

Overview of Dakota County Groundwater and Intro to the Groundwater Plan

Valerie A. Grover
Groundwater Protection Unit
Environmental Resources Department
Physical Development Division

24 January 2018

Overview

- Groundwater in Dakota County
 - Use
 - Vulnerability
 - Quality
 - Quantity
- County Groundwater Protection Programs
- Groundwater Plan
 - Purpose
 - Requirements
 - DC2040 Baseline Objectives
 - Draft Schedule

Groundwater in Dakota County



Protecting rural drinking water supplies was rated as important by **91% of respondents** to the Dakota County 2040 Comprehensive Plan Residential Survey

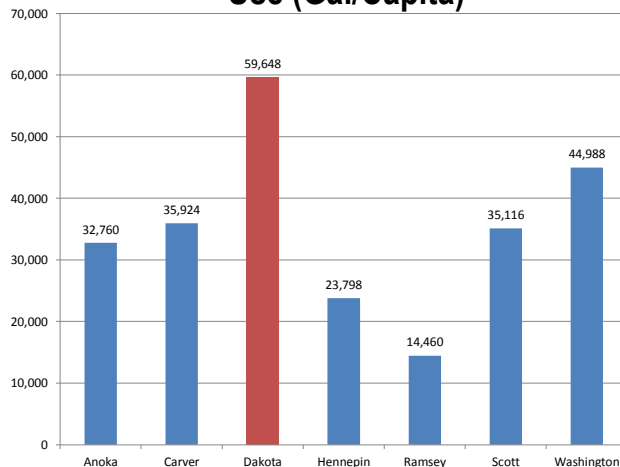
"Dakota County 2040 Comprehensive Plan Residential Survey: Results and Technical Report", June 5, 2017

Groundwater Use in the Metro Area

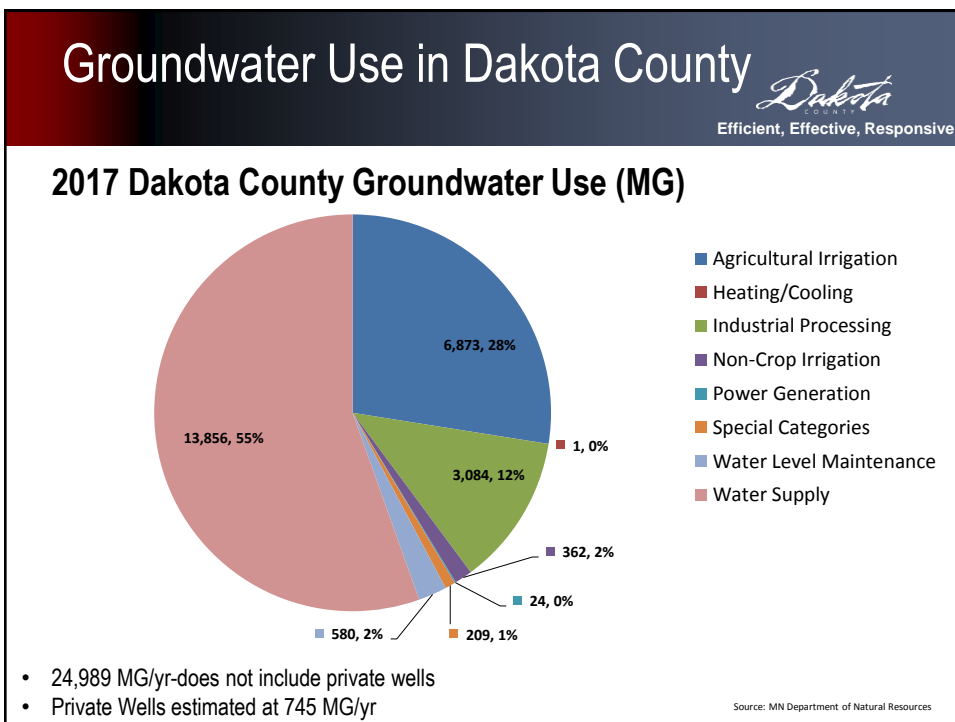
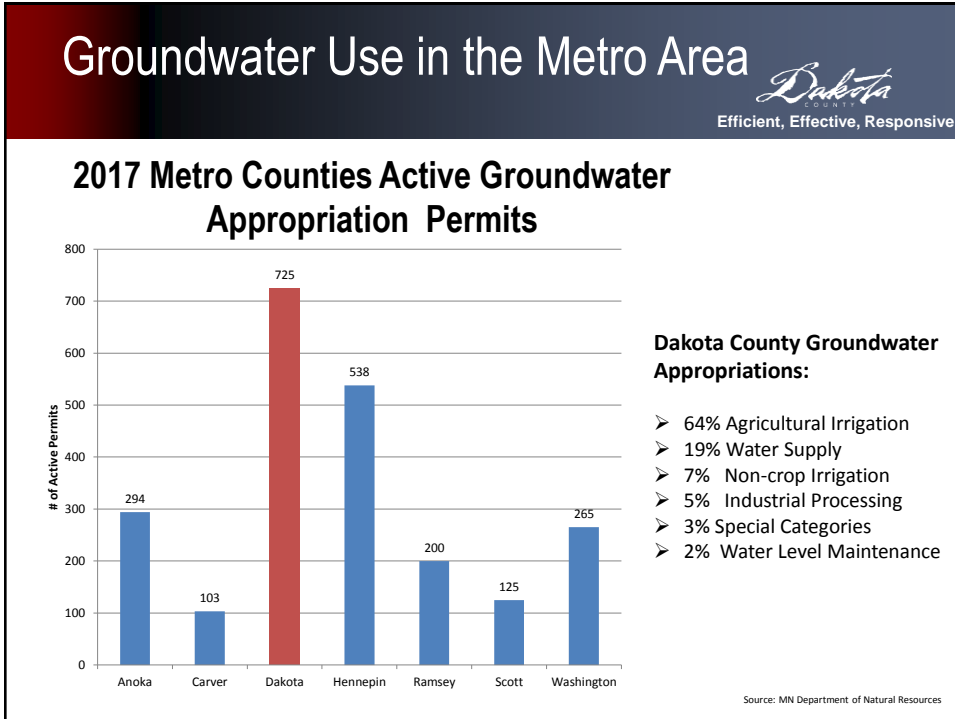


Dakota County Uses More Groundwater Per Capita than all the other Metro Counties

2017 Metro Counties Groundwater Use (Gal/Capita)



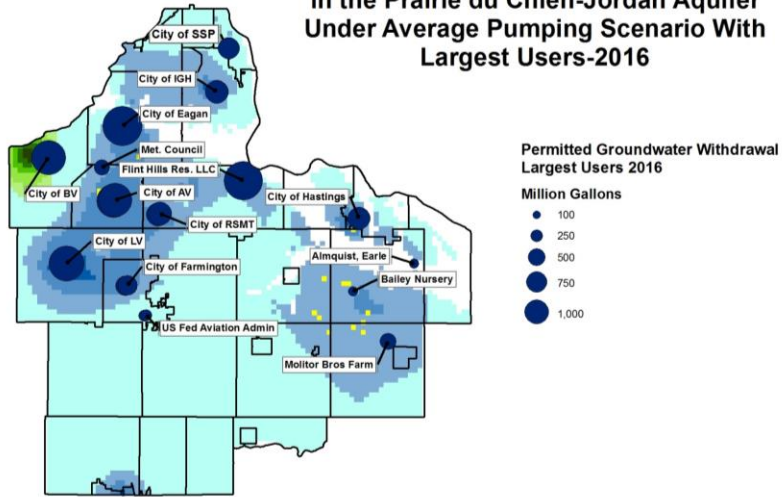
Source: MN Department of Natural Resources, MN State Demographic Center



Groundwater Use in Dakota County



2040 Projected Drawdown in the Prairie du Chien-Jordan Aquifer Under Average Pumping Scenario With Largest Users-2016



Source:
Metropolitan Council

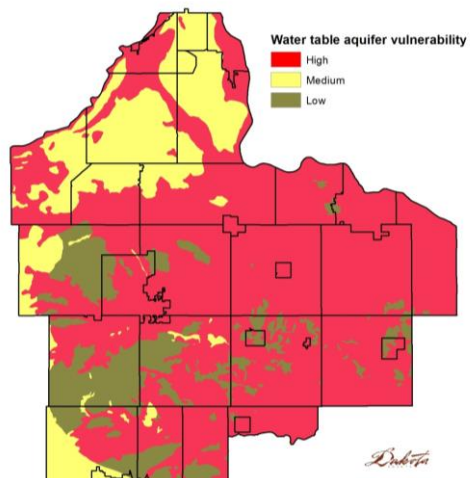
Groundwater Vulnerability

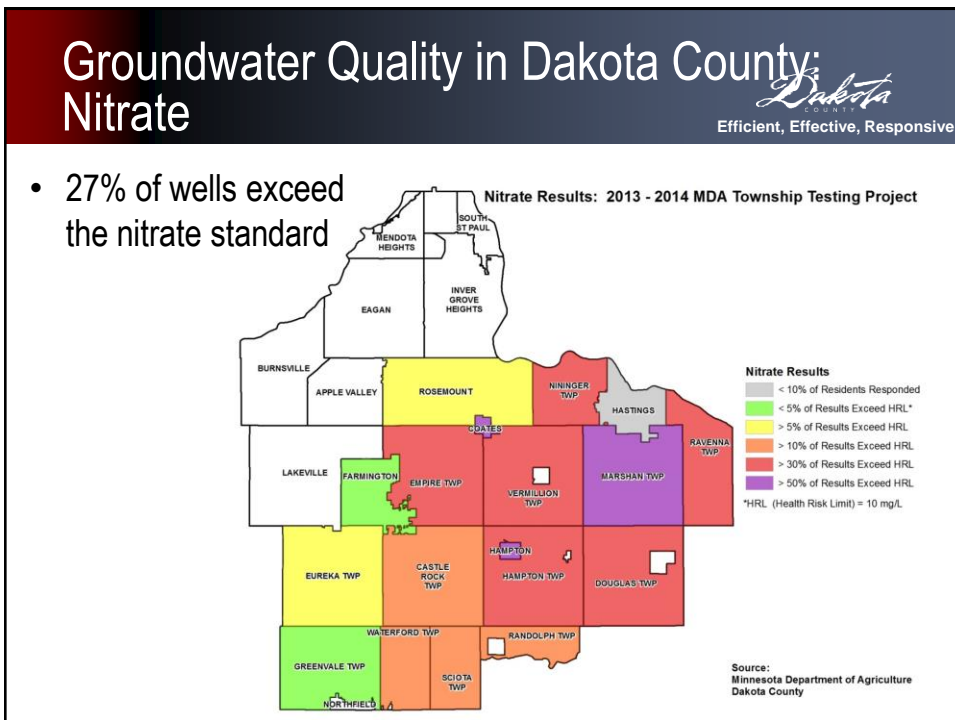
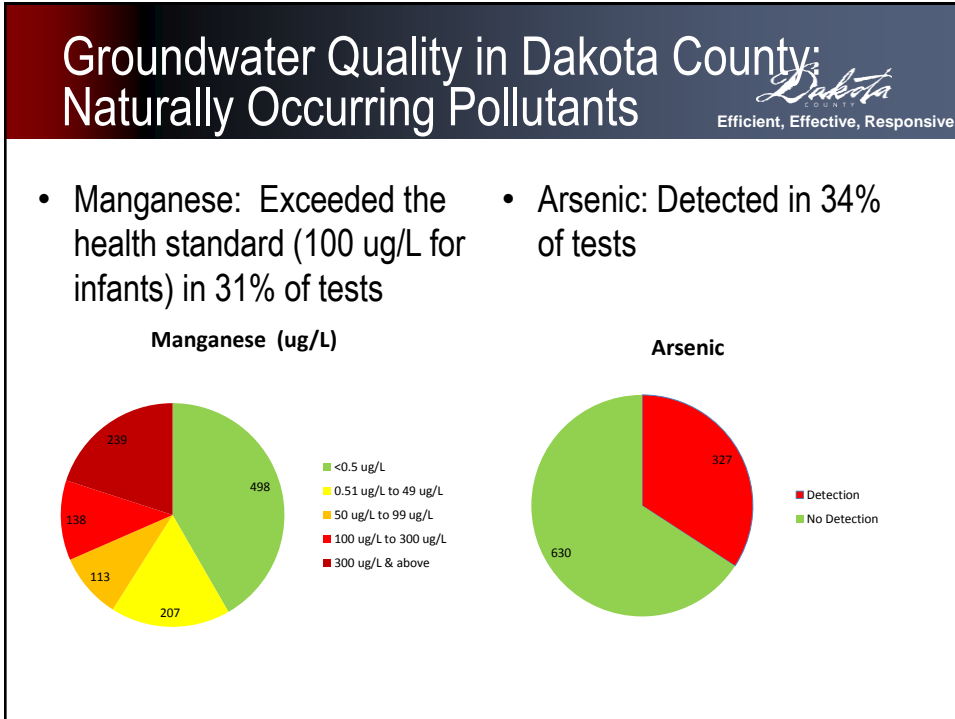


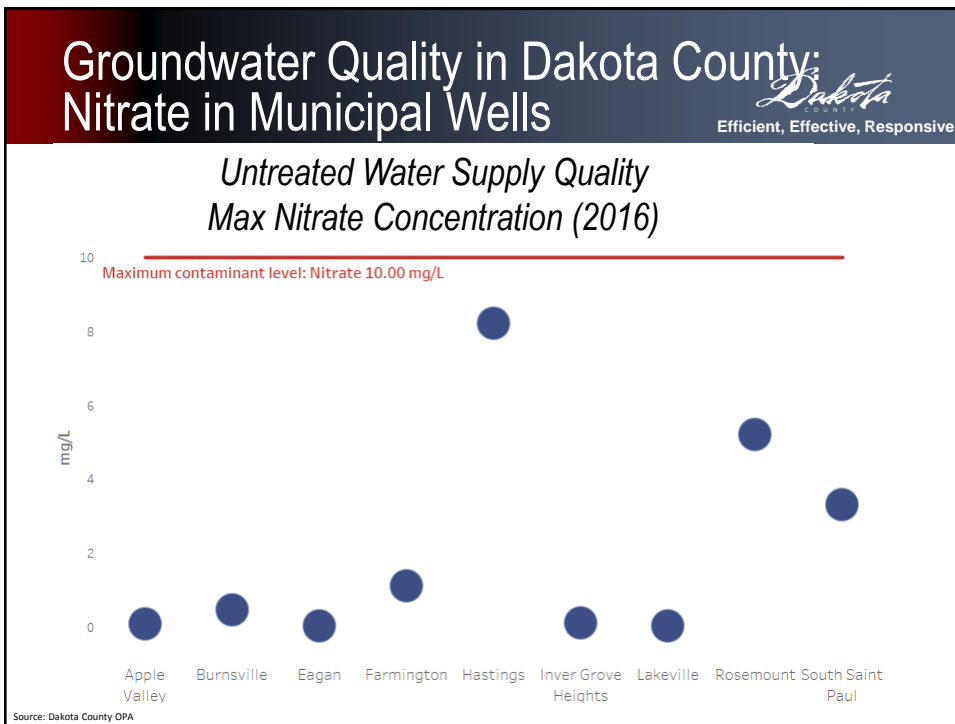
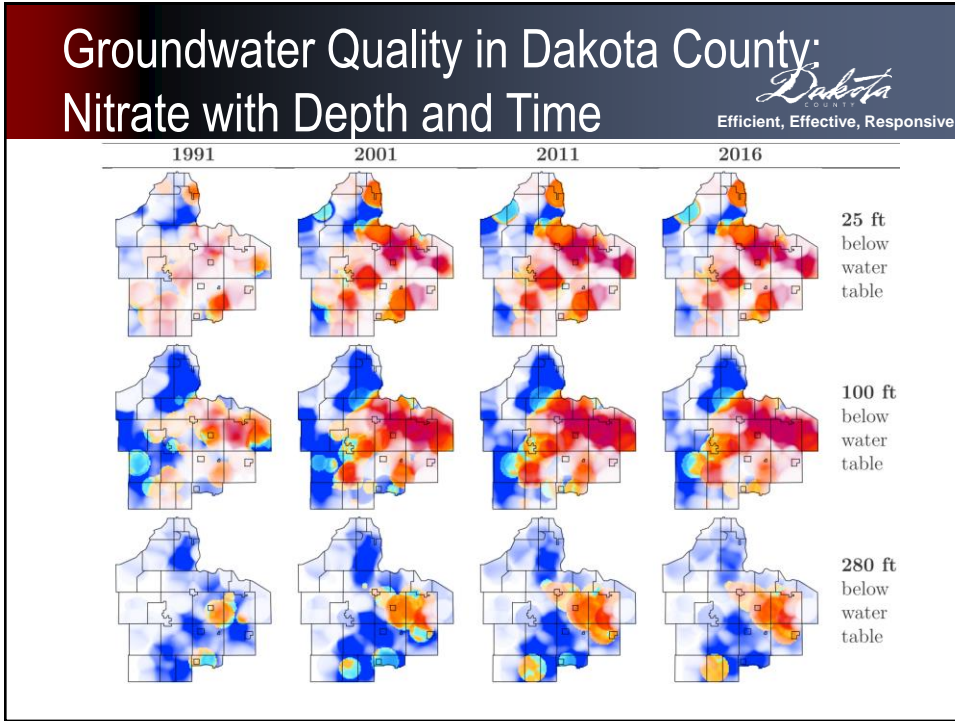
Vulnerability of the Water Table Aquifer to Surface Pollution

Uniquely vulnerable due to:

- Highly permeable coarse soils
- Karst topography



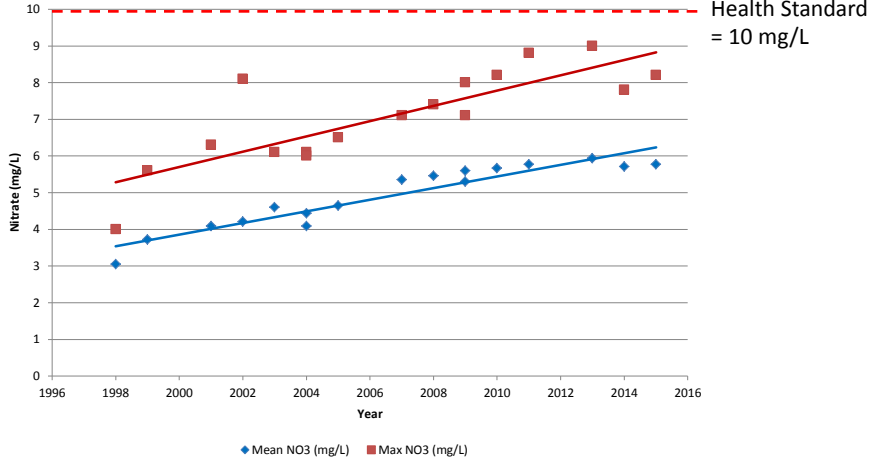




Groundwater Quality in Dakota County: Nitrate in Hastings Municipal Wells



*Hastings Municipal Untreated Water Supply Quality:
1998 – 2015 Nitrate Trends*

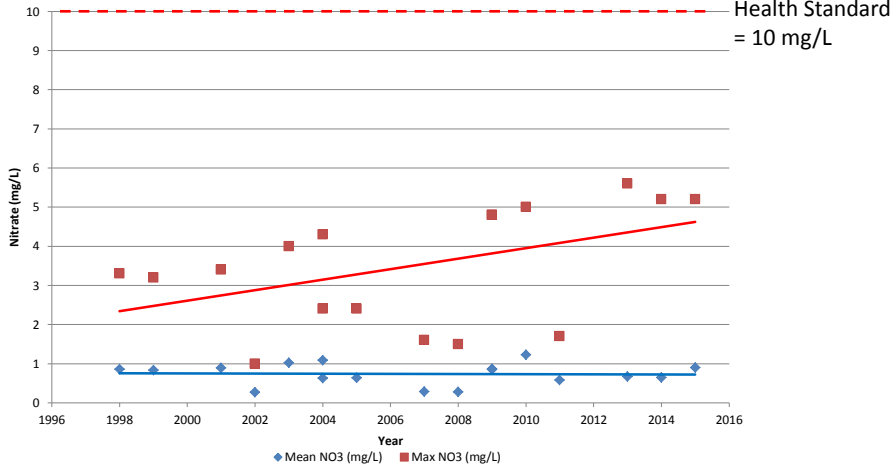


Source: https://data.web.health.state.mn.us/drinkingwater_query

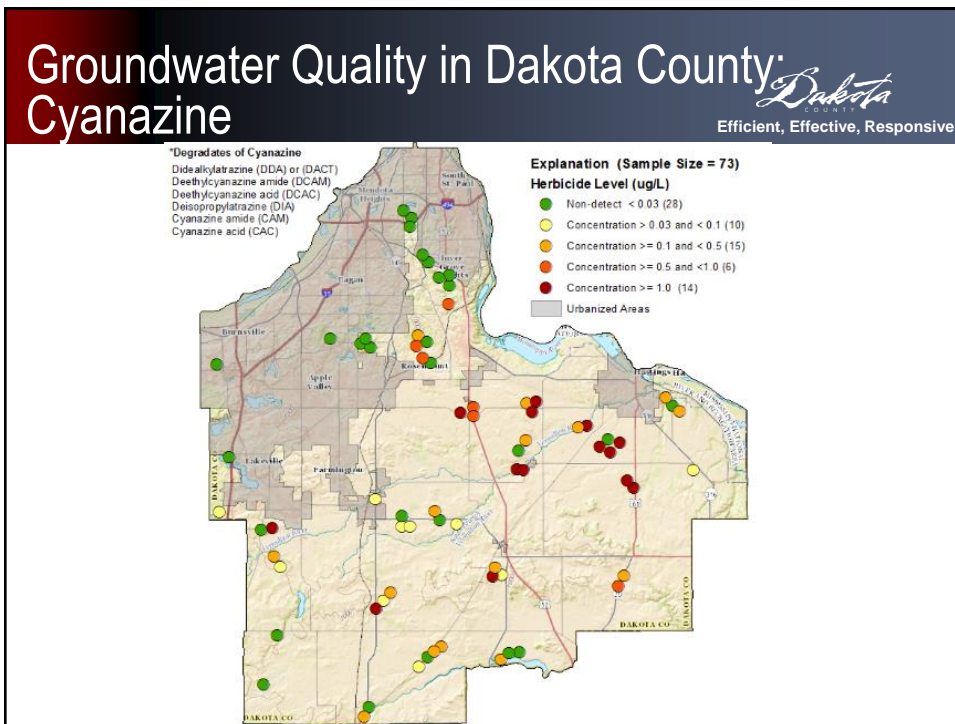
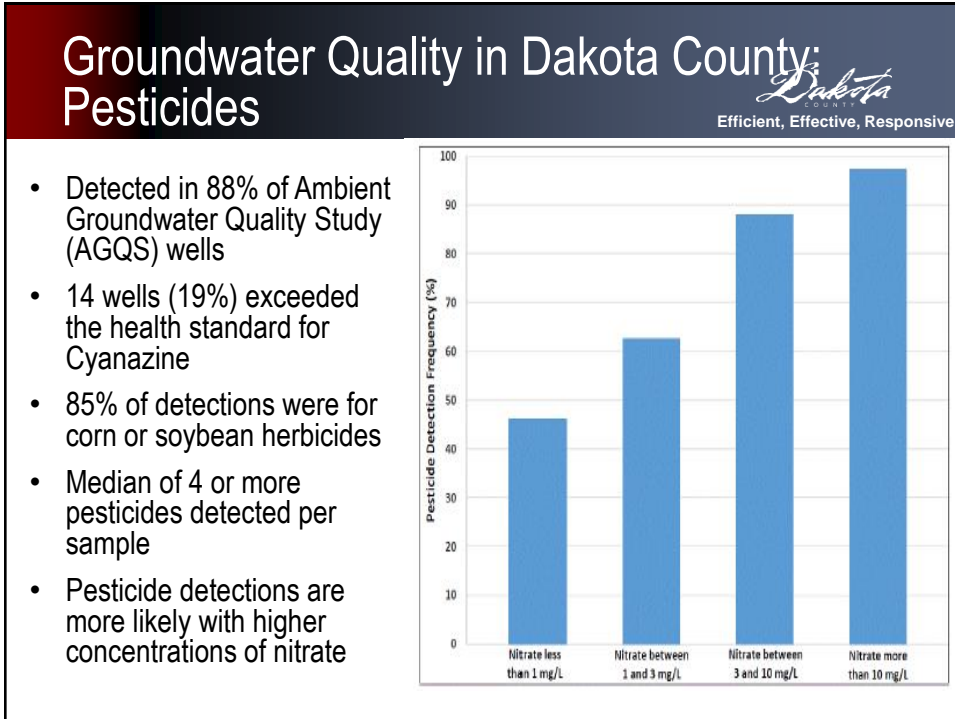
Groundwater Quality in Dakota County: Nitrate in Rosemount Municipal Wells

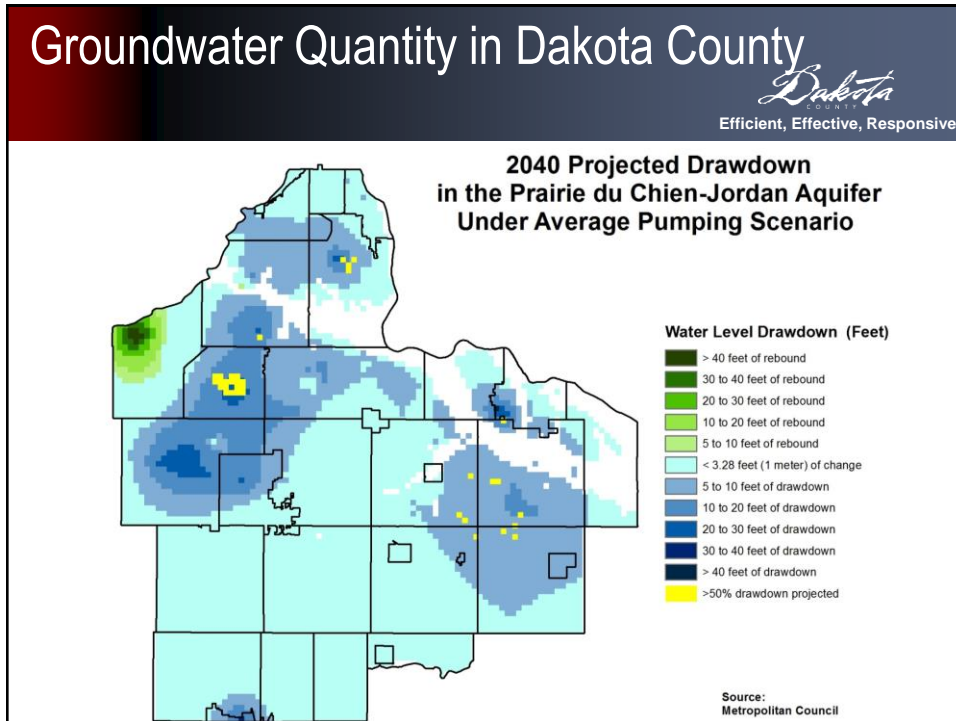


*Rosemount Municipal Untreated Water Supply Quality:
1998 – 2015 Nitrate Trends*



Source: https://data.web.health.state.mn.us/drinkingwater_query





Current County Groundwater Protection Programs

Dakota
COUNTY
Efficient, Effective, Responsive

- Manage Delegated Well Program (Ordinance 114)
- Promote Well Sealing through cost-share grants
- Conduct Groundwater Quality Research and Outreach
- Provide Drinking Water Testing, Education, and Outreach
- Assist with Wellhead Protection and Water Supply Planning
- Coordinate with Other Entities
- Regulate Hazardous and Solid Waste
- Regulate Septic Systems (Ordinance 113)
- Provide Environmental Assessment and Remediation Assistance

County Groundwater Protection Programs – Initial Board Remarks

Dakota
COUNTY
Efficient, Effective, Responsive

- Supported need for a Groundwater Plan
- Identified the following needs:
 - Coordinate with agencies involved in groundwater to improve processes
 - Evaluate rules and processes to ensure they support the intended result
 - Work with State agencies to address Dakota County's unique conditions
 - Explore opportunities to take on regulatory roles the County could administer more efficiently

Question 1 - Discussion

Dakota
COUNTY
Efficient, Effective, Responsive

What is the Planning Commission's initial thought on what the County's Role should be in groundwater protection?

Groundwater Plan: Purpose



The Groundwater Plan provides a framework to safeguard the County's groundwater supply through identifying existing and potential problems and opportunities for protection, management, and development.

Groundwater Plan: Requirements



Establishes eligibility for potential future funding

MN Stat 103B.255 - Requirements for Groundwater Plan	Current Compliance
Establish and consult advisory committee during development	Partial
Specify period covered by plan (must extend 5-10 years)	Partial
Cover entire area within the county	Yes
Describe existing and expected changes to physical environment, land use and development in the County	Yes
Summarize available info about groundwater in the county	Partial
State goals, objectives, scope and priorities	Partial
Contain standards, criteria and guidelines for protection	No
Describe relationships to other plans	Partial
Set standards, guidelines and official controls for implementation	No
Include procedures and timelines for amending the plan	No

Groundwater Plan: Process Objectives

Dakota
COUNTY

Efficient, Effective, Responsive

- Use the Dakota County Comprehensive Plan DC2040 Water Supply Vision, Goals, Objectives, and Policies as a baseline
- Engage **Planning Commission** as the required “Advisory Committee” for Groundwater Plan development
- Provide routine updates to the **Physical Development Committee**

Dakota County, Minnesota Comprehensive Plan

DC2040

Transportation



Park and Greenways



Land Use and Natural Resources



DRAFT, November 6, 2018

Dakota
COUNTY

Groundwater Plan: Process Objectives (Cont.)

Dakota
COUNTY

Efficient, Effective, Responsive

- **Understand public interests through Stakeholder Engagement**
- Develop required elements for a compliant Groundwater Plan
- Develop potential groundwater protection strategies
 - Better understand groundwater characteristics and data needs
 - Clarify Dakota County’s roles and authority in groundwater protection
 - Identify opportunities to impact local, state, and/or federal policies
 - Use Groundwater Plan as a means to connect with new collaborators



Question 2 - Discussion



Based on Attachment B (Stakeholder Engagement Plan):

What other stakeholders should be engaged?


How would the Planning Commission like to be involved in the stakeholder/public engagement process?

Groundwater Plan: Baseline DC 2040 – Draft Water Objectives




- Maintain good quality and quantity of drinking water
- Protect a sustainable and sufficient water supply
- Prevent groundwater and surface water degradation
- Avoid, minimize, mitigate impacts to groundwater and surface water
- Increase community awareness
- Work with state, regional, and local partners
- **Update groundwater protection tools**
- Identify high quality infiltration areas to be protected

Groundwater Plan: Baseline DC 2040 – Draft Water Policies




Efficient, Effective, Responsive

- Monitor water resource quality and quantity
- Protect a safe and adequate drinking water supply
- Encourage all communities to adopt water conservation and pollution prevention measures
- Ensure that new wells are constructed and unused wells are sealed according to requirements



Groundwater Plan: Draft Schedule



Efficient, Effective, Responsive

Task	Q1 2019			Q2 2019			Q3 2019			Q4 2019			Q1 2020			Q2 2020		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Introduce project to PLANC																		
Award contract for Stakeholder Engagement facilitation																		
Complete Stakeholder Engagement Plan																		
Conduct Technical Research																		
Conduct first round of Stakeholder Engagement – determine perceived issues, concerns, ideas, etc.																		
Provide summary to PLANC and Board of technical research, stakeholder engagement findings, and preliminary program directions goals, and priorities																		
Develop program objectives, goals, and strategies based on feedback from PLANC and Board																		
Conduct second round of Stakeholder Engagement – obtain feedback on objectives, goals, strategies																		
Provide summary to PLANC on stakeholder engagement findings on the objectives, goals, and strategies																		
Complete Draft Groundwater Plan																		
Present draft plan summary to PLANC and Board , seek recommendation on plan submittal to BWSR and public review and comment																		
60 day public review and comment period																		
Compile and summarize comments																		
Present comment summary to PLANC and Board and seek recommendation for adoption																		

Question 3 - Discussion

Dakota
COUNTY
Efficient, Effective, Responsive

If the Planning Commission is the Groundwater Plan Advisory Committee, **what additional information/data does the Planning Commission need to assist in the process?**

Dakota
COUNTY
Efficient, Effective, Responsive

Questions?