



PlanIt

Comprehensive Planning Conference

Sustainable Water Supply Management

Presented by Ali Elhassan (MCES), Carmelita Nelson (DNR),
Lanya Ross (MCES), and Mark Wettlaufer (MDH)
December 13, 2016





Goal

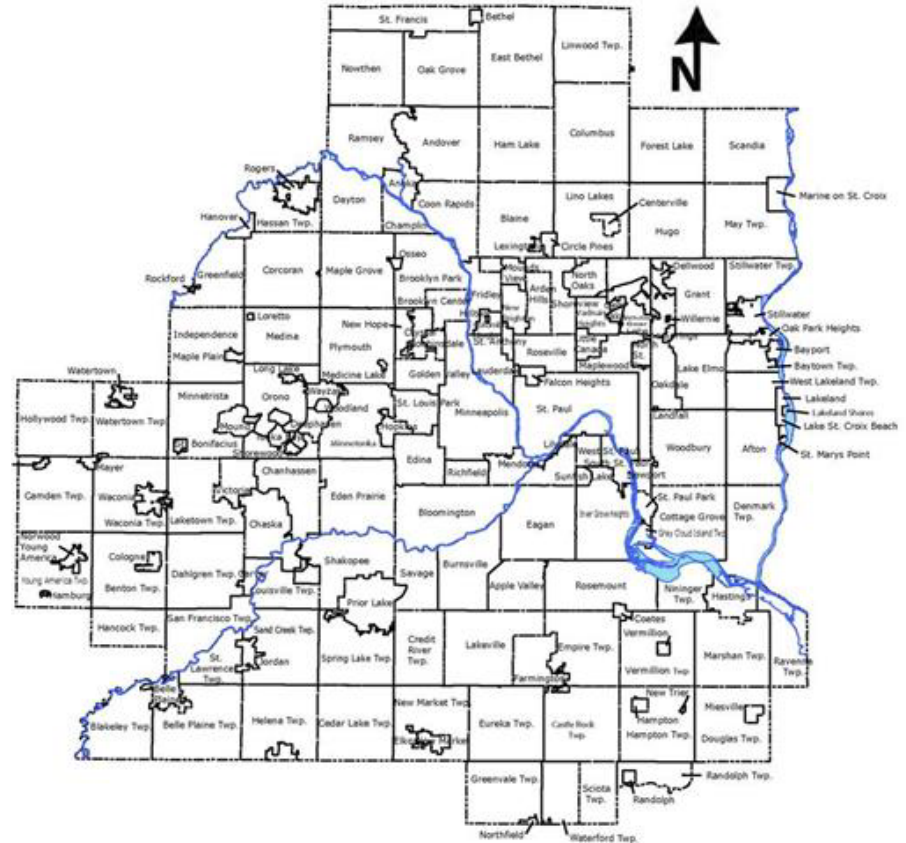
Help you go beyond minimum requirements:

- Planners and public water supply utility staff plan to meet and collaborate
- Commit to developing a list of local controls that your community can use to support sustainable water supplies

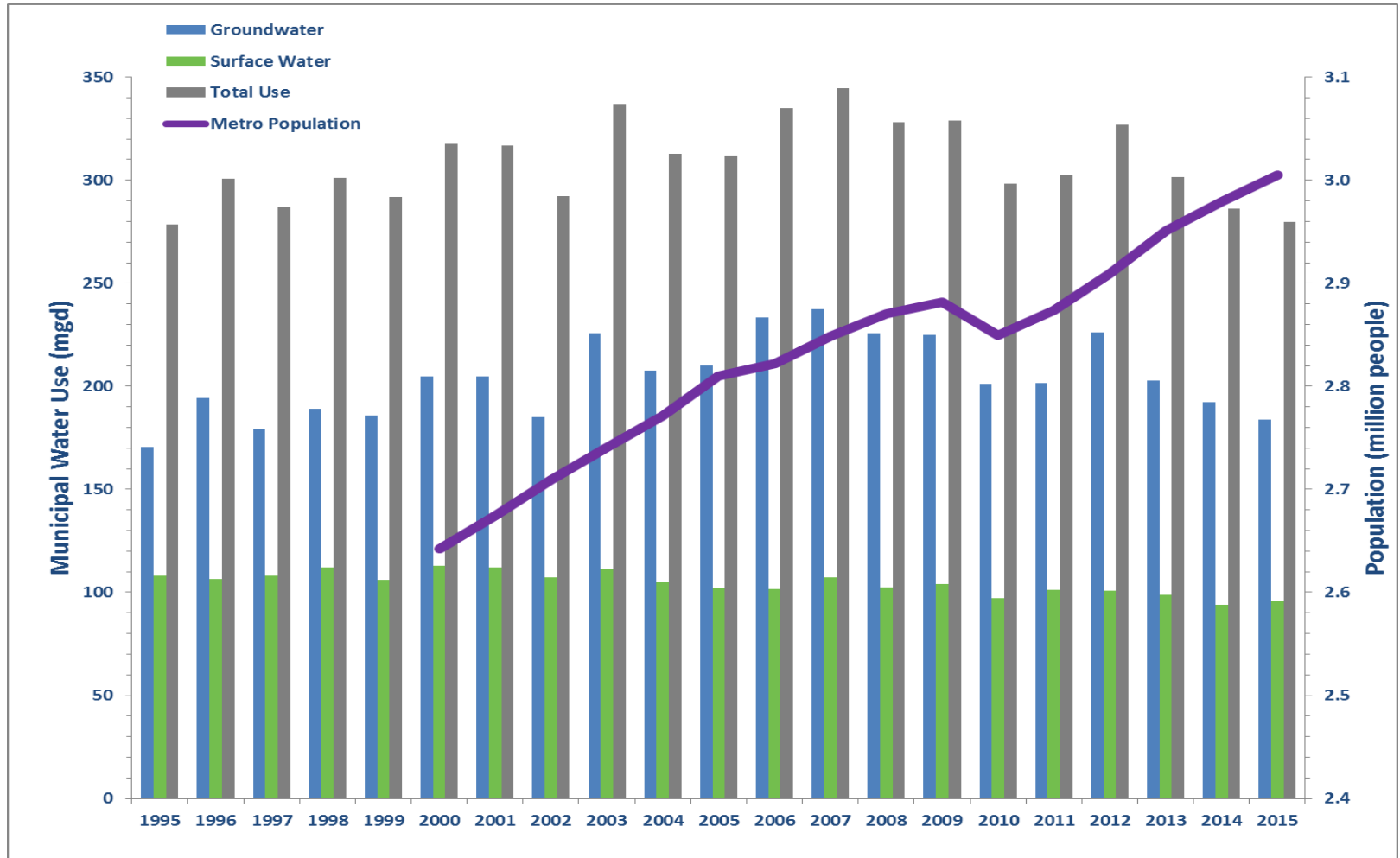


Metropolitan Area Water Supply

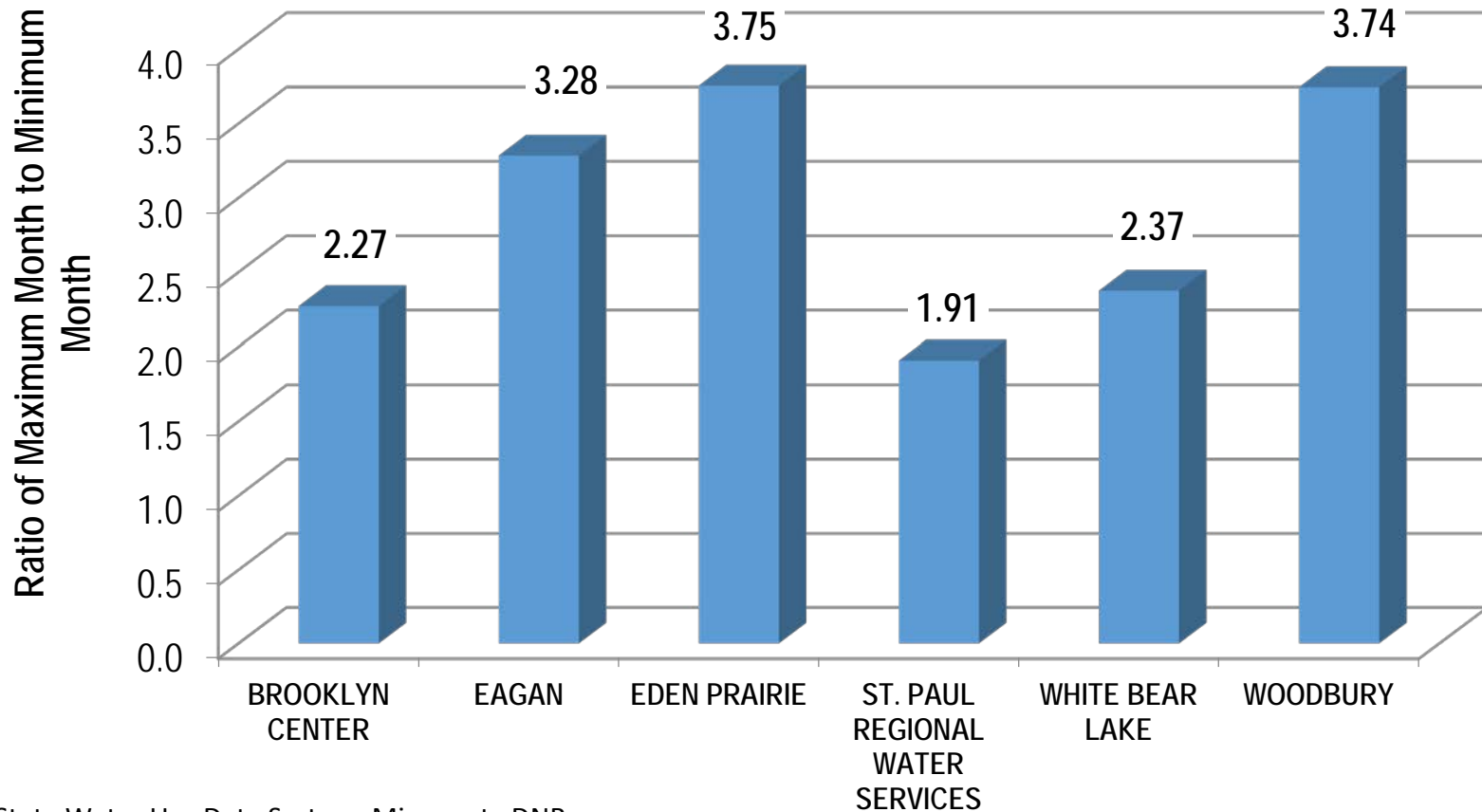
- 2015 population : **3 Million**
- 186 communities, 105 water supply providers
- **3 in every 4** residents use groundwater
- Municipal water use:
 - Current: **300** million gallons per day
 - 2040: **450** million gallons per day
- Average total water use per person: **125 gallons per day**



The Region is Growing



Summer vs. Winter Water Use

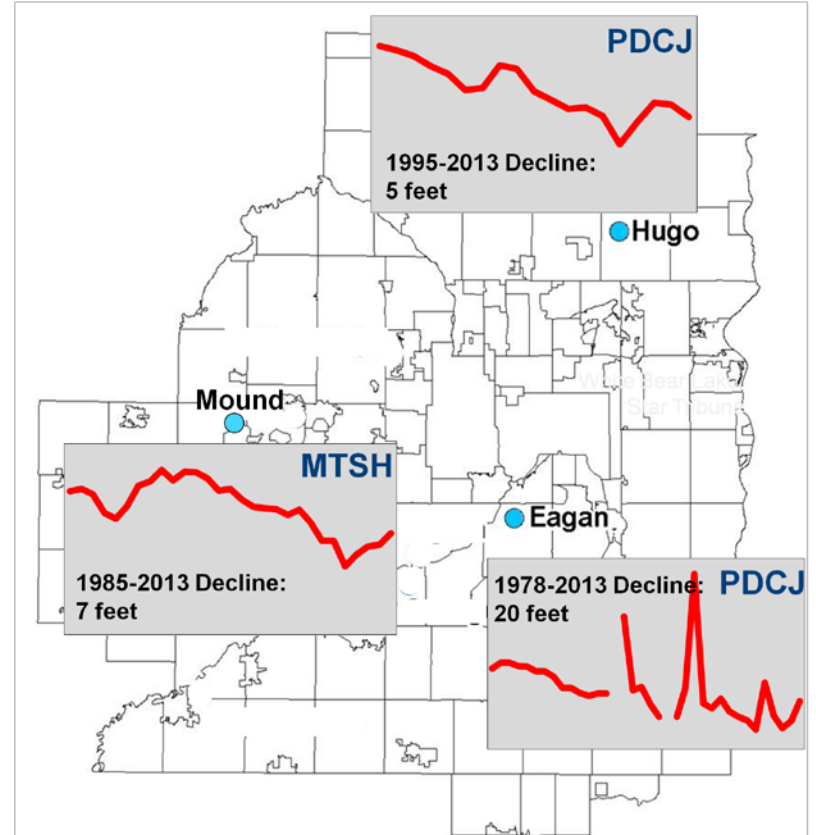
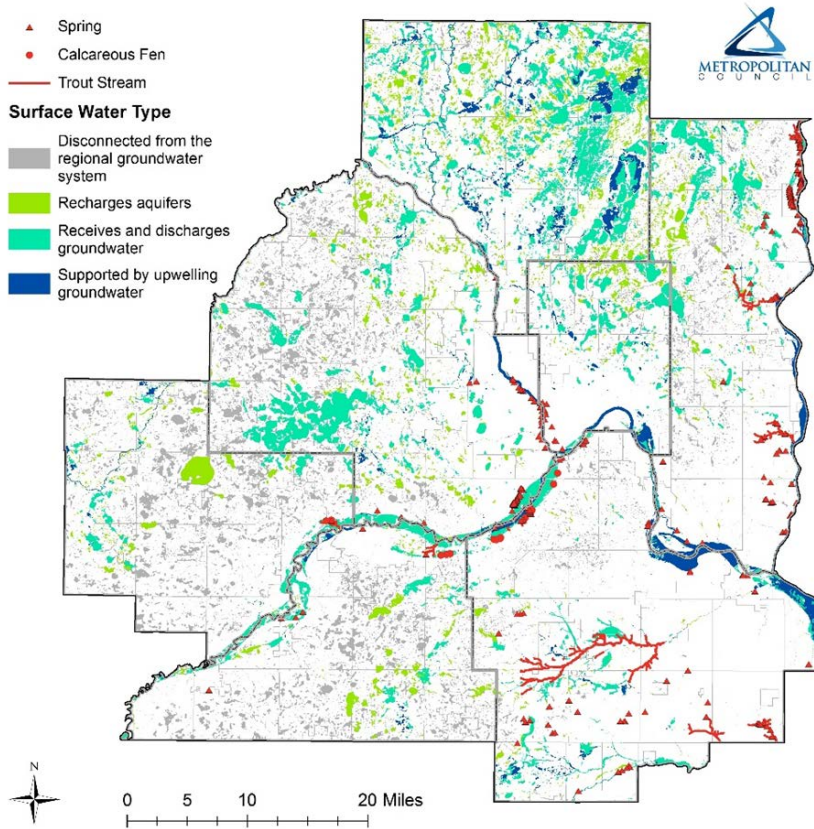


State Water Use Data System, Minnesota DNR

PlanIt



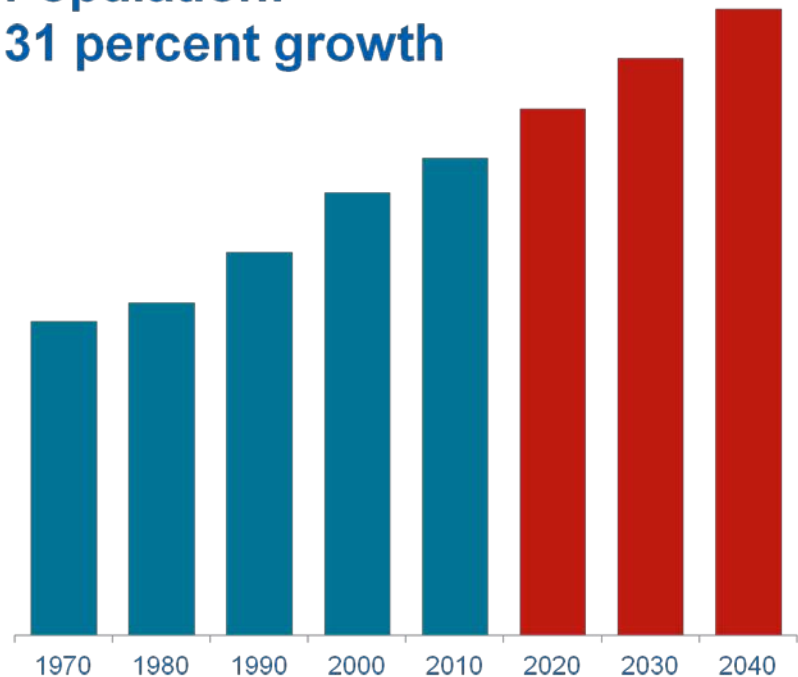
Aquifers and Surface Water Interact



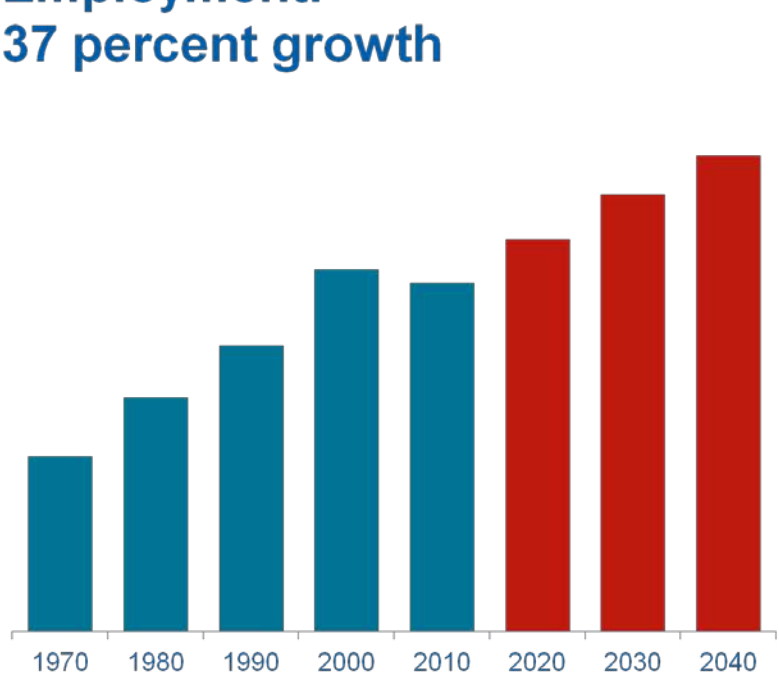


Regional Forecast: Continued Growth and Prosperity

Population:
31 percent growth



Employment:
37 percent growth

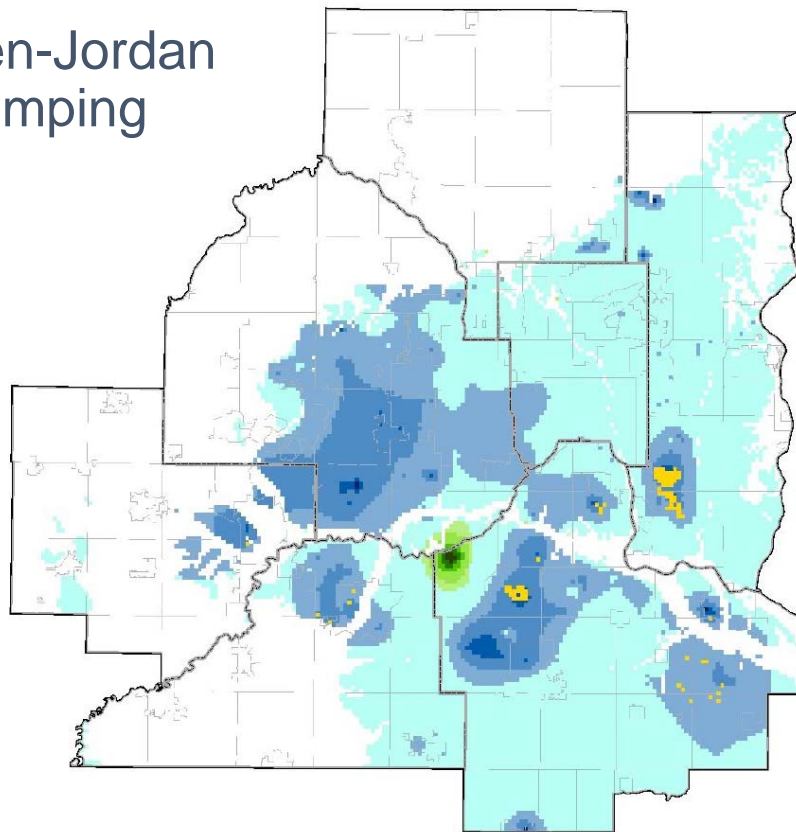


PlanIt



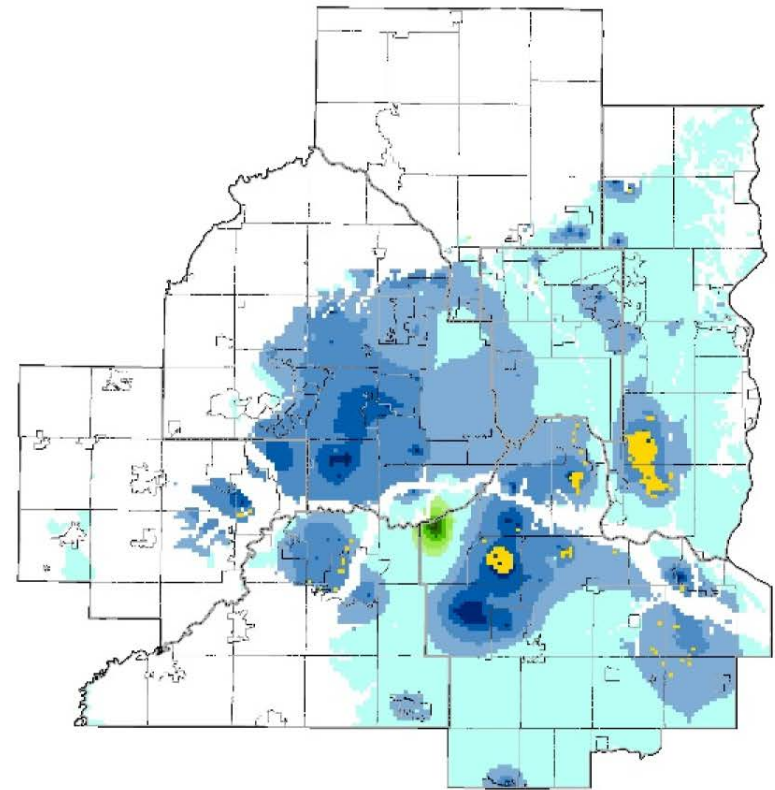
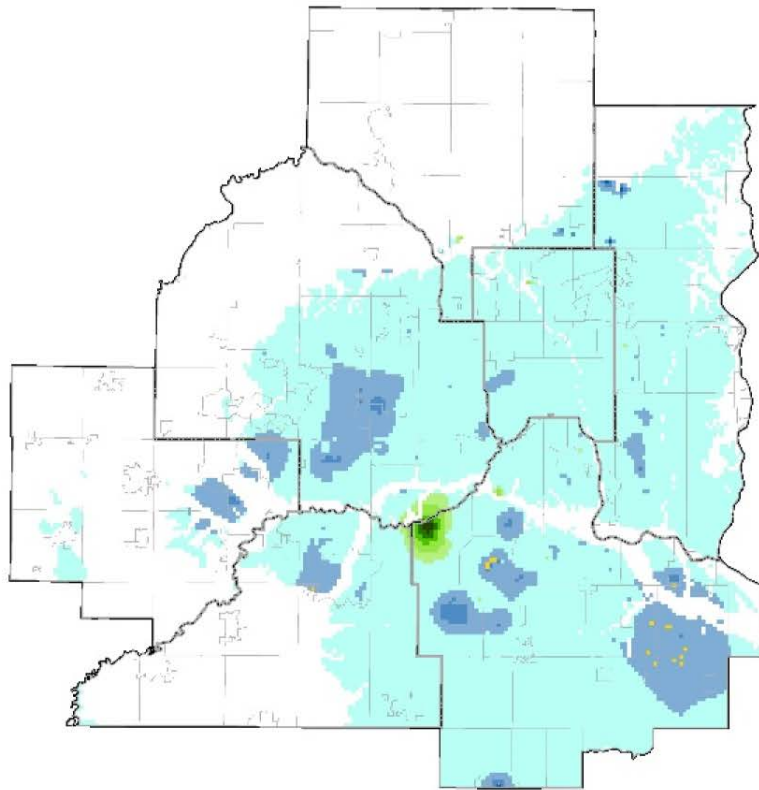
Future What-if Scenarios: Increased Reliance on Groundwater to Meet Demand

Drawdown in the Prairie du Chien-Jordan Aquifer under projected 2040 pumping



Future What-if Scenarios: 20% Change in Demand

Drawdown in the Prairie du Chien-Jordan aquifer, should average projected pumping be reduced 20% (left) or increased 20% (right)



Sustainable Water Supply Approaches

Groundwater

Conservation

Surface Water

Enhanced Recharge

Reclaimed Wastewater

Stormwater



Efficiency



- Reduce industrial, institutional, commercial, and agricultural water use
- Reduce residential water use
- Reduce peak day demand
- Use water rates that send a conservation message
- Track water usage to help identify leaks



Industry and Agriculture

- Facility water use audits
- Employee training programs
- Outreach

Minnesota Technical Assistance Program

The screenshot shows the website for the Minnesota Technical Assistance Program. The header includes the University of Minnesota logo and navigation links: Home, About Us, Industries, Types of Assistance, Intern Program, News & Events, Resources, and Greening Your Business. A search bar is also present. The main content area is titled 'Minnesota Technical Assistance Program' and features a sidebar with links for Water Conservation, Water Use Information, Current Water Events and Activities, Q&A/TSB Loading, Topographic Loading, Conservation Strategies, Resources, and Regulatory Information. The main text is titled 'Conserving Water at Your Facility' and includes a list of five steps: 1. Conduct a water audit, 2. Develop a plan, 3. Gain management support, 4. Create an employee participation program, and 5. Review a Water Conservation Guide. A sidebar on the right contains 'Tips & Strategies' and 'Understand Your Water Flow' sections.



Conservation Billing

- Monthly billing
- Seasonal rates
- Time of use rates
- Water bills reported in gallons

Shakopee Public Utilities Water Rates – Effective January 2016

Availability	Usage Charge per 1000 gallons	Reconstruction Fund Charge per 1000 gallons	Fixed Service Charge									
			5/8 x 3/4 Inch	3/4 Inch	1 Inch	1-1/2 Inch	2 Inch	3 Inch	4 Inch	6 Inch	10 Inch	
Residential Service: RW ¹⁾ Conservation Rate Structure	1 - 5000 Gallons \$2.05	\$0.34	Plus	\$3.37	\$3.71	\$4.71	\$6.06	\$9.76	\$37.03	\$47.12	\$70.69	\$168.30
	>5000 Gallons \$2.45			\$3.37	\$3.71	\$4.71	\$6.06	\$9.76	\$37.03	\$47.12	\$70.69	\$168.30
Commercial and Institutional Service: CW ²⁾	\$1.88	\$0.34	Plus	\$3.37	\$3.71	\$4.71	\$6.06	\$9.76	\$37.03	\$47.12	\$70.69	\$168.30
Industrial Service: IW ³⁾	\$1.64	\$0.34	Plus	\$3.37	\$3.71	\$4.71	\$6.06	\$9.76	\$37.03	\$47.12	\$70.69	\$168.30
Irrigation Service ⁴⁾	\$2.45	\$0.34	Plus	\$3.37	\$3.71	\$4.71	\$6.06	\$9.76	\$37.03	\$47.12	\$70.69	\$168.30

1) Single and multiple family dwellings.
2) Facilities that engage in the sale, lease, rental, or trade of products, goods, and services, including office buildings, institutional facilities, schools, churches, governmental buildings, and nursing homes.
3) Facilities that engage in the production, manufacturing, warehousing, storage or transfer of goods, products, commodities, or other wholesale items.
4) Lawn and landscape irrigation.

Facts About Your Water Service Line

Service lines are owned and maintained by the property owner from the point of connection to the municipal water main, including all fittings, etc. on the water main which are necessary for that connection. It shall be the responsibility of the customer or property owner to maintain the service pipe from the main into the house or building.

Although the repair or replacement of the service line is the responsibility of the property owner, give Shakopee Public Utilities a call at 952-445-1988, and we will assist you in determining if and where the service is leaking.

Monthly Bills

The monthly bill is the sum of the Usage Charge, Reconstruction Fund Charge and the Fixed Service Charge.

Minimum bill provisions, late charges, penalties, and special charges also apply.

Deposit Requirements

Deposit requirements shall be consistent with terms outlined in a separate resolution of the Shakopee Public Utilities Commission.

Conservation Rate Structure

To encourage water conservation and to comply with Minnesota Statute 103G.291, SPU adopted a Conservation Rate Structure for residential water service effective January 1, 2010.

The Usage Charge for the first 5,000 gallons of water used is \$2.05 per 1,000 gallons; each additional 1,000 gallons is \$2.45. Additionally, the Usage Charge for irrigation service, when metered separately, is \$2.45 per 1,000 gallons.

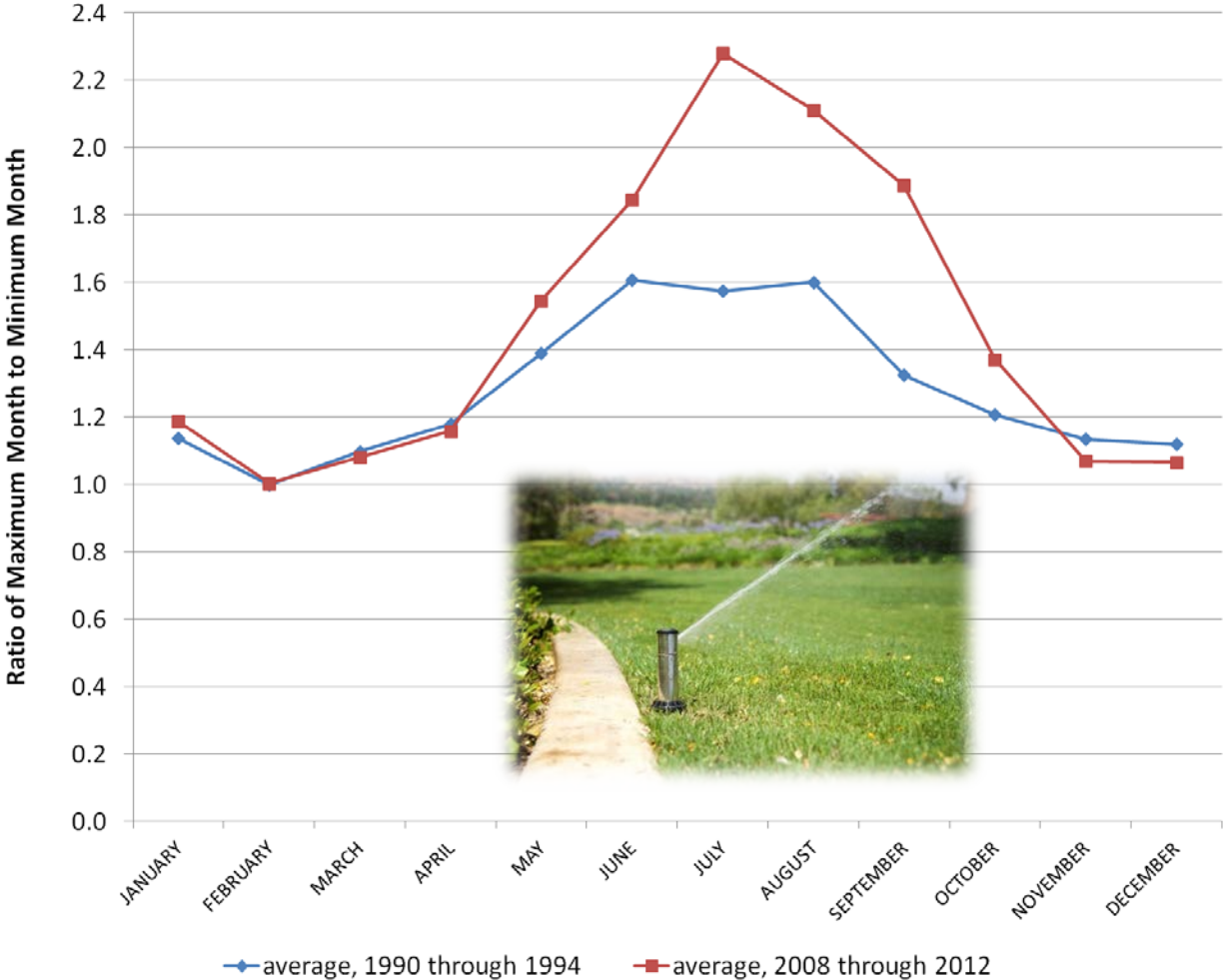
Odd/Even Watering Program

SPU maintains seasonal water restrictions, which are in effect May 1 through October 1. If your address ends in an even number, sprinkle only on even-numbered days; if your address ends in an odd number, sprinkle only on odd-numbered days. No sprinkling is allowed between 12 noon and 5:00 p.m. regardless of your address.

Questions?
Contact Shakopee Public Utilities
 Call 952-445-1988 or
 visit www.spucweb.com



Reduce Summer Peaks



Water Efficient Landscaping

- Ordinances and Codes
- Rebates or incentives
- Outreach



MN GreenStep Cities



New Water Conservation Tracking System



- How many gallons are being saved?

- What new projects are being implemented?





Land Use Planning and Source Water



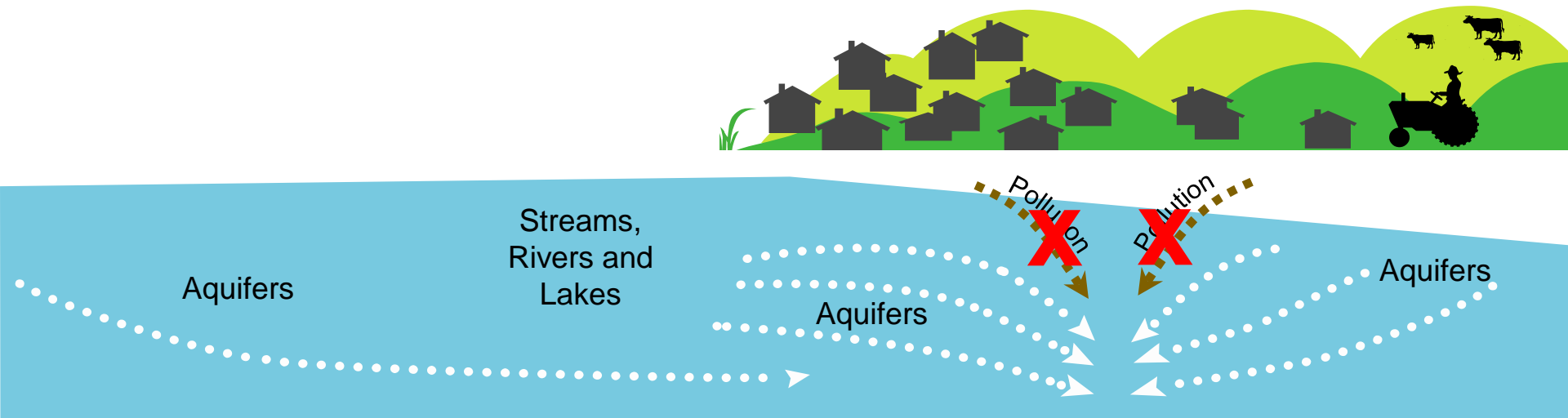
PlanIt





Source Water

Water from streams, rivers, lakes or underground aquifers that is used for drinking





Why Land Use Planning?



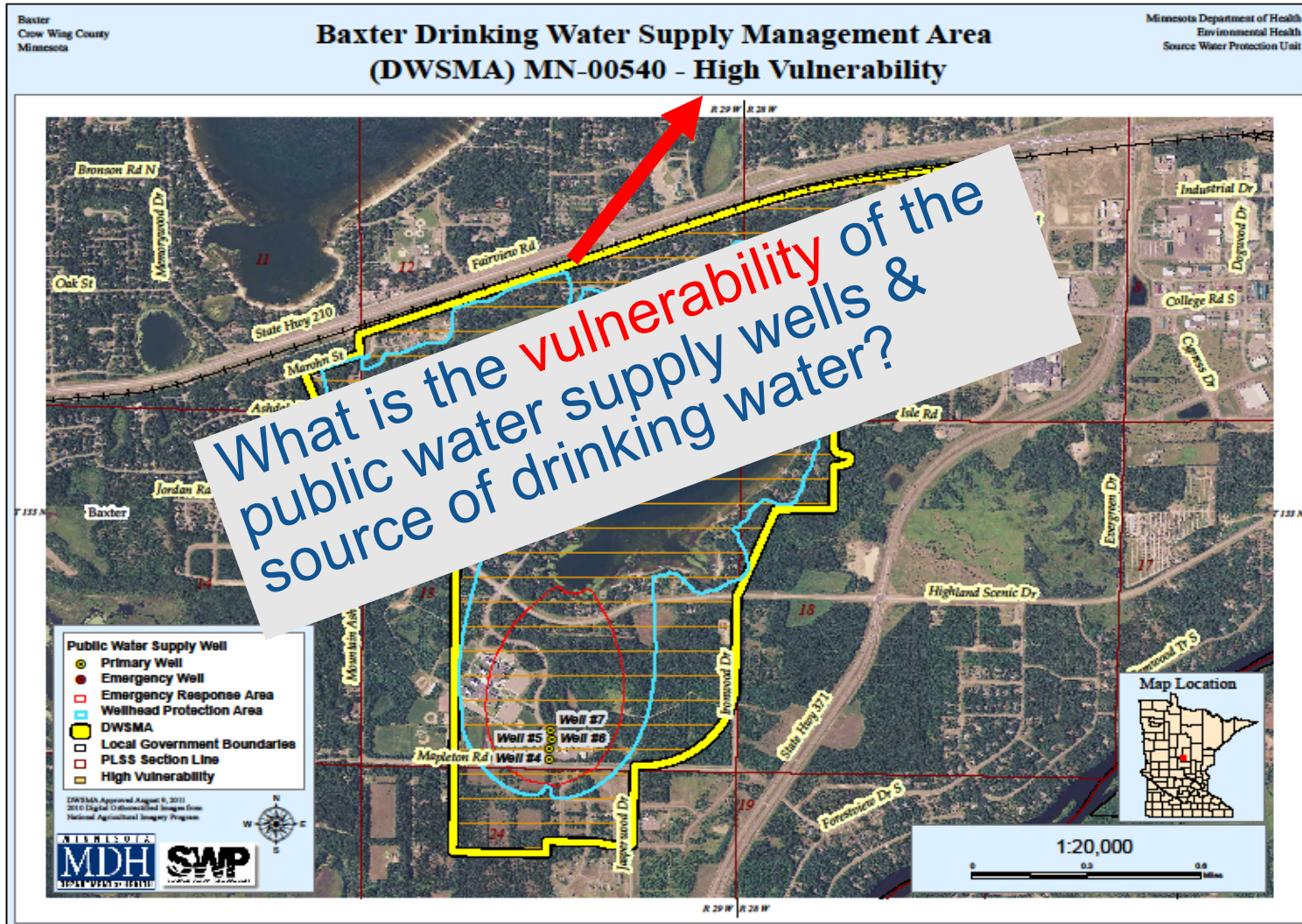
What new or existing land uses or contaminants may be threats to your water supply?

Be Proactive - Reduce Risk - Plan Head

PlanIt

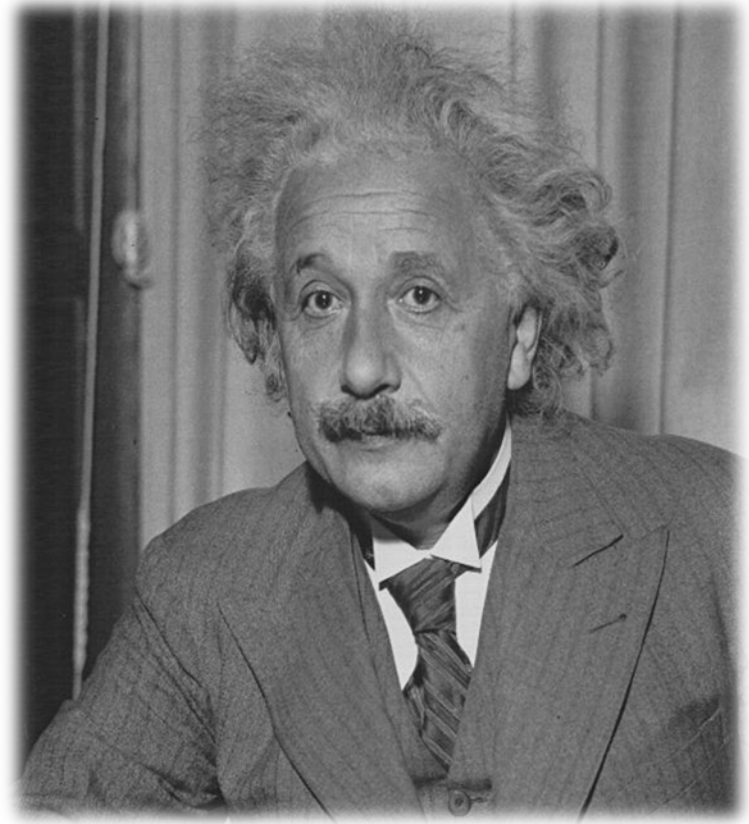


Understand the Science and the Risks of your Drinking Water Supply...



Source Water Protection and Land Use Control Challenges

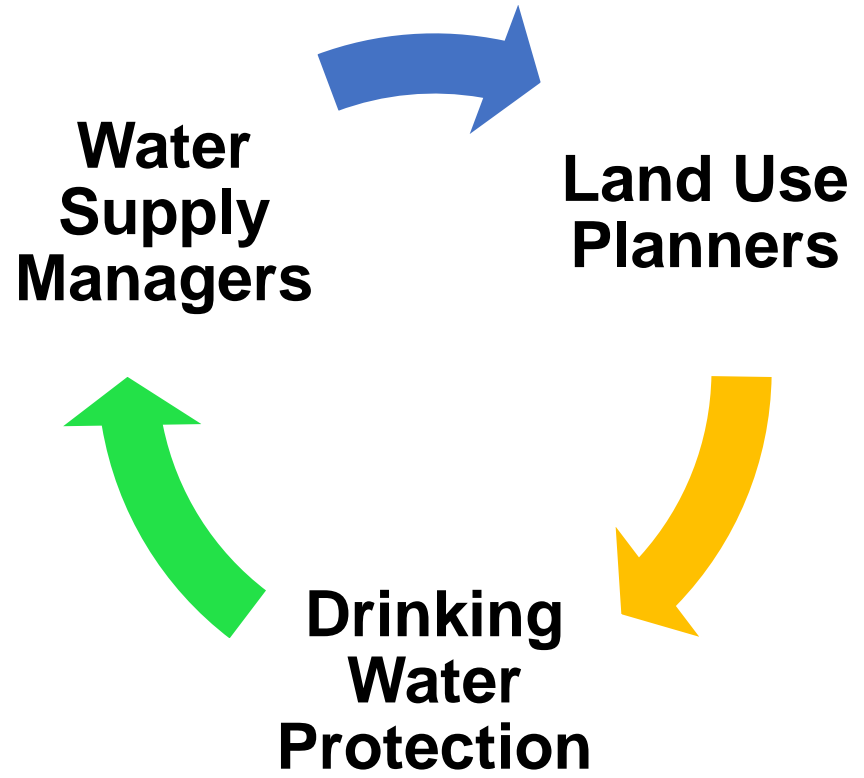
1. Overlapping / Multiple jurisdictions have control over WHP or SWP Area.
2. Water Supplier's unfamiliar with zoning around wells or intakes.
3. Land Use Planners unfamiliar with WHP or SWP plans and local implementation.





Land Use Planning and Zoning: Local Communication is Key!!

Water supply managers and land use planners need to communicate and understand drinking water protection issues and goals!





Land Use Planning Basics

Local governments rely on two key documents and maps when reviewing land use permit requests:

1. **Comprehensive Plan & Map** – Describes resources, land use, growth patterns and issues. The “road map” and legal basis that guides the local zoning code or ordinance.
2. **Zoning Ordinance and Official Zoning Map** – Describes allowed uses in zoning districts. Districts are reviewed and make decisions on zoning. Zoning map shows areas and zoning districts. Zoning ordinance shows allowed uses in zoning ordinance.

Are approved WHP maps and issues included in your community Comprehensive Plan and considered in local controls???





Zoning Tools

- Performance Standards
- Conditional Uses
- Overlay Districts / Special Designations
- Categories for WHP areas
- Permit Conditions
- Other (?)





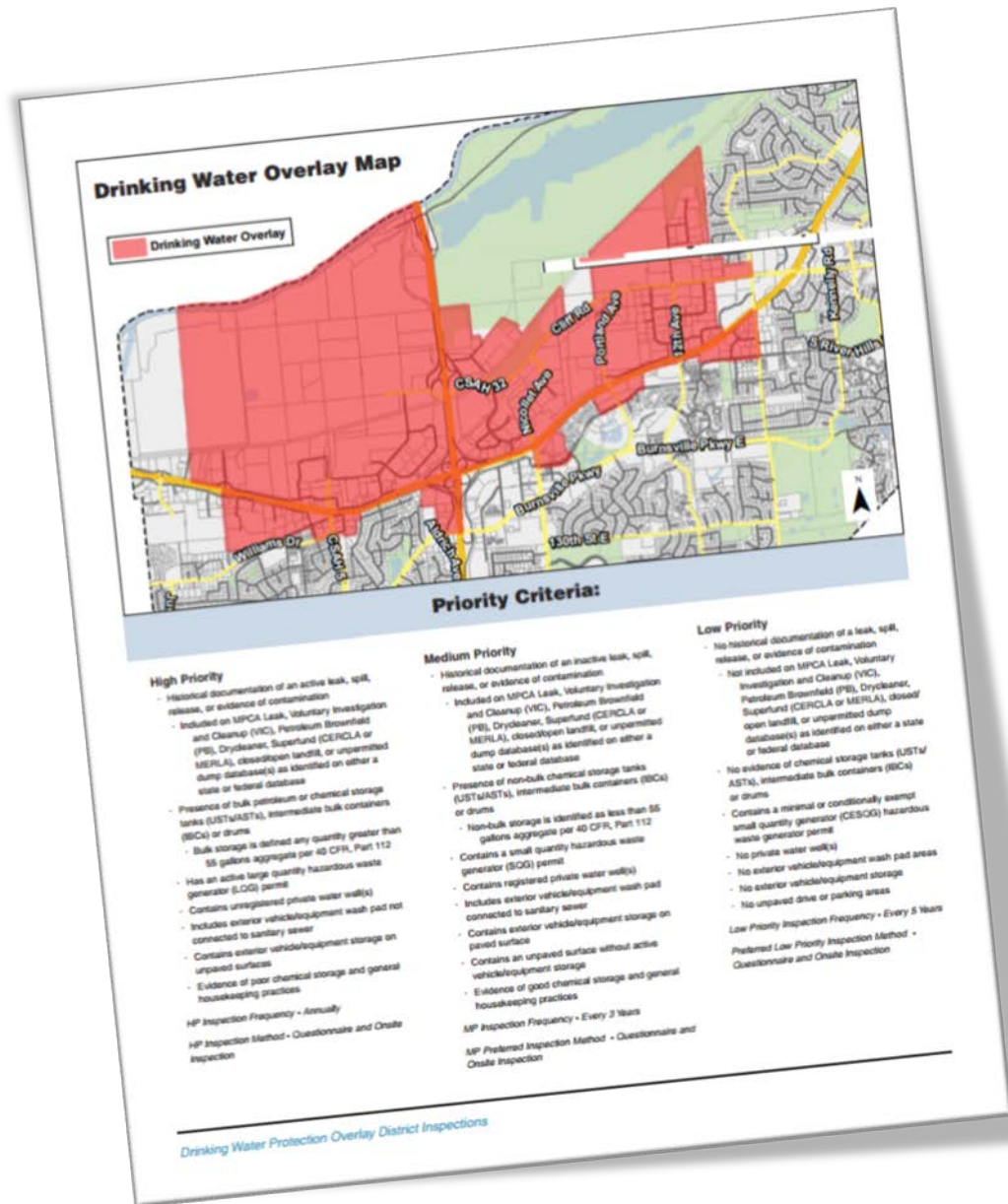
Examples of basic land use planning activities, ordinances

- **Do** include a map of the DWSMA with your zoning ordinance & comprehensive plan
- **Do** consider Zoning ordinances that support drinking water protection or reduce risk
- **Do** water supply hook-up requirements and cross connection enforcement policies or ordinances
- **Do** request to be notified by jurisdictions with land use control authority when significant changes in land use are proposed in the DWSMA that may impact drinking water sources



Local Example

- Burnsville Drinking Water Protection Overlay District



Source Water Plan Protection and Local Controls

- Consider State and Federal regulations already in place regulating a contaminant source
- Zoning controls should fit the ability of the local jurisdiction to implement them
- Are they enforceable?
What does attorney say?



Resources

**LOCAL PLANNING
HANDBOOK**

<http://metro council.org/Handbook.aspx>

PlanIt

<http://www.metro council.org/Handbook/PlanIt.aspx>



<https://metro council.org/Wastewater-Water/Planning/Water-Supply-Planning.aspx>



Resources



http://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/eandc_plan.html



<http://www.health.state.mn.us/divs/eh/water/swp/swa/swainfo/>



<http://greenstep.pca.state.mn.us/>





Resources

AVAILABLE
FUNDING/GRANTS
MCES funding and grant programs

<https://metro council.org/Wastewater-Water/Funding-Finance/Available-Funding-Grants.aspx>



<http://mntap.umn.edu/greenbusiness/water/conservation.htm>

UNIVERSITY OF MINNESOTA
EXTENSION

<http://www.extension.umn.edu/garden/turfgrass/>





Questions?

Ali Elhassan, Manager, Water Supply Planning

Ali.Elhassan@metc.state.mn.us

Carmelita Nelson, Water Supply Plans & Conservation, MNDNR

Carmelita.Nelson@state.mn.us

Lanya Ross, Environmental Analyst

Lanya.Ross@metc.state.mn.us

Mark Wettlaufer, Planning Supervisor, MDH

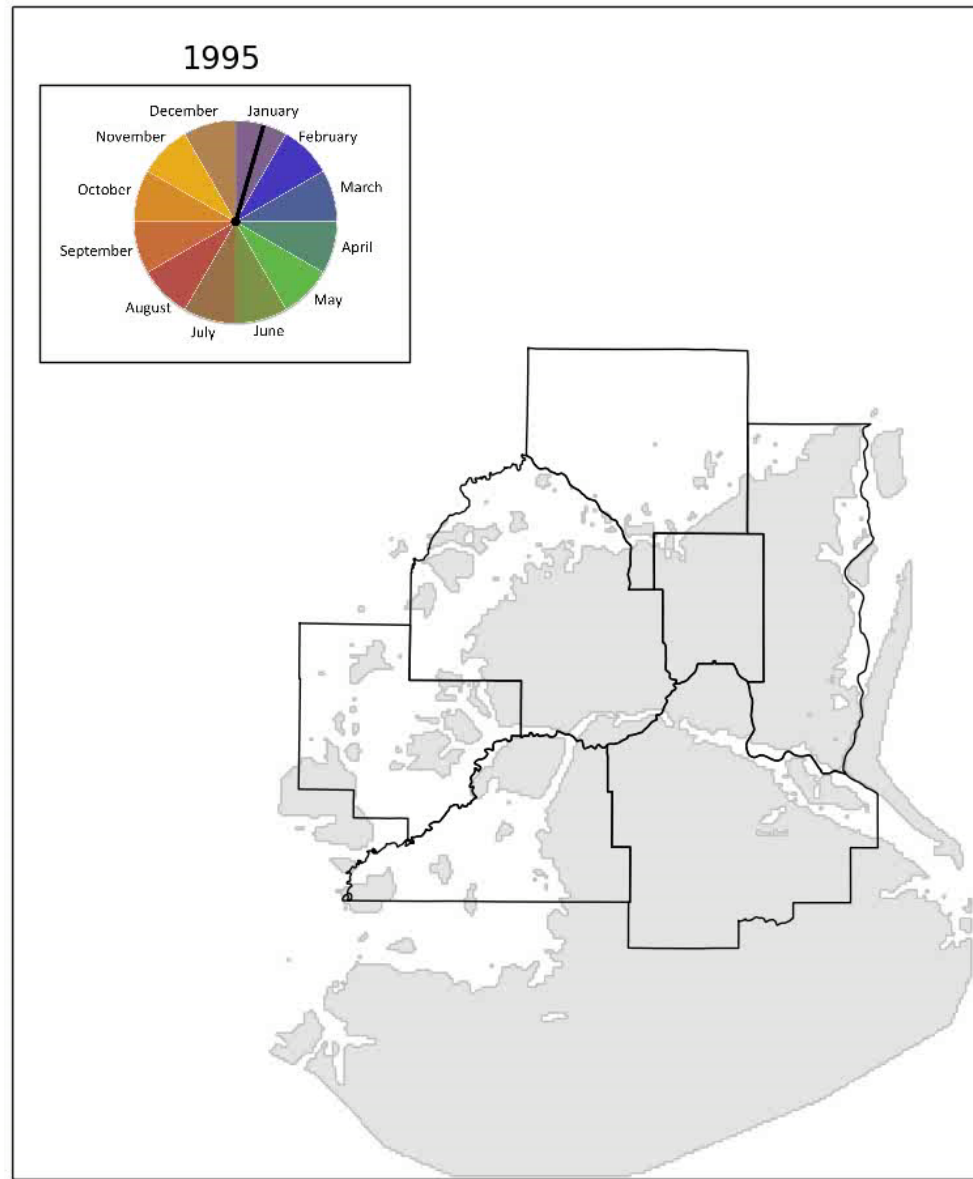
Mark.Wettlaufer@state.mn.us

Additional Information

PlanIt



Water: The Region's Heartbeat



PlanIt

