



# **Draft Groundwater Plan Update and Proposed Release**

**Dakota County Planning Commission**

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Environmental Resources  
April 23, 2020

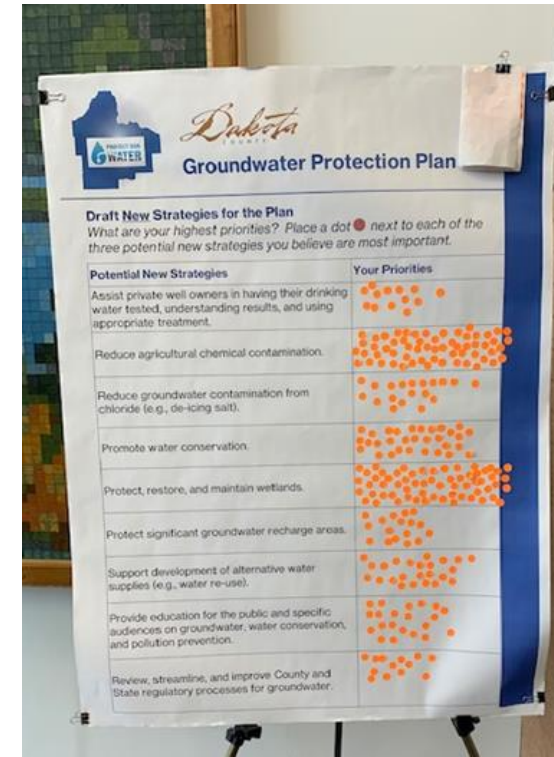
# Overview

- Stakeholder Engagement Update
- Plan Organization
  - Statutory Elements
- Groundwater Goals & Issues
  - Water Quality
  - Water Quantity
  - Education
  - Governance
- Strategies, Priorities, Proposed New Activities
- Commission Feedback
- Request: *Recommend release for 60-day public comment*



## Phase Two: December 2019-February 2020

- **Two Open Houses** with water test kits (50+ participants)
- **Workshop** (30+ participants)
- **Intercept Boards** at Libraries and Service Centers (311 participants)
- **Survey** (81 responses)
- **CONDAC City Engineers Workshop**

A survey form titled "Groundwater Protection Plan" is displayed on a clipboard. The form includes a header with the Dakota County logo and a section titled "Draft New Strategies for the Plan". Below this, it asks "What are your highest priorities? Place a dot next to each of the three potential new strategies you believe are most important." The form lists ten potential strategies, each with a column for "Your Priorities" where orange dots are placed to indicate importance. The strategies are: Assist private well owners in having their drinking water tested, understanding results, and using appropriate treatment; Reduce agricultural chemical contamination; Reduce groundwater contamination from chloride (e.g., de-icing salt); Promote water conservation; Protect, restore, and maintain wetlands; Protect significant groundwater recharge areas; Support development of alternative water supplies (e.g., water re-use); Provide education for the public and specific audiences on groundwater, water conservation, and pollution prevention; and Review, streamline, and improve County and State regulatory processes for groundwater.

Potential New Strategies	Your Priorities
Assist private well owners in having their drinking water tested, understanding results, and using appropriate treatment.	3 dots
Reduce agricultural chemical contamination.	10 dots
Reduce groundwater contamination from chloride (e.g., de-icing salt).	10 dots
Promote water conservation.	10 dots
Protect, restore, and maintain wetlands.	10 dots
Protect significant groundwater recharge areas.	10 dots
Support development of alternative water supplies (e.g., water re-use).	10 dots
Provide education for the public and specific audiences on groundwater, water conservation, and pollution prevention.	10 dots
Review, streamline, and improve County and State regulatory processes for groundwater.	10 dots

# Themes from Stakeholder Engagement



- Groundwater quality is critical for human health
- Conservation and recharge are essential for quantity
- Residents have a role in quality and quantity
- Government has a key role in quality and quantity





Commission comments on the engagement process and the public feedback?



# Statutory Requirements & Plan Layout



Minnesota Statute §103B.255, Subd. 7	Plan Chapter
State goals, objectives, scope, and priorities	1. Goals, Strategies, Tactics, Outcomes 2. Plan Implementation
Standards, criteria, and guidelines for groundwater protection and land use	2. Plan Implementation
Cover entire area within county	3. Planning Overview
Include procedures and timelines for amending the groundwater plan	3. Planning Overview
Describe relationships and possible conflicts between the plan and other plans	4. GW Management Roles, Responsibilities, Controls
Set forth standards, guidelines, and official controls	4. GW Management Roles, Responsibilities, Controls
Summarize groundwater related resources in the county, including distribution, availability, quality, use	5. GW Issues: Quality & Drinking Water 6. GW Issues: Use and Recharge
Describe existing & expected changes to physical environment, land use, and development	7. Population, Land Use, Development 8. Physical Environment

# Groundwater Plan Goals



1. **Water Quality:** Groundwater and drinking water are free from unhealthy levels of contaminants.
2. **Water Quantity:** Groundwater is sufficient to meet human needs and sustain groundwater-dependent ecosystems.
3. **Education:** People who live and work in Dakota County are knowledgeable about water issues, conserve water, and prevent pollution.
4. **Governance:** Groundwater programs and services are efficient and effective.

# Issues Identified: Water Quality



- Increased risks for private well owners
- Row crop fertilizer and herbicide impacts
- Naturally-occurring manganese and arsenic
- Stormwater potential for contaminating groundwater
- Chloride (road or water softener salt), industrial pollution, contaminated sites, unsealed wells, septic systems, and aggregate mining



## HIGH PRIORITIES

1A3-Assist private well owners in having their drinking water tested, understanding their results, and using appropriate water treatment.\*

1B1-Reduce agricultural chemical contamination.\*

1B4-Prevent groundwater contamination from chloride.\*

*\*Draft Plan includes new initiatives in addition to current tactics.*

## MEDIUM PRIORITIES

- 1A1-Assist public water suppliers in protecting the water supply.\*
- 1A2-Assist water users in protecting their drinking water quality by regulating well construction and sealing.
- 1C2-Prevent groundwater contamination by getting unused, unsealed wells sealed.
- 1C3-Prevent pollution by minimizing wastewater impacts.
- 1D- Monitor groundwater quality to develop, implement, and evaluate strategies for reducing groundwater contamination.

*\*Draft Plan includes new initiatives in addition to current tactics.*

# Quality: Proposed New Activities



**1A3-Assist well owners in having water tested, understanding results, and appropriate treatment.**  
*(High Priority)*

Tactic	Description	Annual Measure
1A3C	Drinking water treatment systems for low-income households on private wells with contaminated groundwater.	<ul style="list-style-type: none"><li>● # of grants awarded</li><li>● \$ of grants awarded</li></ul>

# Quality: Proposed New Activities



## Strategy 1B1-Reduce agricultural chemical contamination. (High Priority)

Tactic	Description	Annual Measure
1B1B	County Agricultural Chemical Reduction Effort (ACRE)	<ul style="list-style-type: none"><li>• Year 1-2: Plan</li><li>• Out years: Implement</li><li>• Nitrate, pesticide reduction in shallow groundwater</li></ul>
1B1D	Monitoring wells for long-term quality and water level data in high nitrate areas	<ul style="list-style-type: none"><li>• # of wells added</li><li>• # of wells actively monitored</li><li>• Nitrate reduction</li></ul>



# Quality: Proposed New Activities



## Strategy 1B1-Reduce agricultural chemical contamination. (High Priority), continued

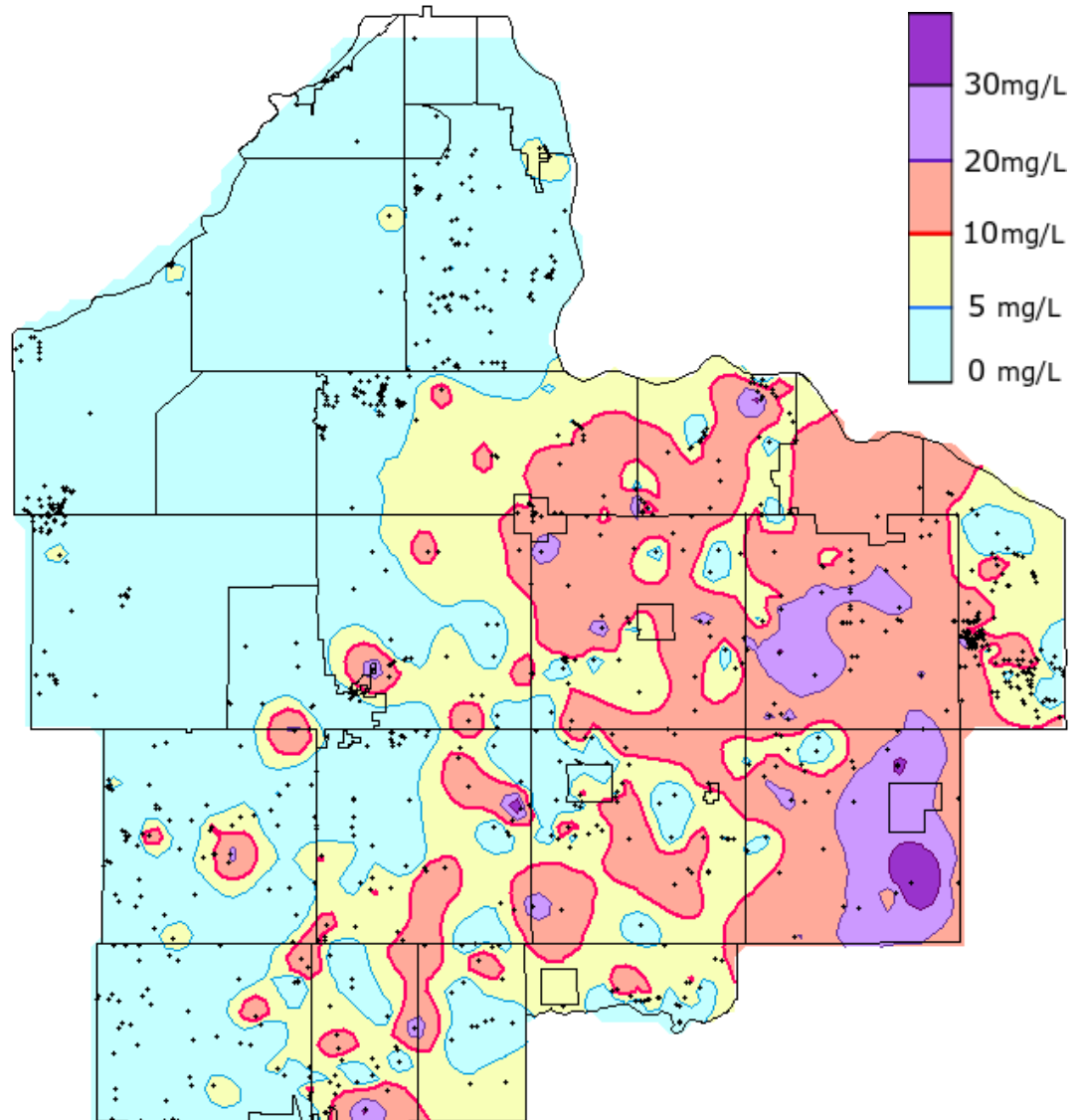
Tactic	Description	Annual Measure
1B1E	Cost-share funding for irrigation practices to reduce contamination and conserve water.	<ul style="list-style-type: none"><li>• # of projects</li><li>• Water saved</li><li>• Reduction in ag chemical loading</li></ul>
1B1F	Acquire farm with coarse soils and irrigation to research nitrogen fertilizer, agricultural water quality, and practices to improve water quality.	<ul style="list-style-type: none"><li>• # of projects</li><li>• Findings to support reduction of ag. chemicals</li></ul>

# Water Quality: Priorities



## Targeted Agricultural Chemical Reduction Areas

Dakota County interpolation:  
2013-2019 nitrate observations at  
0-20 ft below the water table (897  
samples)



# Quality: Proposed New Activities



## Strategy 1B4-Prevent groundwater contamination from chloride. *(High Priority)*

Tactic	Description	Annual Measure
<b>1B4B</b>	Partner with cities and townships to implement chloride reduction efforts in accordance with the Twin Cities Metro Chloride Management Plan.	<ul style="list-style-type: none"><li>● # of cities\townships that develop a road-salt reduction plan</li><li>● Reduction in salt-use (per snow\ice event)</li></ul>
<b>1B4C</b>	Promote chloride reduction by incentivizing the replacement of outdated water softeners with low-salt ones, in accordance with the MPCA guidance.	<ul style="list-style-type: none"><li>● # of water softeners replaced</li><li>● Reduction in salt discharged to environment</li></ul>

Commission comments on the Water Quality strategies, tactics, and priorities?



# Issues Identified: Water Quantity



- Public opposes high-volume water exports.
- Growing population might use groundwater faster than it is replenished.
- State regulations or guidance on water reuse are limited.
- Land development and extreme weather may diminish recharge.
- Withdrawals could interfere with existing wells and damage fragile cold-water ecosystems such as trout streams, wetlands, and fens.

# Quantity: Strategies and Priorities



## HIGH PRIORITIES

2A1-Limit groundwater exports.\*

2A2-Promote water conservation.\*

2A3-Support development of alternative water supplies.\*

2B2-Protect, preserve, and restore resources that support groundwater-dependent ecosystems such as wetlands, fens, and trout streams.

## MEDIUM PRIORITIES

2B1-Protect and improve high-quality groundwater recharge areas.\*

*\*Draft Plan includes new initiatives in addition to current tactics.*

# Quantity: Proposed New Activities



## Strategy 2A1-Limit groundwater exports.

*(High Priority)*

Tactic	Description	Annual Measure
2A1A	Work with DNR to ensure large appropriation requests are sustainable.	<ul style="list-style-type: none"><li>• # DNR permit reviews</li><li>• DNR response reflects County recommendations</li></ul>

# Quantity: Proposed New Activities



## Strategy 2A1-Limit groundwater exports. (High Priority)

Tactic	Description	Annual Measure
2A1B	Seek to issue and regulate water appropriations permits instead of DNR.	<ul style="list-style-type: none"><li>• Authority granted</li></ul>
2A1C	Revise County Ordinance 114 to regulate construction of large-capacity wells for specific purposes.	<ul style="list-style-type: none"><li>• Ordinance updated</li></ul>



# Quantity: Proposed New Activities



## Strategy 2A2-Promote water conservation. (High Priority)

Tactic	Description	Annual Measure
2A2A	County water conservation initiative, with cities, townships, WMOs, and large users of water.	<ul style="list-style-type: none"><li>• # of participants</li><li>• # of meetings</li><li>• Ideas that lead to new approaches</li><li>• Signing of MOU</li></ul>
2A2B	Cost share funding for water conservation projects (efficient irrigation, high efficiency appliances).	<ul style="list-style-type: none"><li>• \$ of cost-share grants</li><li>• # of projects funded</li><li>• # of entities supported</li><li>• Gallons of water saved</li></ul>

# Quantity: Proposed New Activities



## Strategy 2A3-Support alternative water supplies. (High Priority)

Tactic	Description	Annual Measure
2A3A	Advocate for State to clarify reuse rules and guidelines.	<ul style="list-style-type: none"><li>• Change in rules or guidelines.</li></ul>
2A3B	Cost share funding for water reuse projects.	<ul style="list-style-type: none"><li>• # of projects subsidized</li><li>• \$ of funding provided</li><li>• Gallons of water reused</li></ul>
2A3C	Support efforts to develop water supply sources other than groundwater.	<ul style="list-style-type: none"><li>• # of collaborative projects</li></ul>

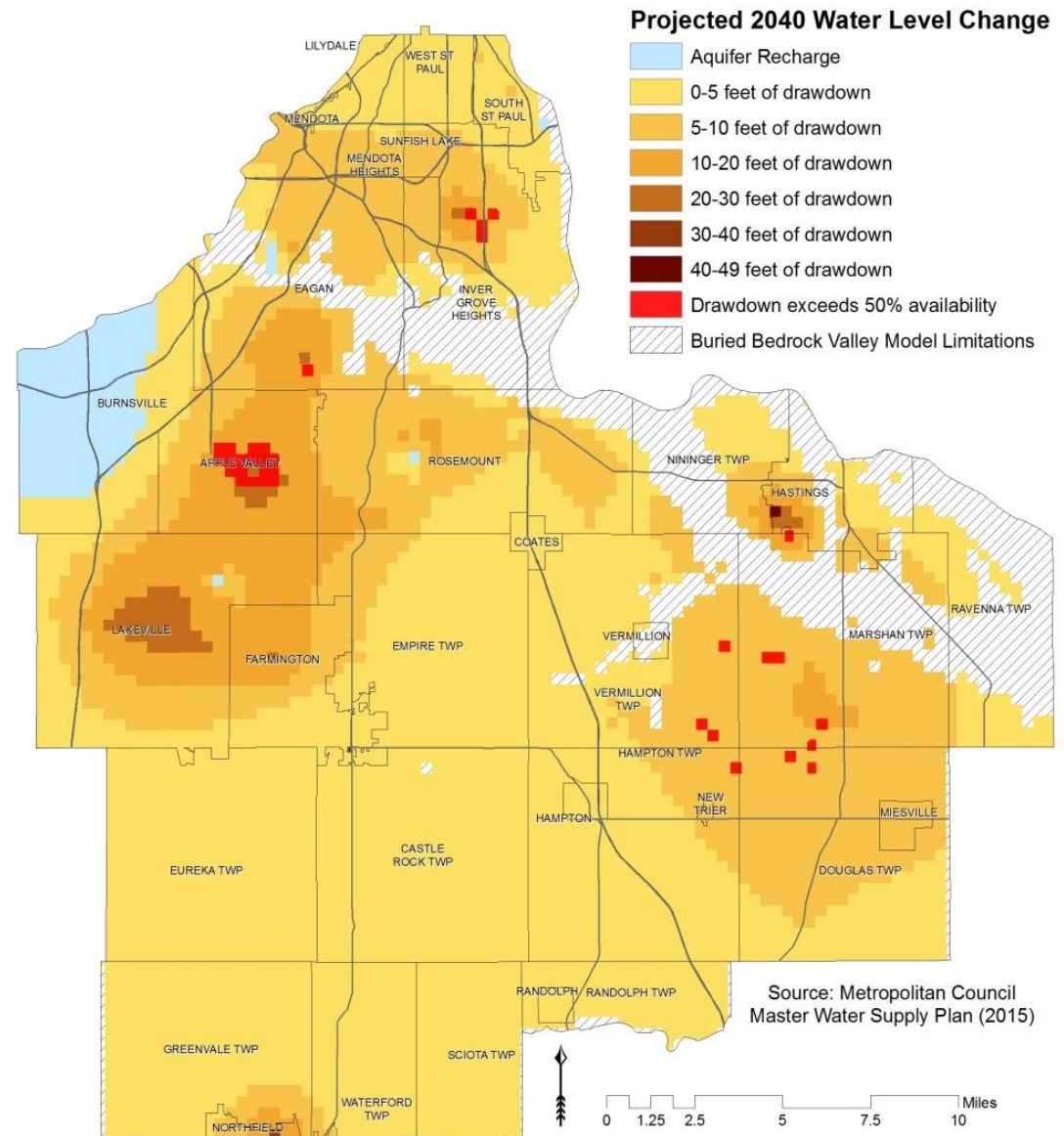
# Quantity: Priorities



## Targeted Project Areas:

- Water Conservation
- Irrigation Efficiency
- Water Reuse

Metropolitan Council – estimates of potential groundwater drawdown, 2040.



Commission comments on the Water Quantity strategies, tactics, and priorities?



# Issues Identified: Education



- Public wants more information on drinking water sources, conservation, and preventing contamination. Public suppliers could use help conveying water-related messages.
- Well owners need information on health risks, water testing, and treatment.
- More training is needed on maintaining roads, parking lots, and sidewalks to limit snow/ice risks while reducing salt usage.
- More education is needed on maintaining landscapes while protecting and conserving water for homeowners and professionals.

## HIGH PRIORITIES

3A-Inform and educate the general public on groundwater resources and science, water conservation, and pollution prevention.\*

3B-Provide training and education to targeted audiences, such as well owners, well drillers, real estate professionals, and people who maintain roads and sidewalks ("Smart Salt" practices).\*

*\*Draft Plan includes new initiatives in addition to current tactics.*

# Education: Proposed New Activities



**Strategy 3A-Inform and educate general public on groundwater resources/science, water conservation, and pollution prevention.**  
*(High Priority)*

Tactic	Description	Annual Measure
3A1C	Host traveling “We are Water” or other exhibits.	<ul style="list-style-type: none"><li>• # exhibits hosted</li><li>• # participants</li></ul>
3A1D	Put groundwater levels - DNR observation well data on County website.	<ul style="list-style-type: none"><li>• # areas with data available</li><li>• # residents accessing data</li></ul>
3A1E	Place signs on County roads where entering a DWSMA.	<ul style="list-style-type: none"><li>• # signs installed</li></ul>

# Education: Proposed New Activities



**Strategy 3A-Inform and educate general public on groundwater resources/science, water conservation, and pollution prevention.**  
*(High Priority)*

Tactic	Description	Annual Measure
3A1F	Use existing materials and programs (e.g., State, regional, WMOs, non-profits) where appropriate.	<ul style="list-style-type: none"><li>● # of materials or programs leveraged</li><li>● # of new audiences</li><li>● # of new partners</li></ul>
3A1G	Inform the public about DWSMAs by including them on the County's website.	<ul style="list-style-type: none"><li>● Information is available</li><li>● # of residents accessing information</li></ul>

# Education: Proposed New Activities



## Strategy 3B-Provide training and education to targeted audiences *(High Priority)*

Tactic	Description	Annual Measure
3B1F	Stakeholder workshops on the updated County Geologic Atlas and how to use it.	<ul style="list-style-type: none"><li>● # of workshops</li><li>● # of participants</li></ul>

# Education Priorities

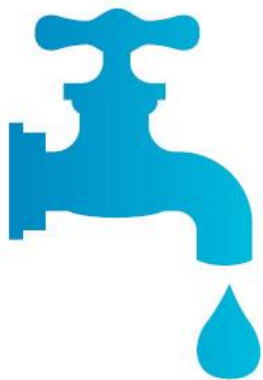


## Private well owner responsibilities



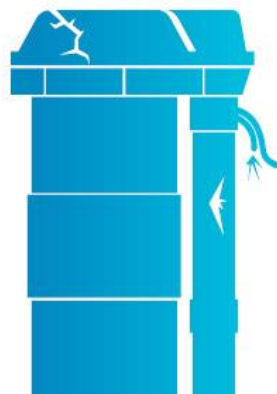
### Test your water.

Contaminants, both naturally occurring and from human activity, can be a health concern. Often they are not visible and do not have any taste or smell. Request a water test kit from Dakota County at [952-891-7000](tel:952-891-7000).



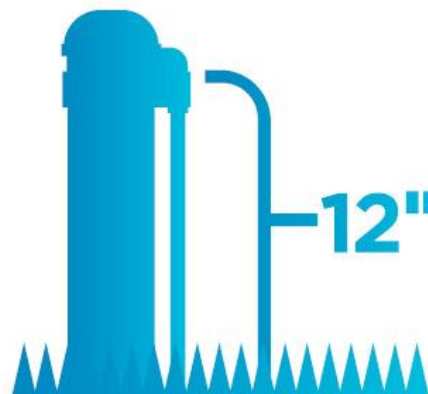
### Inspect your well regularly.

Look for damage to the well casing or well cap such as cracks, holes, a loose cap or wires.



### Protect your well.

The top of the well should be 12 inches above the ground. Don't allow water to pond around your well. Keep chemicals and animal waste away from your well.



### Seal unused wells.

Unused, unsealed wells can allow contaminants to flow from the surface down to the aquifer and are required to be sealed. Only a licensed well contractor can seal a well. Dakota County has grants to help with the cost. Receive an application by calling [952-891-7000](tel:952-891-7000) or by visiting [www.dakotacounty.us](http://www.dakotacounty.us), search *well seal grant*.





Commission comments on the Education strategies, tactics, and priorities?

# Issues Identified: Governance



- The County could advocate at State level for water infrastructure funding and other water issues that impact cities and townships.
- Communications and collaboration between the County, public water suppliers, State agencies, and other water stakeholders can be improved.
- County and State regulatory processes for well and water appropriations permits should be reviewed and streamlined.
- The County can make information more readily available about groundwater contamination and levels.

# Governance: Strategies and Priorities

## HIGH PRIORITIES

4A-Collaborate with other levels of government.\*

## MEDIUM PRIORITIES

4B-Review, streamline, and improve County and State regulatory processes.

*\*Draft Plan includes new initiatives in addition to current tactics.*

# Governance: Proposed New Activities

## Strategy 4A-Collaborate with other levels of government. (High Priority)

Tactic	Description	Annual Measure
4A1B	Groundwater-Source Water Collaborative of water suppliers, State, regional, WMO, County, SWCD for benchmarking, data-and idea-sharing, coordination.	<ul style="list-style-type: none"><li>● # of entities</li><li>● # of meetings</li><li>● Changes in process and procedures implemented</li></ul>
4A1C	Competitive grant program for innovative LGU projects to improve quality, quantity, program efficiency.	<ul style="list-style-type: none"><li>● projects funded</li><li>● \$ awarded</li><li>● Water saved</li><li>● Pollutants reduced</li></ul>

Commission comments on the Governance strategies, tactics, and priorities?

# Funding and Staffing



- Estimated added costs over ten years (2021-2030):
  - \$7.6 to \$9.6 million
  - 1.5 to 3.5 added FTEs
  - \$4.2 million already included in 2021-2024 CIP Plan
- Many proposed new activities are based on availability of grants or other non-County funding.
- All funding and staffing is subject to County Board approval of annual budgets and workplans.





# Funding and Staffing



## Major Proposed Activities

	Description	10-Yr. Estimated Cost	Comment
2B2C	Wetlands and Water Retention	\$3.2 million	\$1.6 million in 2021-24 CIP Plan
1C1B	Contaminated Sites Investigation and Clean-up	\$2.2 million	\$2.0 million in 2021-24 CIP Plan

# Funding and Staffing



## Major Proposed Activities

	Description	10-Yr. Estimated Cost	Comment
1B1B	Agricultural Chemical Reduction Effort (ACRE)	\$1.4 million	New: Includes cost for 1.0 added FTE.*
1B1C	Cost-share funding for agricultural water quality improvements (through SWCD)	\$750,000	\$600,000 in 2021-24 CIP Plan (Same as current annual funding)
1B2C	Cost-share funding for "Landscaping for Clean Water" projects (through SWCD)	\$750,000	

# Funding and Staffing



## Major Proposed Activities

	Description	10-Yr. Estimated Cost	Comment
2A3B	Cost-share funding for water re-use projects	\$290,000	New
1A3C	Cost-share funding for water treatment systems for low-income households with contaminated wells.	\$250,000	New: Includes cost for 0.5 added FTE

**Recommend to County Board  
that the draft Groundwater Plan be  
released for 60-day public review and  
comment.**

**Thank you!**

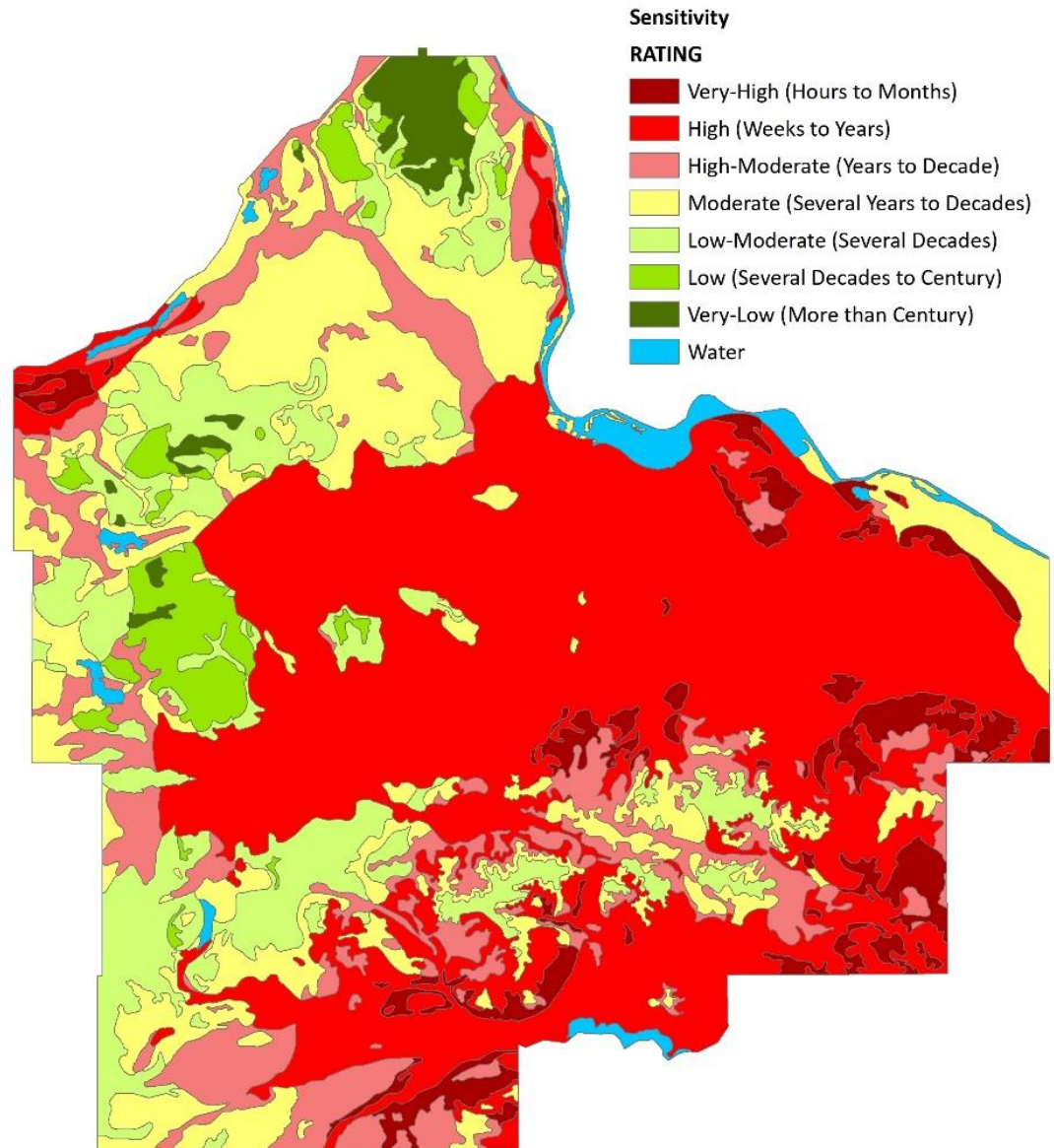
# Questions?



# Themes from Stakeholder Engagement



## Water Quality: How Quickly Pollution Can Travel from the Surface to the Drinking Water in Dakota County



# Themes from Stakeholder Engagement



Water Quantity:  
Large exports of groundwater could deplete water from existing wells, trout streams, wetlands, and fens.

## Location and Water Resources

