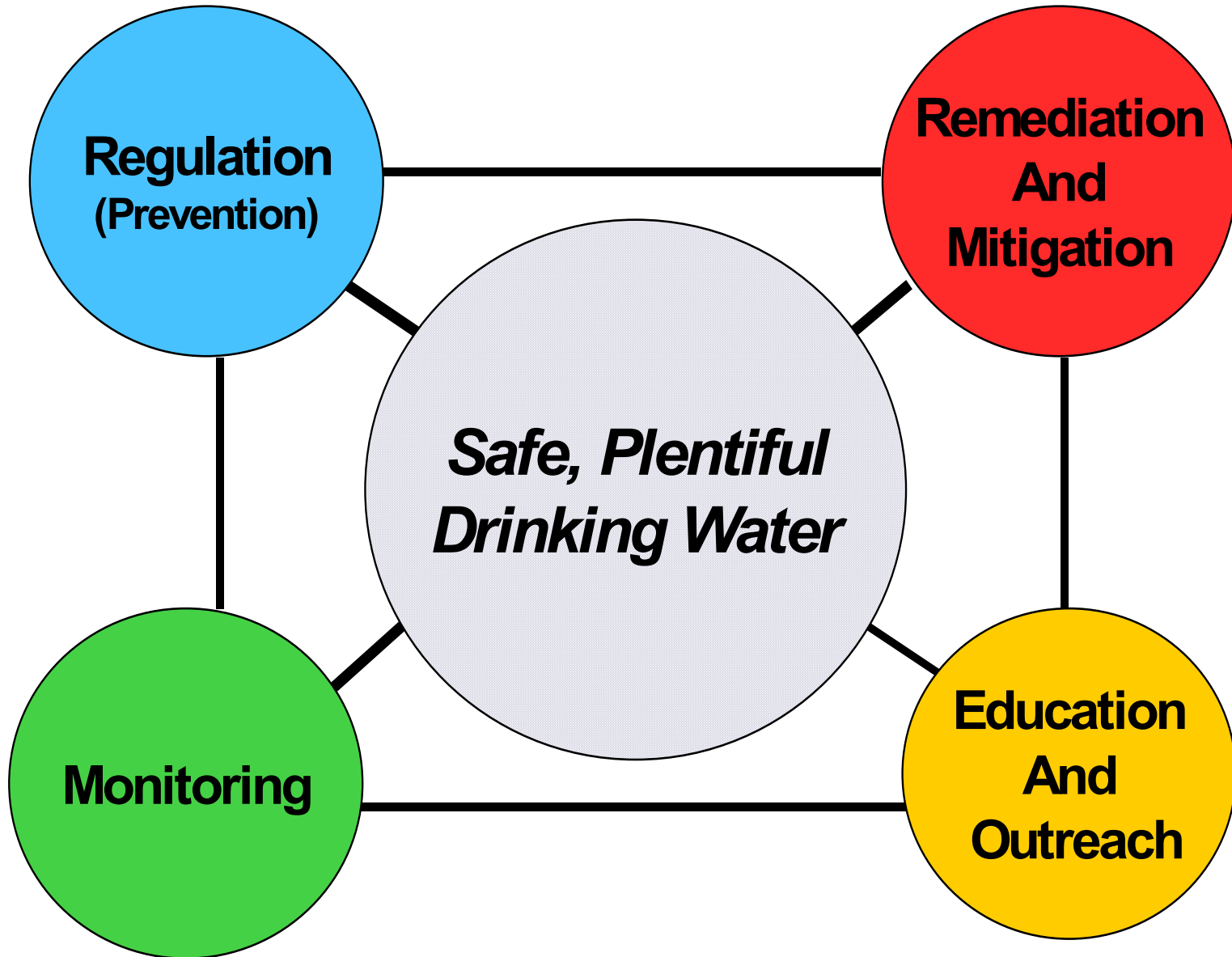




# **Building a Comprehensive Local Groundwater Management Program**

**Jill V. Trescott  
David Swenson**

# Groundwater Program Areas



# Building a Comprehensive Local Groundwater Management Program

- 

## **Build gradually**

- Develop program piece-by-piece

- 

## **Build on strengths and opportunities**

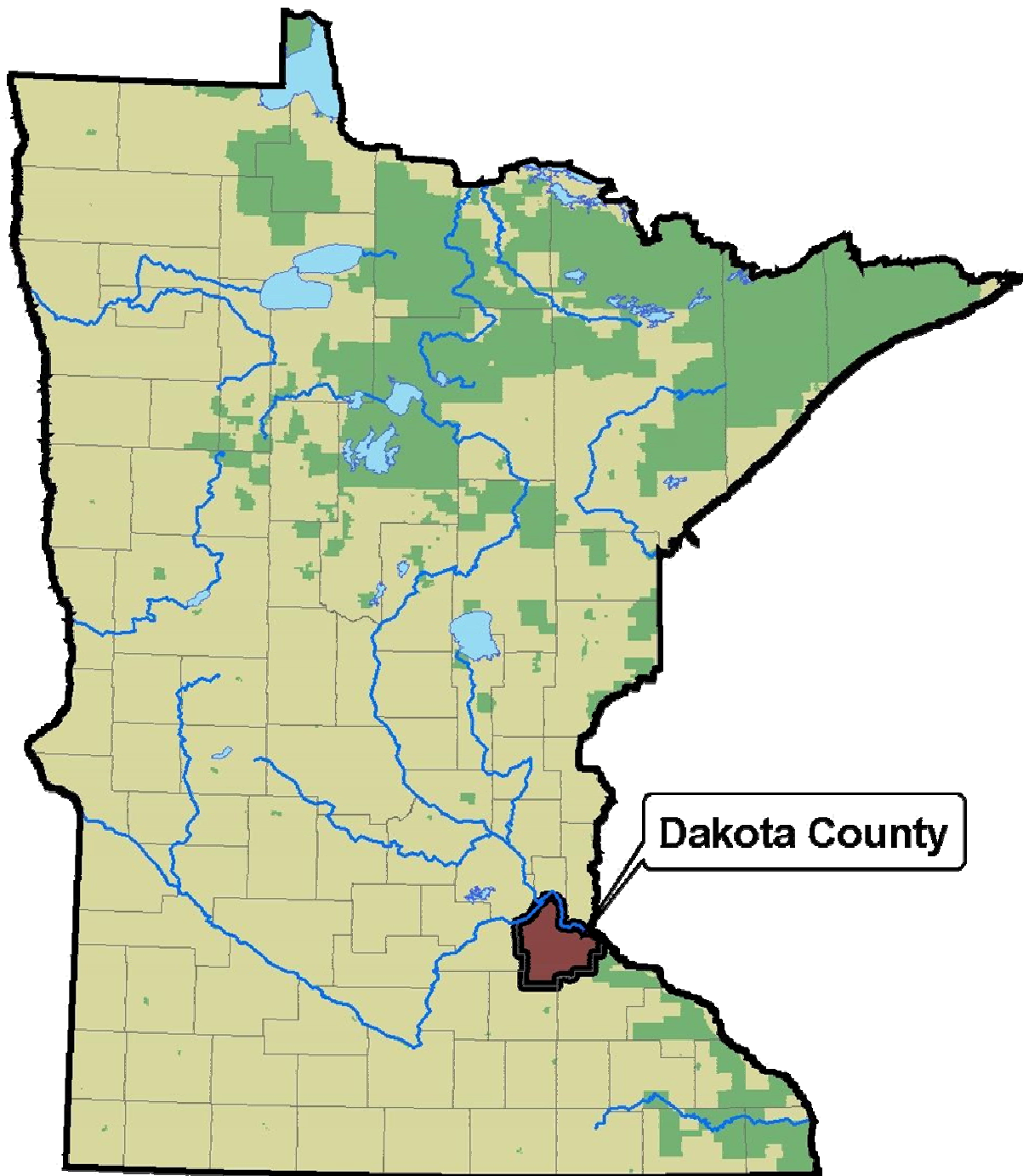
- Challenges
- Expertise
- Knowledge and Information
- Technology

- 

## **Build public awareness**

- Let the public know what you're doing and why

-



Dakota County

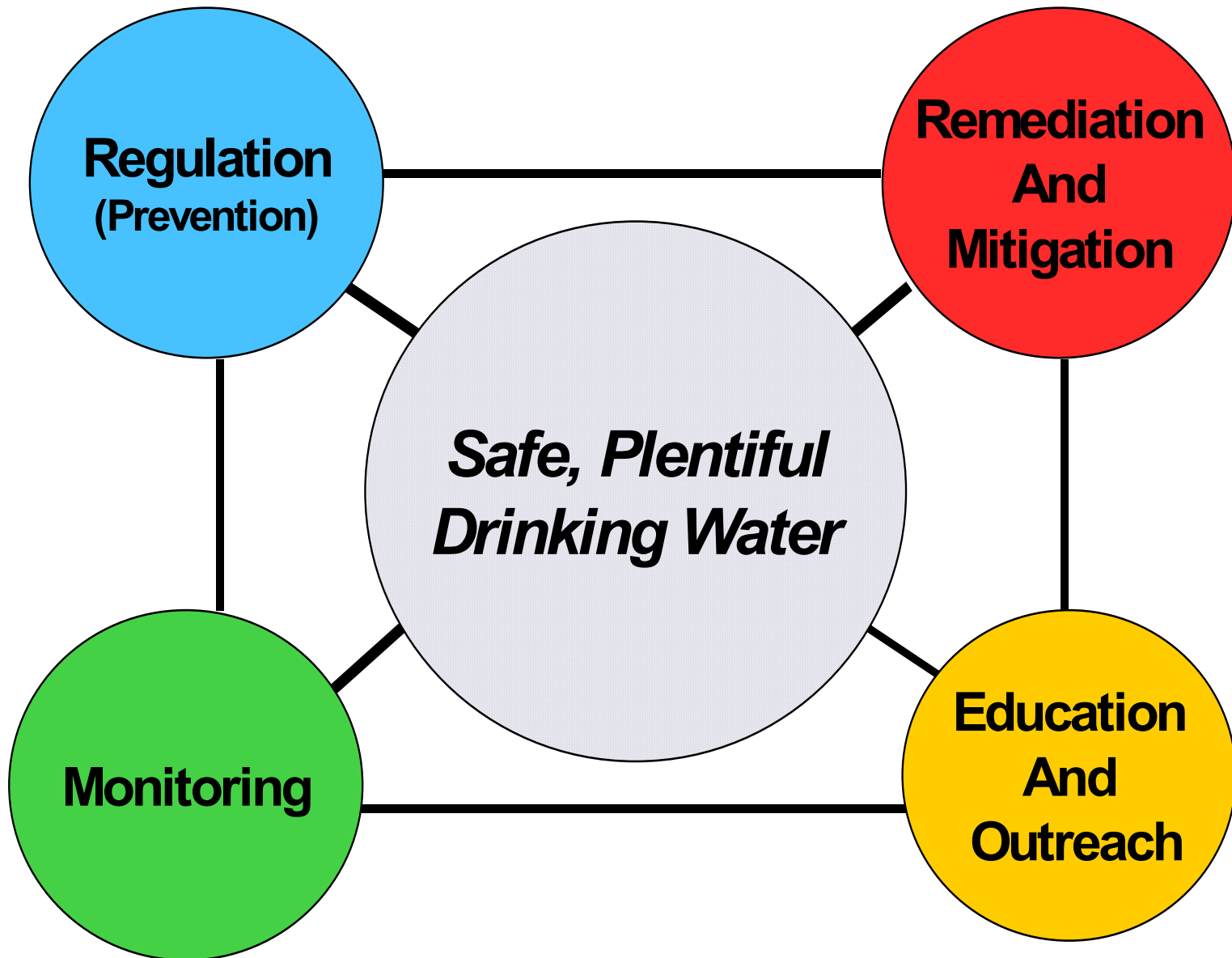
# \$\$\$

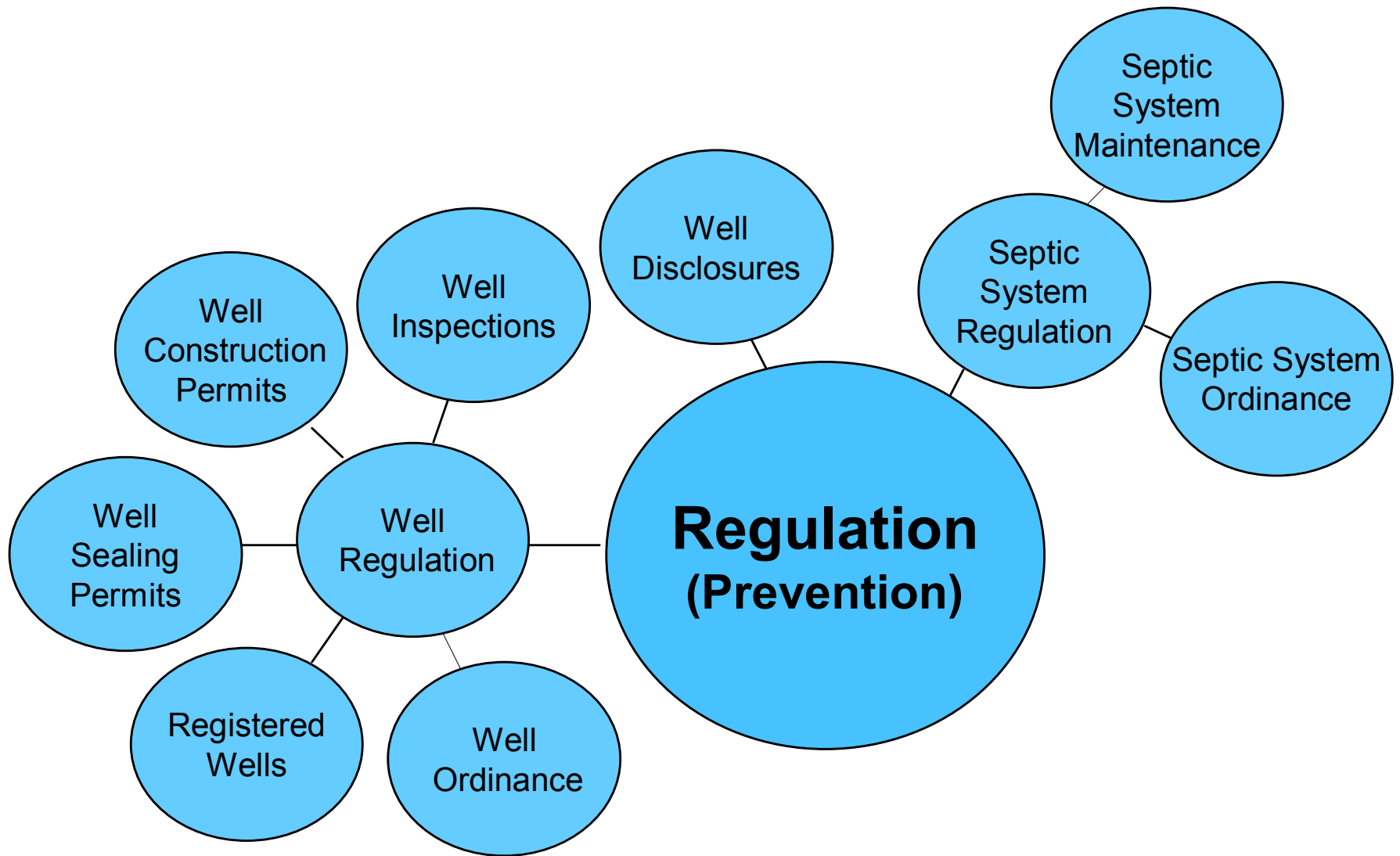
- **Environmental Fund**

- **Fees**

- **Grants**

# Groundwater Program Areas









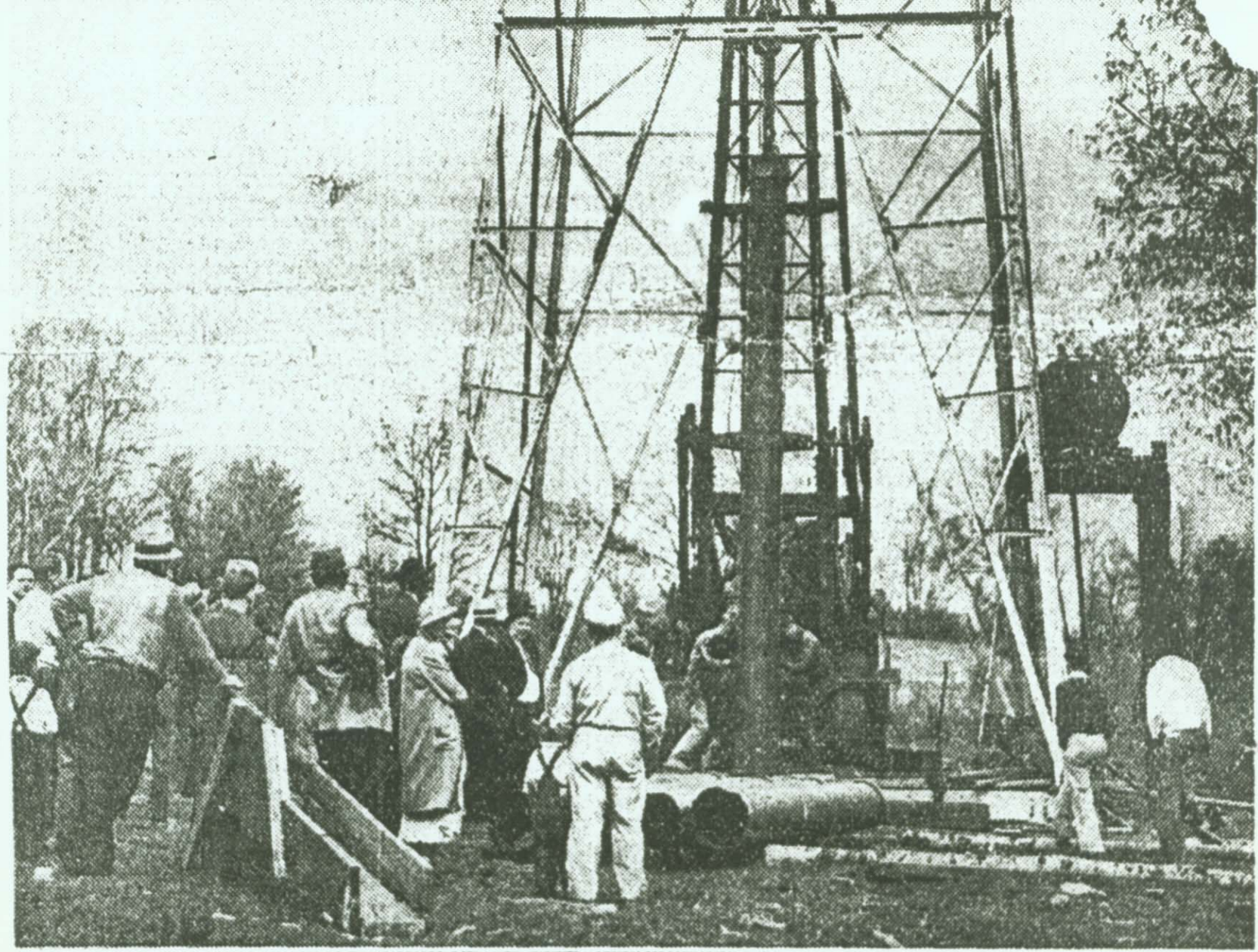




**A roll of blue carpet is not proper grout!**





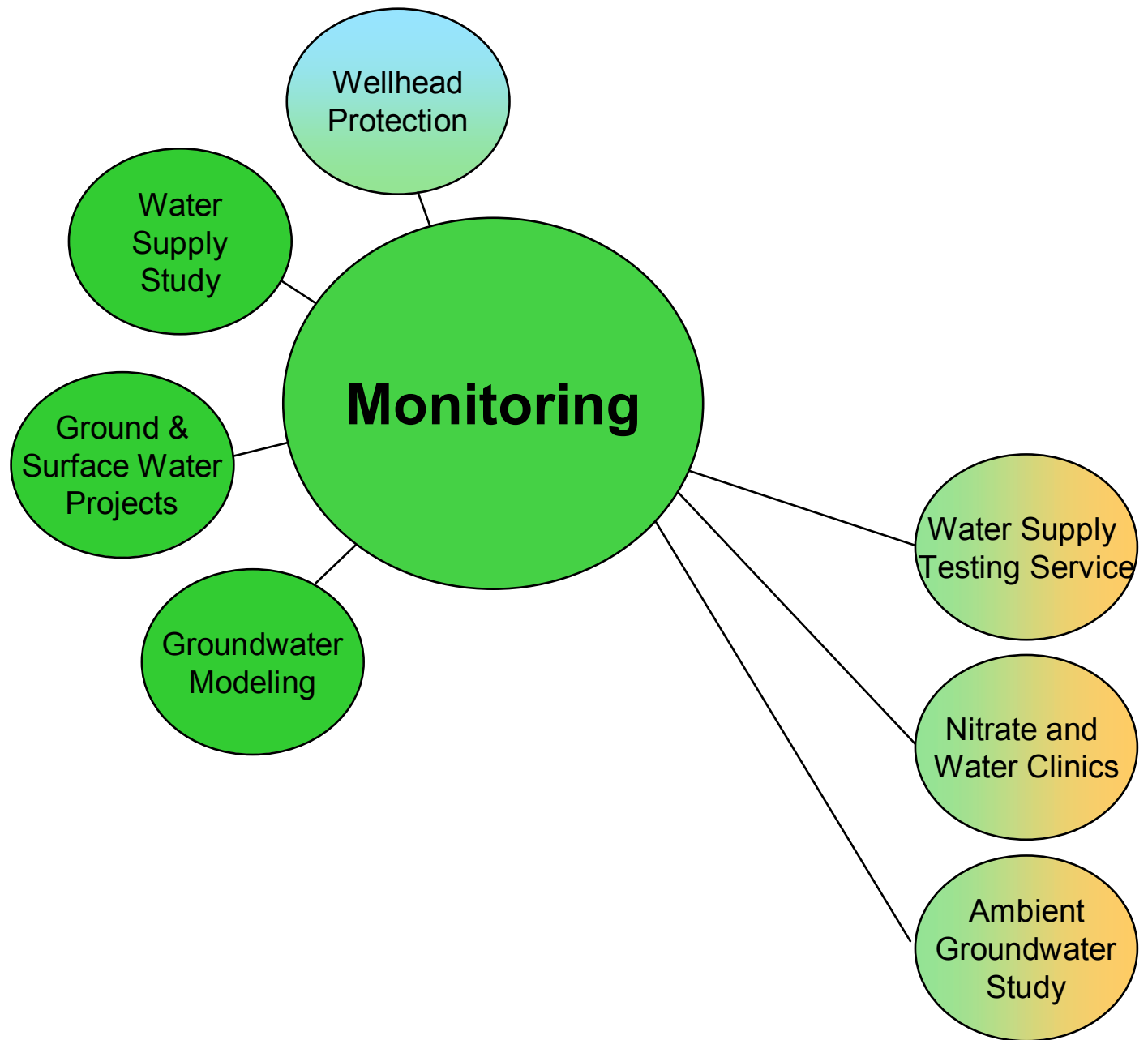


The first section of broad "drive pipe" is shown here being lowered into a well two miles northwest of Rosemount, Minn., while farmers and others watch, hoping that within two weeks oil will gush from this same pipe, spilling with its grimy substance wealth and leisure into their laps. The well will be known as Gunberg and Lund No. 1.





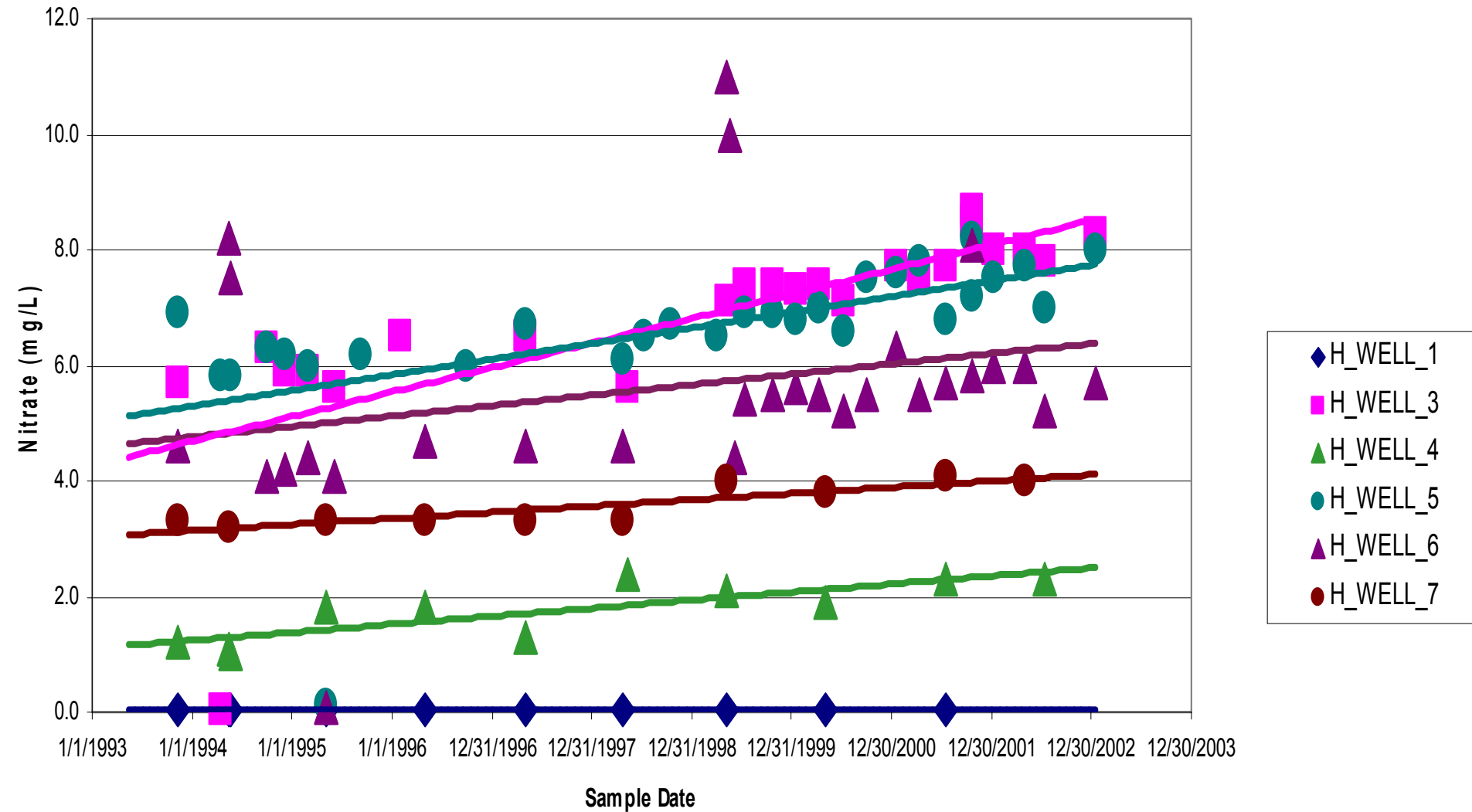








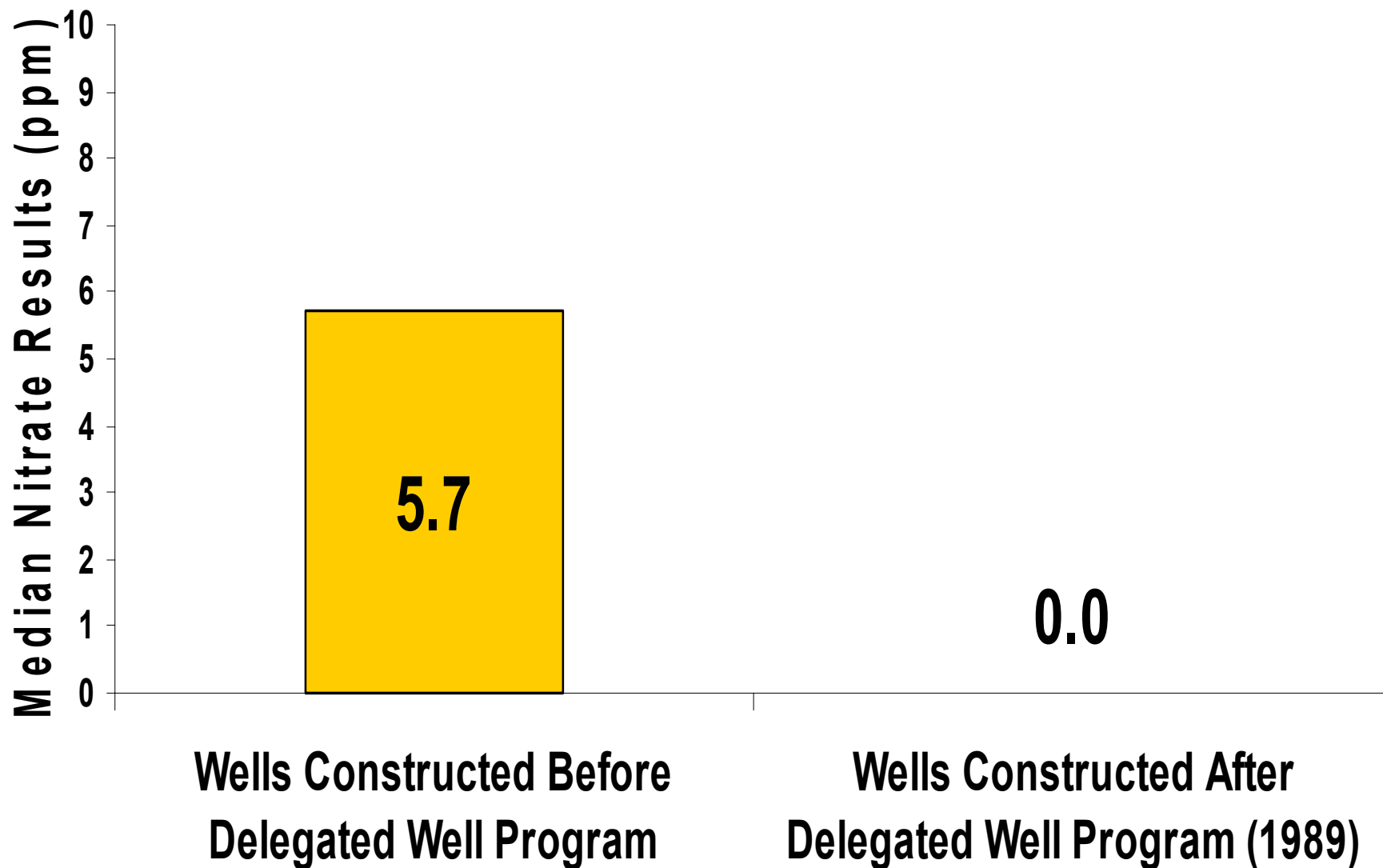
# Nitrate Levels in Hastings' Municipal Wells



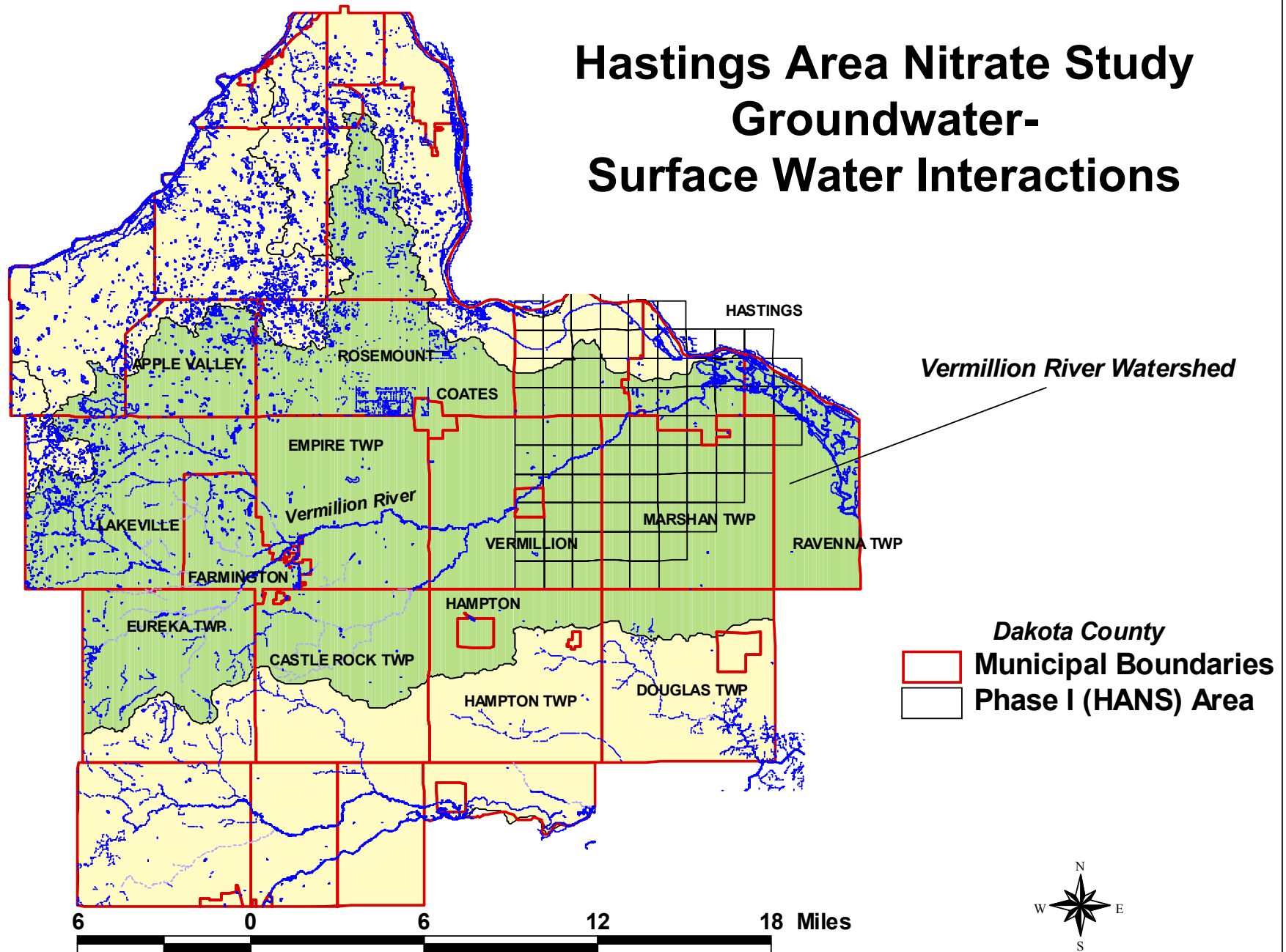
# Hastings Area Nitrate Study

## Nitrate Levels in Private Drinking Water Wells

n = 146



# Hastings Area Nitrate Study Groundwater- Surface Water Interactions





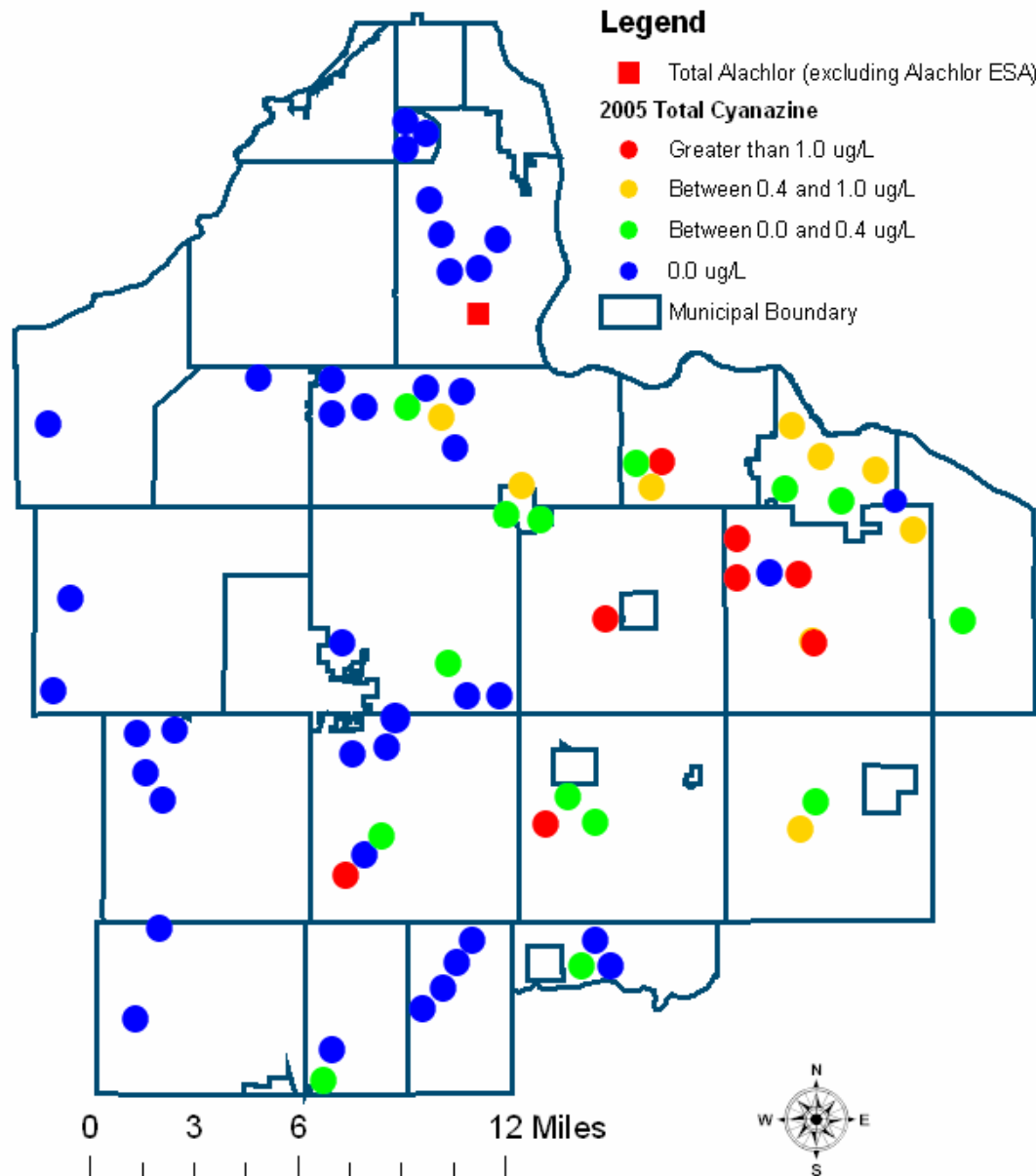


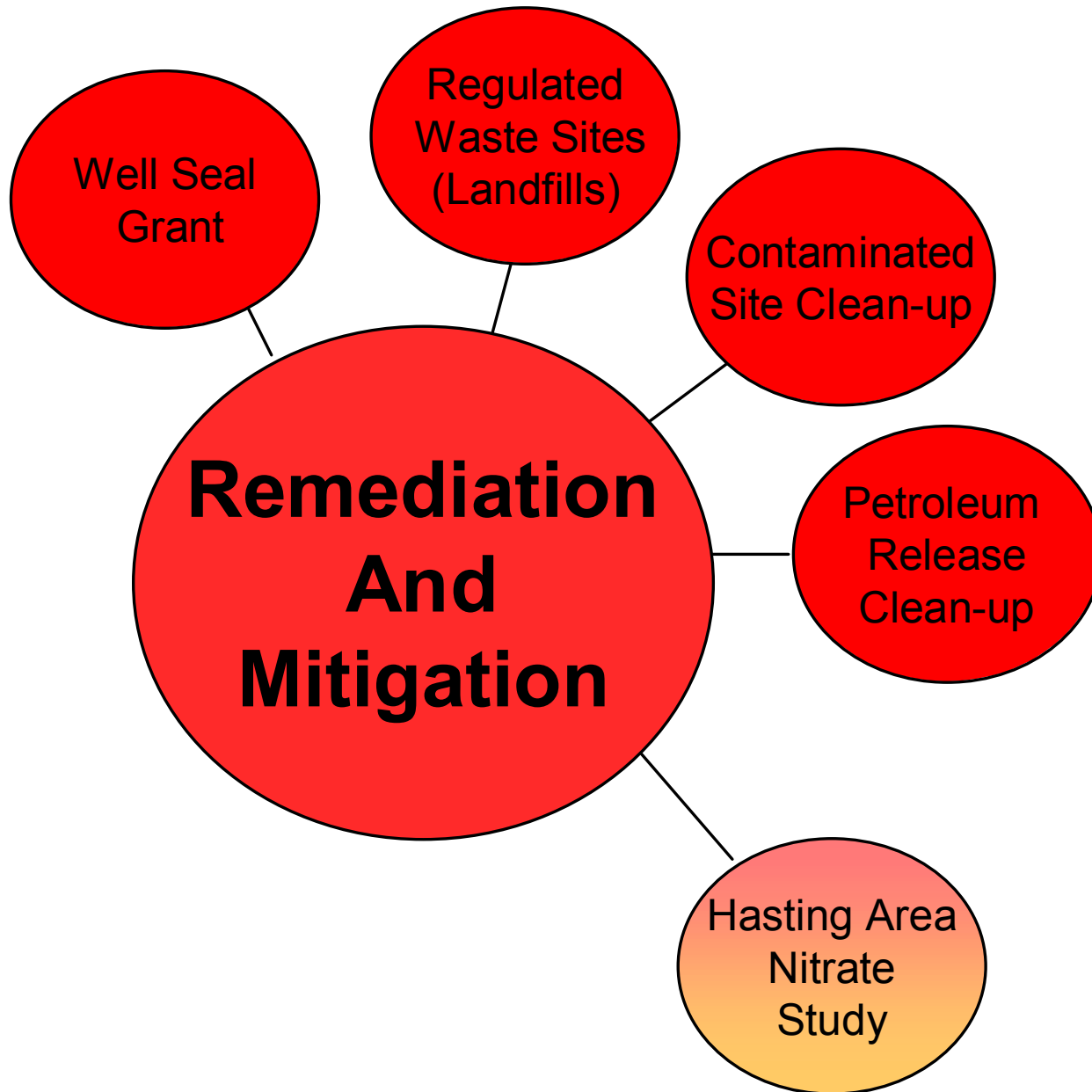


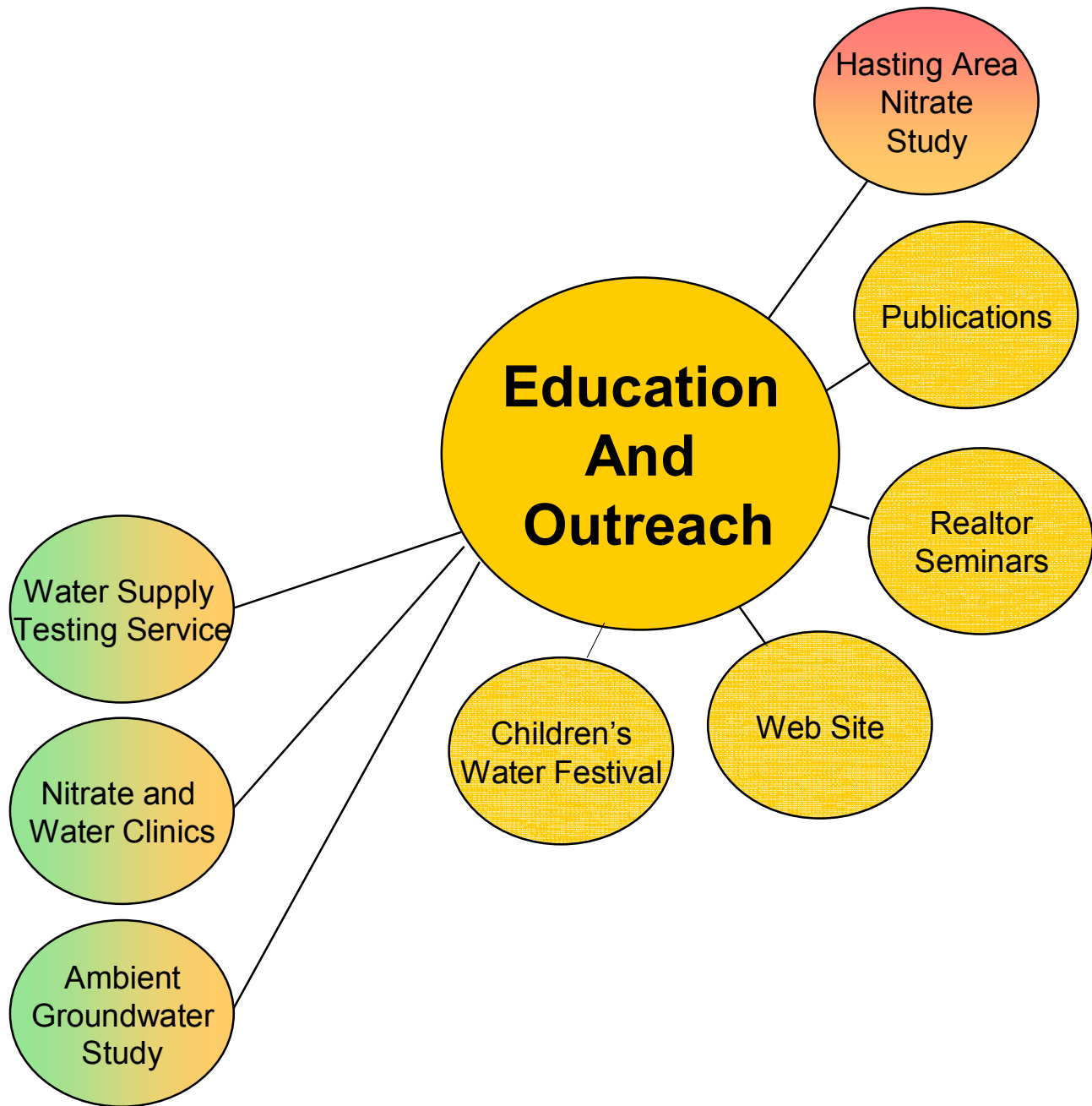
# Ambient Groundwater Quality Study

## Cyanazine Compound Detections 2005

### Alachlor Exceedence













# Clinic offers chance to test water quality

Ravenna Township meeting helps people test their water

By Keith Grauman

The Gazette staff writer

For those who get their drinking water from the city, the possibility of it containing impurities is something rarely thought about. But for the

8,000 people in Dakota County who have private wells, the safety of their drinking water is something they can't ignore.

Last week Dakota County held a "nitrate clinic" in the Ravenna Town Hall, allowing residents to bring in samples of water from their private wells to have it tested for nitrates.

Nitrates are a naturally occurring chemical found in air, water and soil. However, nitrates from fertilizers and

run-off from animal waste or septic systems can seep into the ground water and cause harmful levels of the chemical.

The eastern part of Dakota County is more susceptible to ground water contamination because the soil is more sandy and porous, making it easier for contaminants to make their way into the ground water.

Every year since 1999, Dakota County has conducted its own tests of private wells

and the results have raised concerns about different chemicals found in people's drinking water. Among the items tested for include nitrates, agricultural pesticides and arsenic.

Of the 68 private wells tested in 2005 by Dakota County, 18 percent of them had concentrations of nitrates that exceeded the safe drinking

Turn to Water / 2A



**Olaniyi Oyeboade** tests a water sample during a nitrate clinic last week in Ravenna Township.

Keith Grauman /  
Star Gazette

## Water From 1A

### Officials test water for nitrates

water standard of 10 milligrams per liter.

Attendees of the clinic could get the nitrate test done for free. Home kits, which test for a wider range of contaminants, were available for \$50.

With a line nearly out the door, local residents waited to have their water tested by a machine called a spectrophotometer, which tests for nitrate levels by shining a light at the water samples and reading how the light is reflected.

Of the 203 samples tested for nitrates at the clinic, the high was 39, which is nearly four times the safe drinking water standard. Jeff Luethers, a Dakota County Water Resources Specialist, said in that case they recommend installing a reverse osmosis device to filter drinking water.

Matt Storm, who lives in

Vermillion Township, was pleased to find out his nitrate level was 0.0. He lives on a farm, but doesn't do any actual farming, so he wasn't very worried to begin with. He also boasted that his 300-foot well has a reinforced concrete wall. Smiling, he pointed at the "0.0" written on the sheet of paper given to him from the test and said simply, "I like that."

Brenda McGrath, who lives off of 280th Street in Ravenna, walked away with a reading of 2.8, which she was happy about as well.

High levels of nitrates have been known to cause a condition among infants younger than six months called "blue baby syndrome," which impairs the ability of the blood to carry oxygen. Prolonged ingestion can also cause more serious illnesses or even death.





July 2006

# Nitrate and Pesticides in Private Drinking Water Wells in Dakota County

## Inside:

What testing has Dakota County done? What has been found?	2
What is nitrate?	2
What health risks are associated with elevated nitrate levels?	3
What are pesticides?	3
What can you do to ensure that your family has safe drinking water?	4
What can you tell about your own well water?	6

This information is applicable to private well owners in Dakota County:

- A long-term study detected contaminants presenting potential health risks in private drinking water wells
- Reverse-osmosis treatment can remove this contamination
- Test your water for coliform bacteria each year; test for nitrate every two or three years

## A message from

The Dakota County Board of Commissioners  
to the owners of private drinking water wells:

Dakota County staff has been conducting a long-term study of ground-water and private wells. The results raise concerns about contamination found in some residential wells that we think you should know about.

The information in this brochure, and on our website, is to inform private well owners that contaminants with potential health risks have been detected in some private drinking water wells in Dakota County. Treatment systems, available commercially, **can** remove the types of contaminants found.

City water supplies are regularly tested for many contaminants, but private well testing is the responsibility of the well owner. If your drinking water is provided by the city, this brochure may not directly apply to you.

We are sending this letter to all 8,000 private well owners in Dakota County because we are committed to ensuring safe, healthy citizens and a quality physical environment.

Go to [www.co.dakota.mn.us/envirom/water.htm](http://www.co.dakota.mn.us/envirom/water.htm) or call 952-891-7557 if you have questions about your drinking water or would like to request a water test kit. A small fee is charged for the water test.



If you use private well water in your home or business, ensure that your family and employees are drinking safe water by:

- Testing your water for coliform bacteria each year, and for nitrate every two to three years
- Installing and maintaining a point-of-use water treatment system if necessary
- Protecting your well from contamination.

# Dakota County

## Groundwater Quality Areas of Concern

### June 2006

HIGH CONCERN

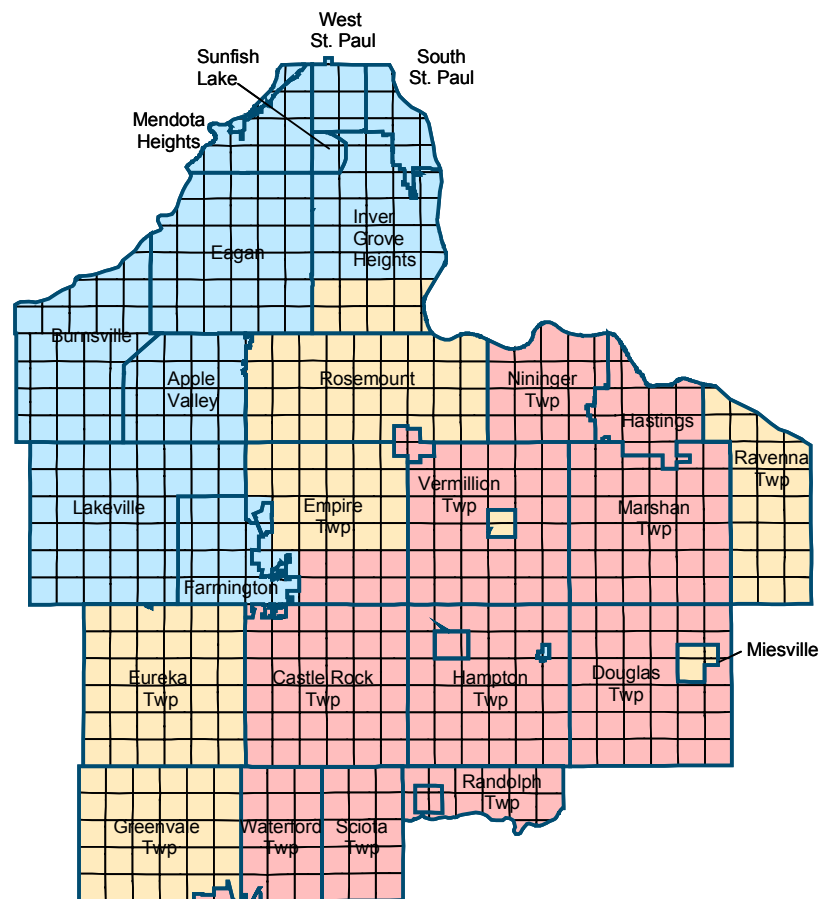
MODERATE CONCERN

LOW CONCERN

HIGH: Most residential wells tested have detectable contamination. A significant number exceed drinking water standards.

MODERATE: Many residential wells tested have detectable contamination. Few exceed drinking water standards.

LOW: Most residential wells tested do not have detectable contamination. Very few exceed drinking water standards

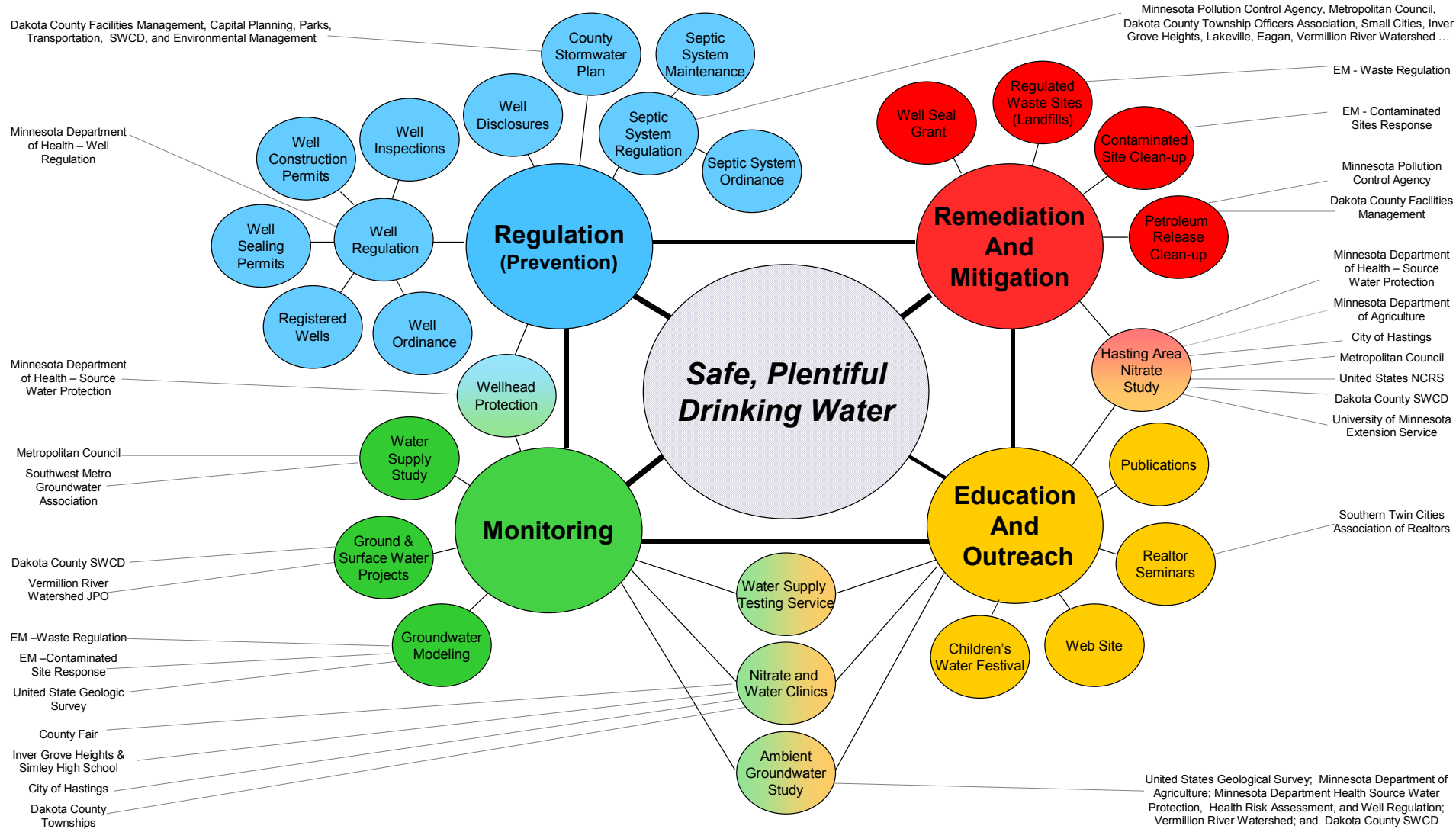


Disclaimer: This map represents general groundwater conditions as found in private, residential wells. Results for individual wells will vary.



# Dakota County Water Resources

## Groundwater Management Summary



## **Contact Information:**

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Office of Water Resources  
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952-891-7019**