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
Aquifers and Surface Water Interact
Regional Forecast: Continued Growth and Prosperity

Population: 31 percent growth

Employment: 37 percent growth
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

Surface Water

Reclaimed Wastewater

Conservation

Enhanced Recharge

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
Conservation Billing

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

PlanIt
Reduce Summer Peaks

Ratio of Maximum Month to Minimum Month

- Blue line: average, 1990 through 1994
- Red line: average, 2008 through 2012

PlanIt
Water Efficient Landscaping

- Ordinances and Codes
- Rebates or incentives
- Outreach

MN GreenStep Cities
New Water Conservation Tracking System

• What new projects are being implemented?

• How many gallons are being saved?
Land Use Planning and Source Water
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
Understand the Science and the Risks of your Drinking Water Supply...

What is the vulnerability of the public water supply wells & source of drinking water?
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!
WHP Plans are not “Just Plans”

To implement:

• Become familiar with WHP Plans, issues and land use related strategies to be implemented.

• Are specific land use planning issues / controls identified as a means to address a issue?

• Meet routinely with public works / utility staff to learn what they are doing.
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** – Contains allowed uses in zoning districts. Describes processes to review and make decisions on proposed land uses. Zoning map shows areas that correspond with allowable 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


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

https://metrocouncil.org/Wastewater-Water/Funding-Finance/Available-Funding-Grants.aspx

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

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
Water: The Region’s Heartbeat

PlanIt