



Lasting Effects of the Hastings Area Nitrate Study

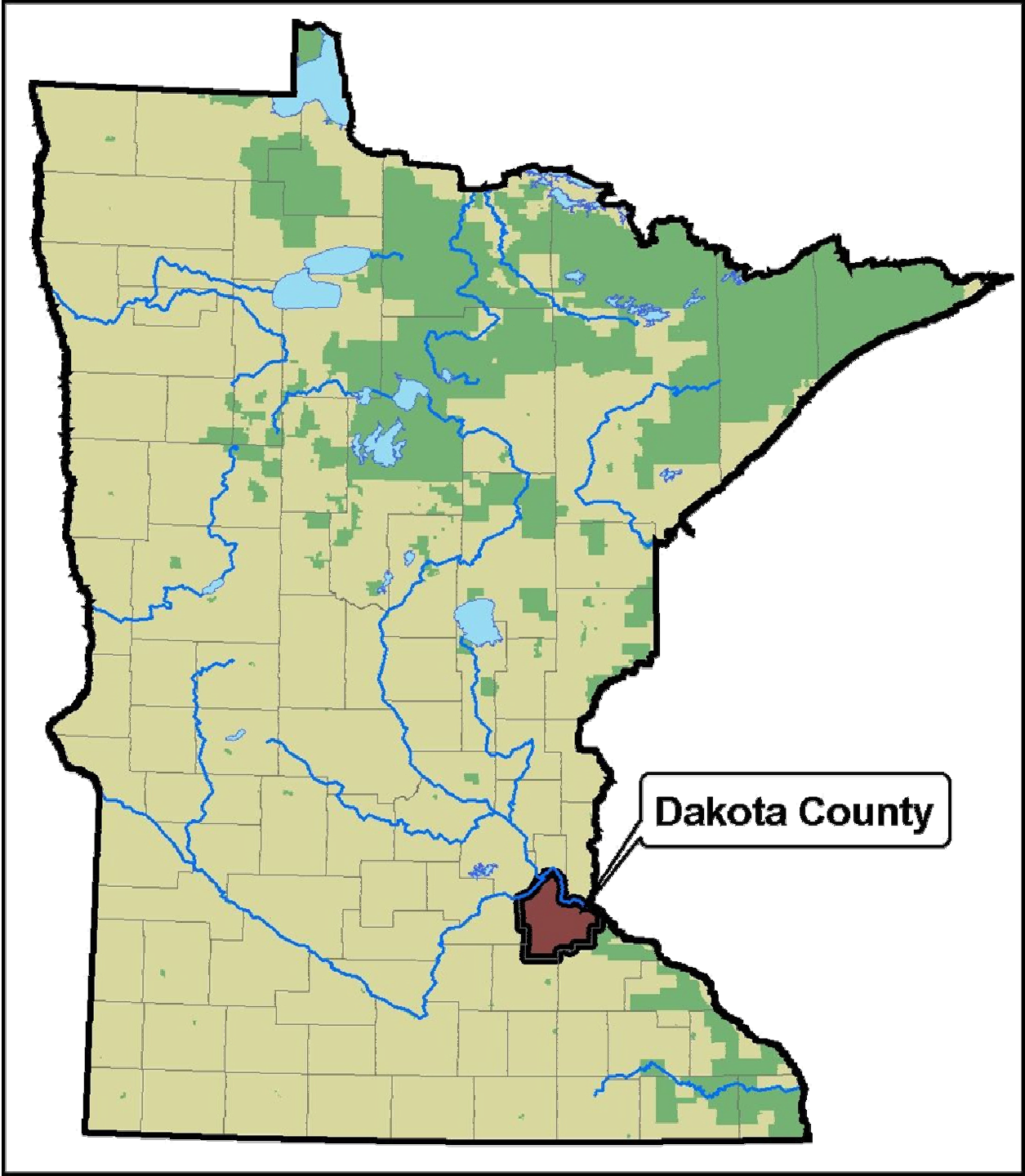
**Minnesota Groundwater
Association Fall Meeting**

November 13, 2007

Jill V. Trescott

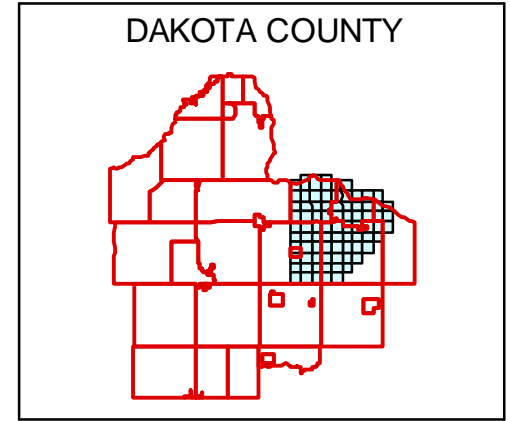
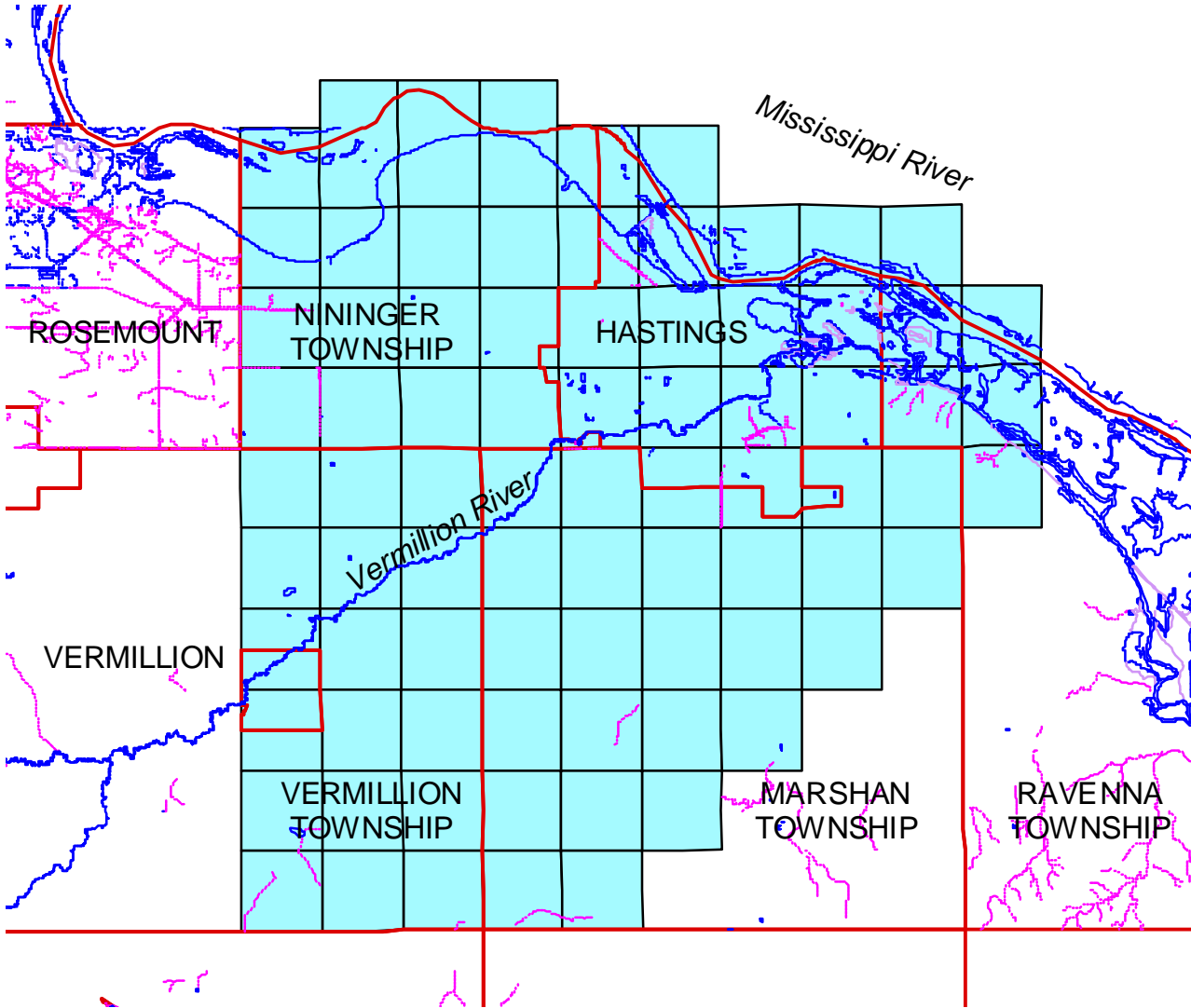
Lasting Effects of the Hastings Area Nitrate Study

- **Nitrate Results**
- **Pesticides and the relationship
between nitrate and pesticides**
- **Caffeine results**
- **Groundwater/Surface Water
Interactions**
- **Cooperative relationships with other
agencies**



Dakota County

Hastings Nitrate Study Area



-  Municipal Boundaries
-  Study Area, Showing Section Lines

Dakota
COUNTY



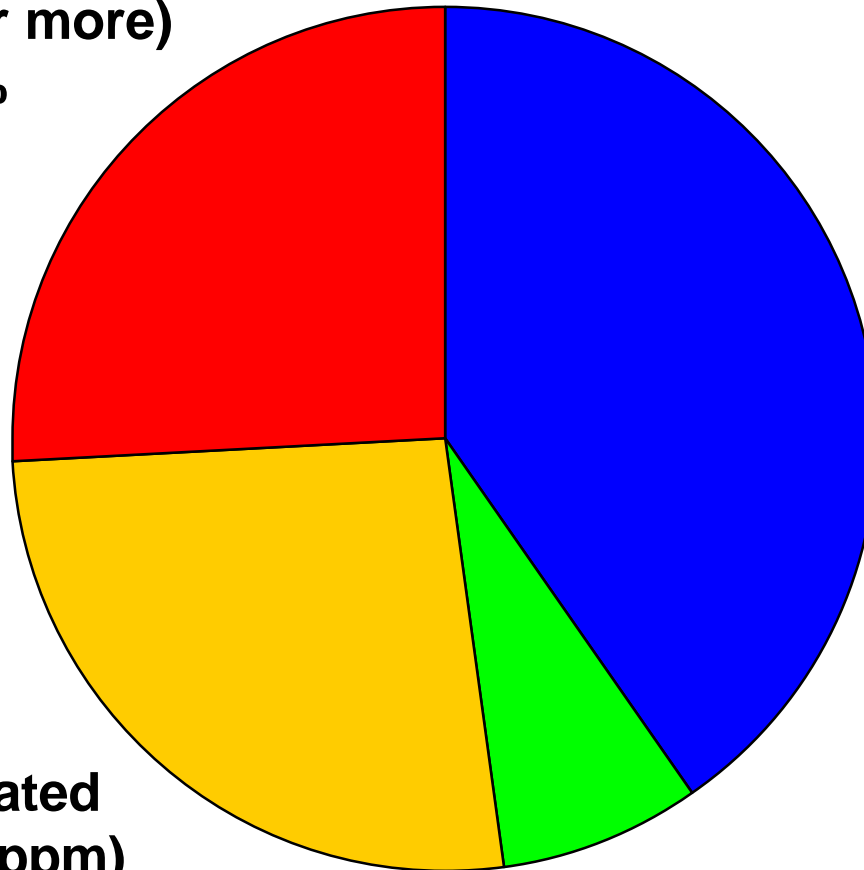
HANS I: Private Drinking Water Wells Nitrate Results (146 Wells)

**Exceeds Drinking Water Standard
(10 ppm or more)
26%**

**Background
(0-1 ppm)
41%**

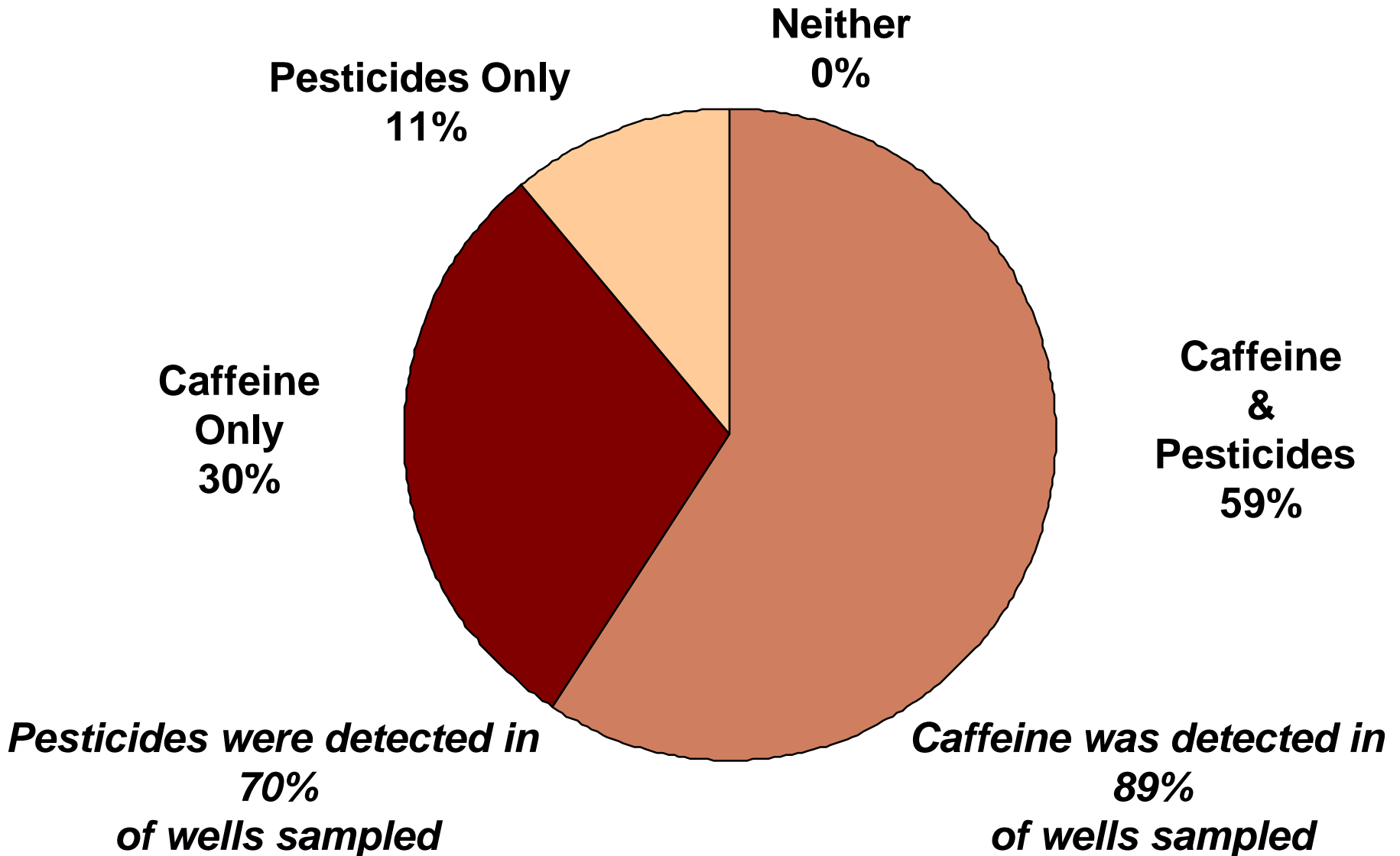
**Elevated
(3-10 ppm)
26%**

**Showing Human Impact
(1-3 ppm)
7%**



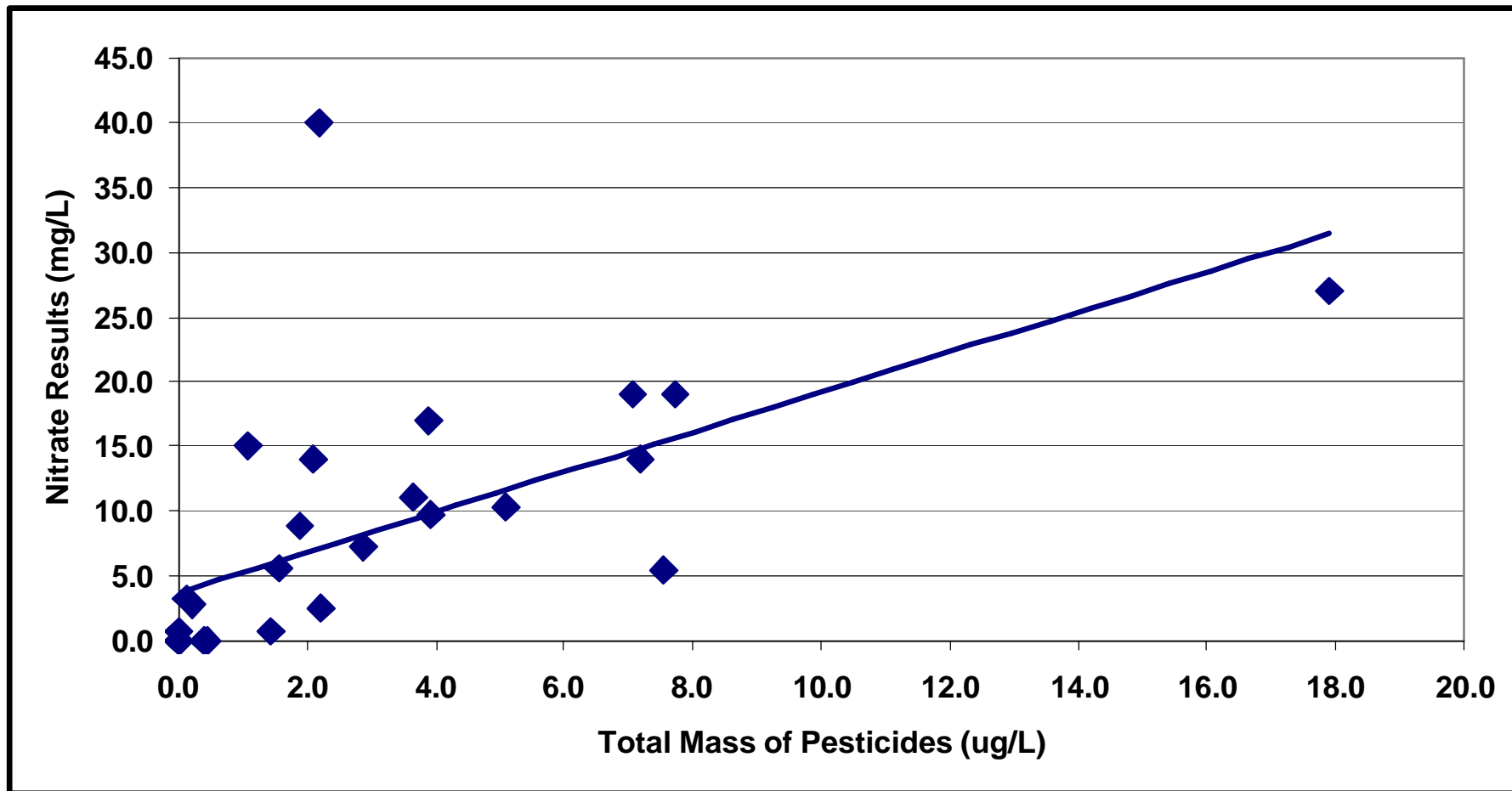
HANS I: Private Drinking Water Wells

Detection of Caffeine and Pesticide Tracers (30 Wells)



HANS I: Private Drinking Water Wells

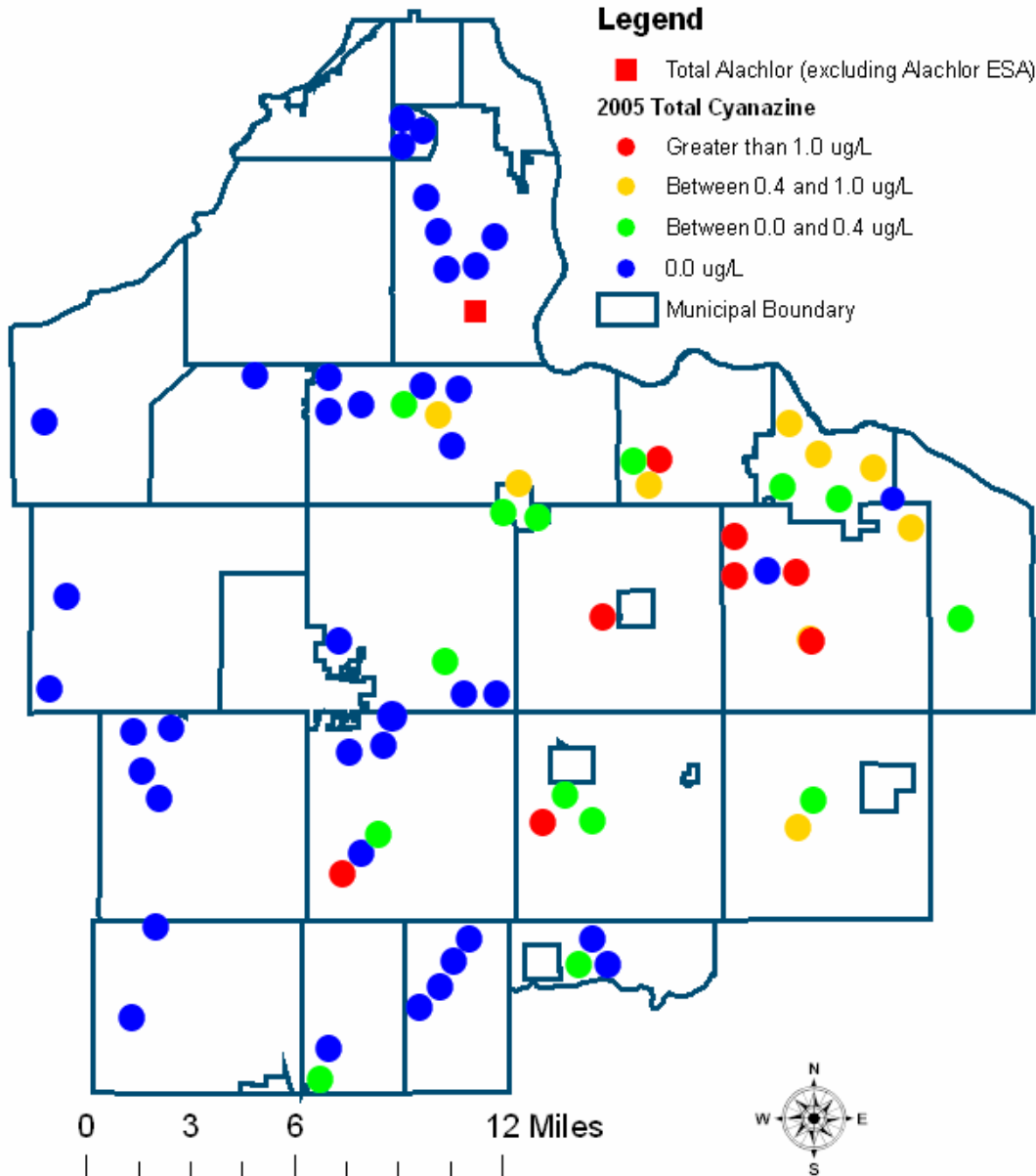
Correlation of Nitrate and Total Pesticides (30 Wells)

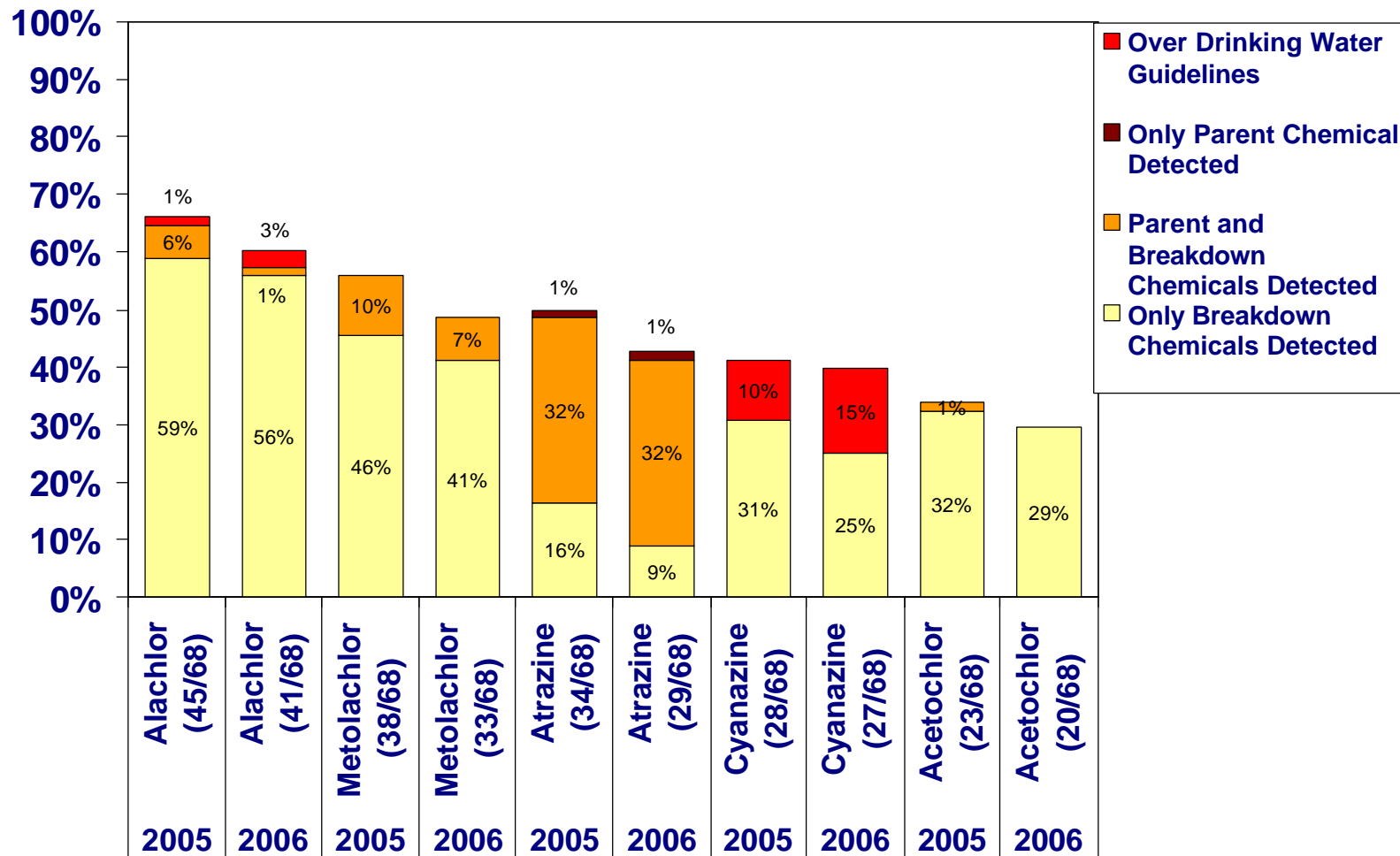


Ambient Groundwater Quality Study

Cyanazine Compound Detections 2005

Alachlor Exceedence





**AGQS Pesticide Results (Private Wells)
2005-2006**

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 groundwater 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.

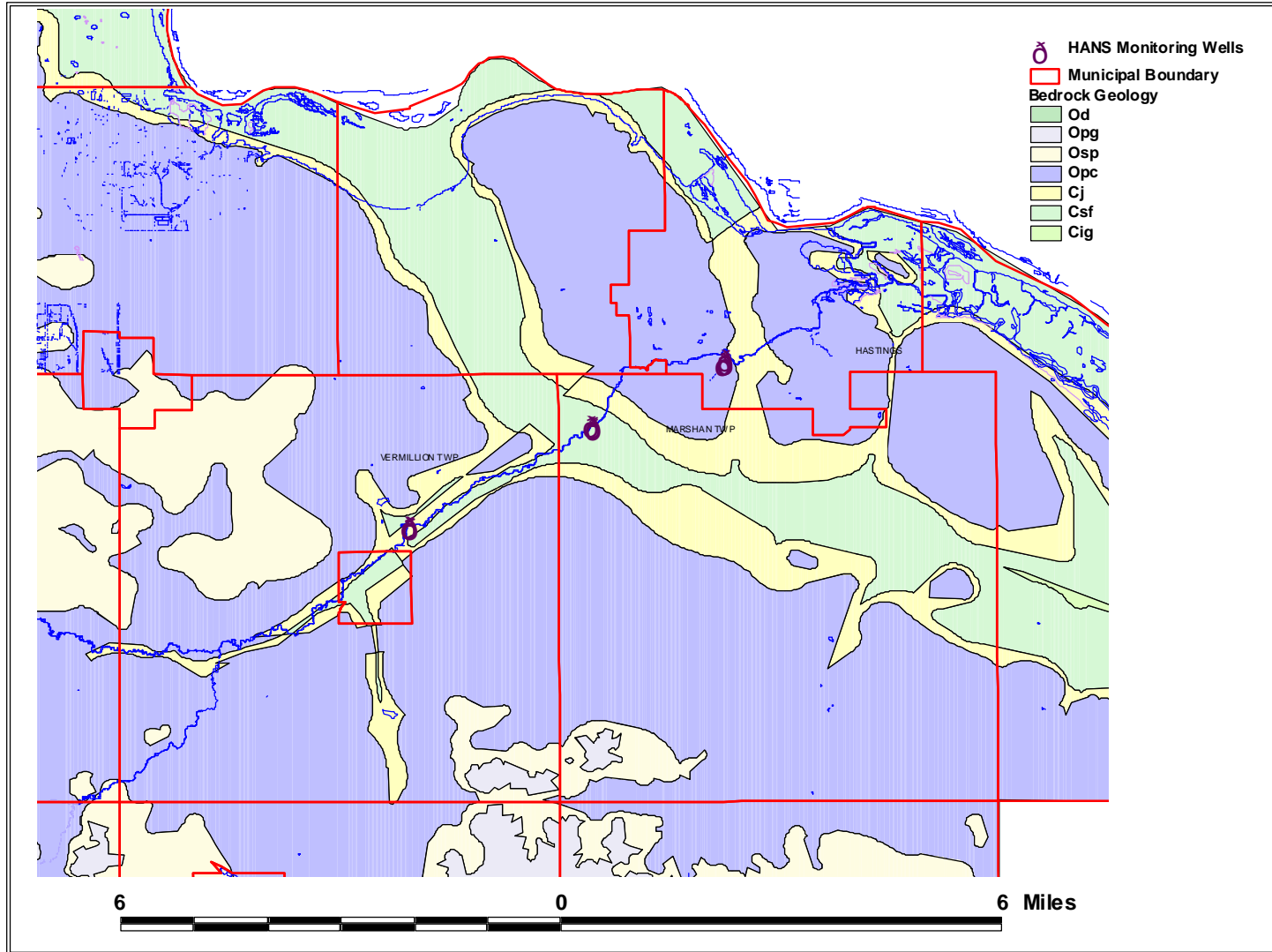
Go to www.co.dakota.mn.us/environ/water.htm or call 952-891-7557 if you have questions about your drinking water or would like to request a water test kit. A small fee is charged for the water test.



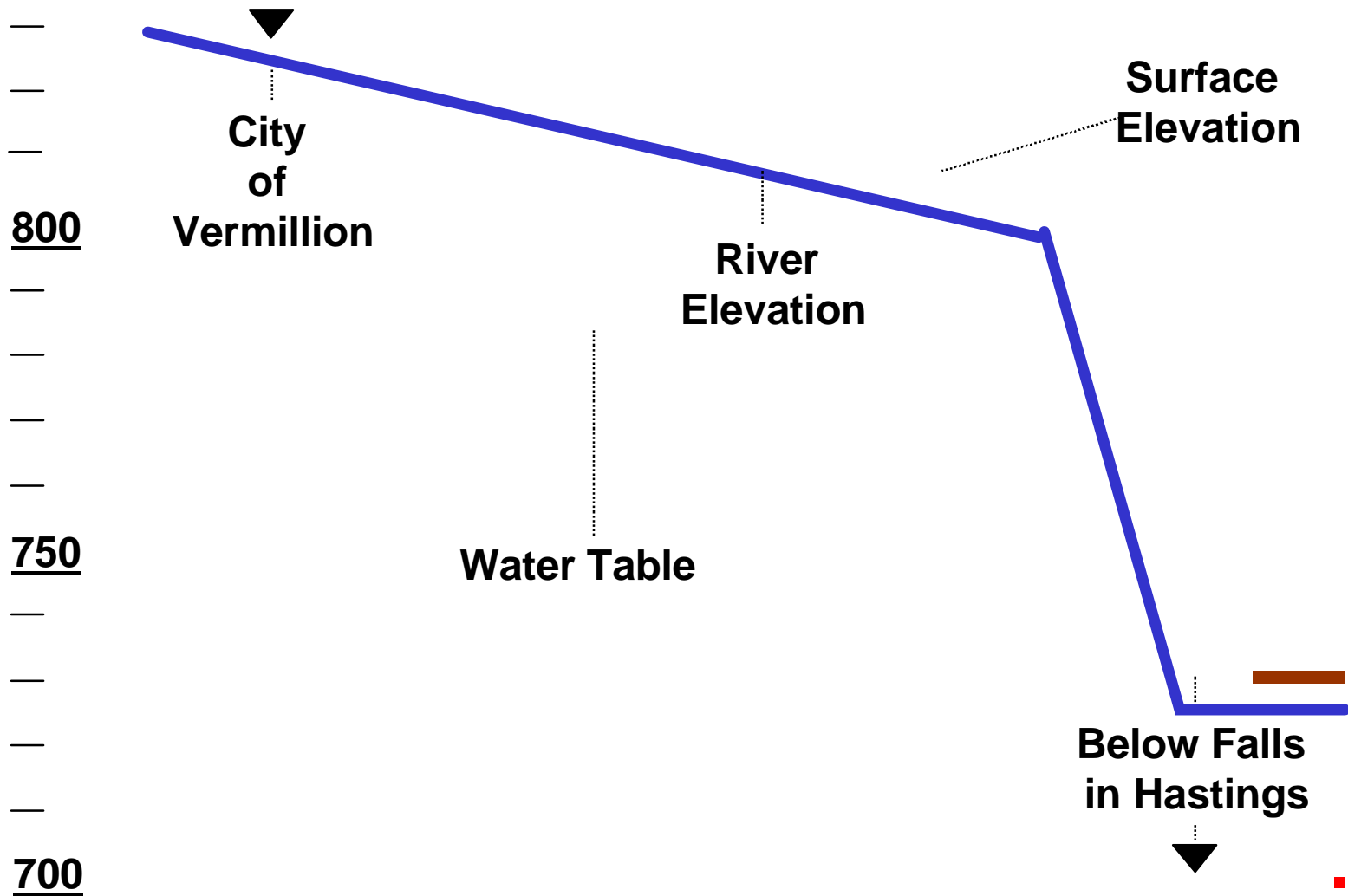
If you use private well water in your home or business, ensure that your family and employees are drinking safe water by:

- 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.

Vermillion River Monitoring Wells and Bedrock Geology

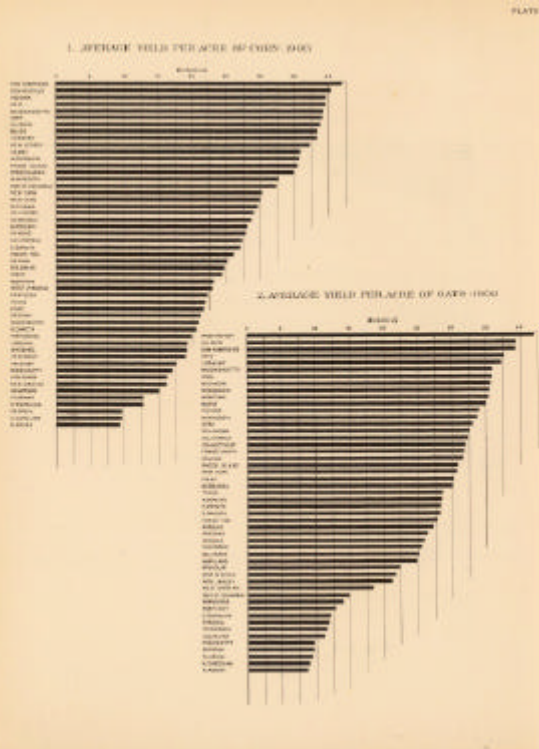


Groundwater/Surface Water Changes Between Vermillion and Hastings









Nitrogen Application Rate (Lbs. N/Acre)	Average Yield (Bu./Acre)
0	163
60	206
150	239
210	241



For more information:

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