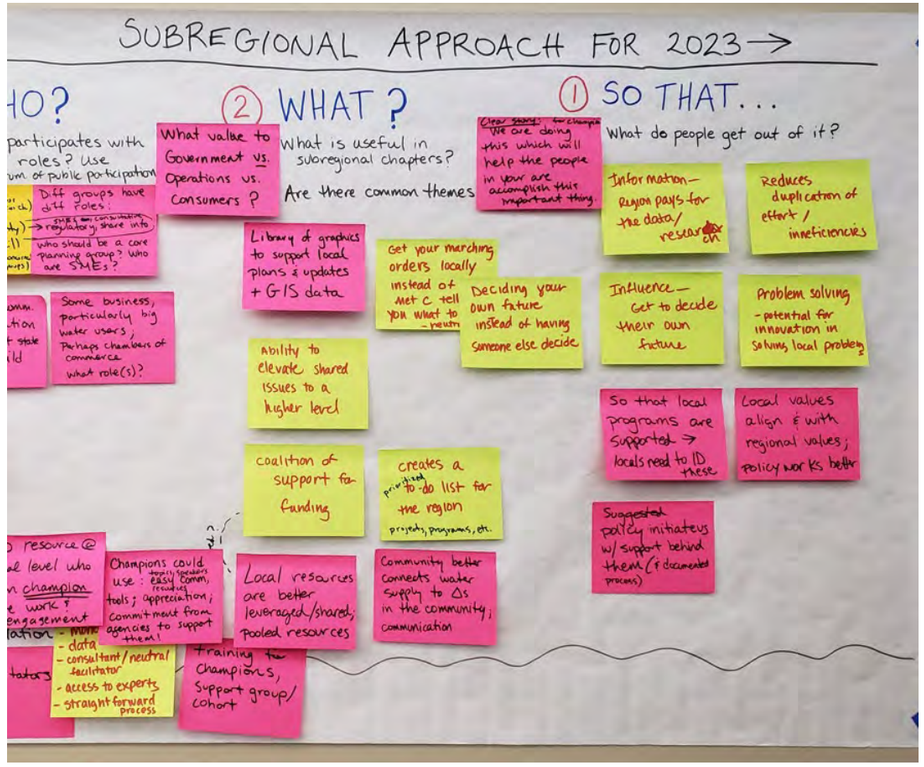
- As a resource for communities as they update their own local plans
- As a reference for communities when they are asked to review neighboring plans
- As high-level guidance or input when developing water supply-related incentive or outreach programs
- As a starting point for multi-community analysis of water supply alternatives or other technical projects

Challenges to subregional work

Examples:

- Bringing together all the different perspectives on issues
- Limited staff capacity to participate
- Resources for a facilitator and process that people trust
- Creating a unifying goal and objectives, given people's and organizations' different needs
- Clarifying roles – who has influence vs. authority, defining who makes what decisions, who are subject matter experts, etc.

Proposed chapter content (DRAFT)



- Introduction and connection to regional planning
- Subregional water supply setting
- Subregional water supply concerns that are a shared priority
- Subregional strategies of shared interest
- Implementation plan?

BREAK - 5 minutes

Reminder of Survey #2 - Share input on 2050 water policy

Use your laptop, tablet, or smartphone:

Group activity: Group discussion

Activity B: Group Discussion

APPROACH TO SUBREGIONAL WORK
11/1/2022 Workshop for Subregional Water Supply Groups and Partners

Goal: For your highlighted question, aim to create 1-5 post-it notes.

Directions:

A. Start by taking a minute or so to quietly read all the questions and jot any thoughts.

B. Then spend about 10 minutes in conversation on the highlighted question. The optional bullet points may be useful as a discussion prompt.

C. After discussing the highlighted question, write your answers on 1-5 post-its.

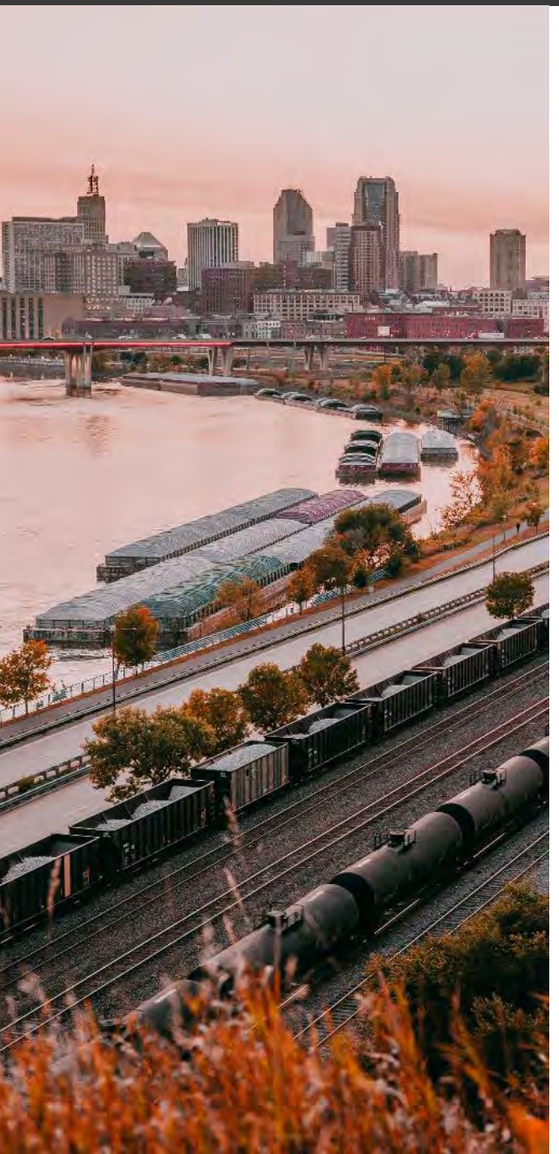
D. Staff will prompt you when it is time to share your answers with the full group.

---

1) What can communities get out of the subregional planning process? Why should people participate?

- How could communities benefit from working together to describe water supply resources, challenges, and preferred actions in their subregion, as part of the metro area master water supply plan?
- What do you see as shared challenges and opportunities in each of these subregions?

Next steps



- Compile today's input into a workshop summary
- Reach out to each subregional water supply work group to figure out the best way to engage
- Bring today's work to MAWSAC and TAC meetings in 2023-2024, to help support collaborative work identified today

Takeaways from today's workshop

Survey #3 – Guidance for future engagement

Use your laptop, tablet, or smartphone:

Go to

www.menti.com

Enter the code

1989 4500

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