

Thoughts on the Integrated Watershed Study

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Outline

- What's changed?
- What's happened since 2004?
- Issues

Minnesota River Basin

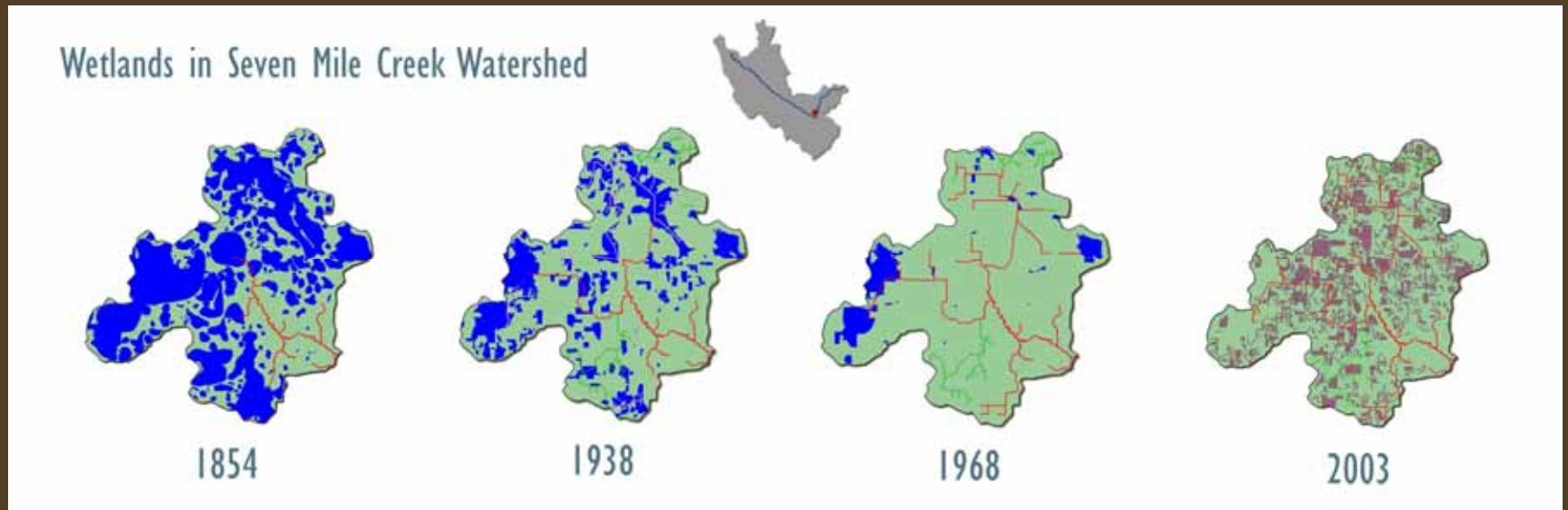


Minnesota River Basin Trends Report



Broad overview of trends related to the state of the Minnesota River

Landscape Conversion

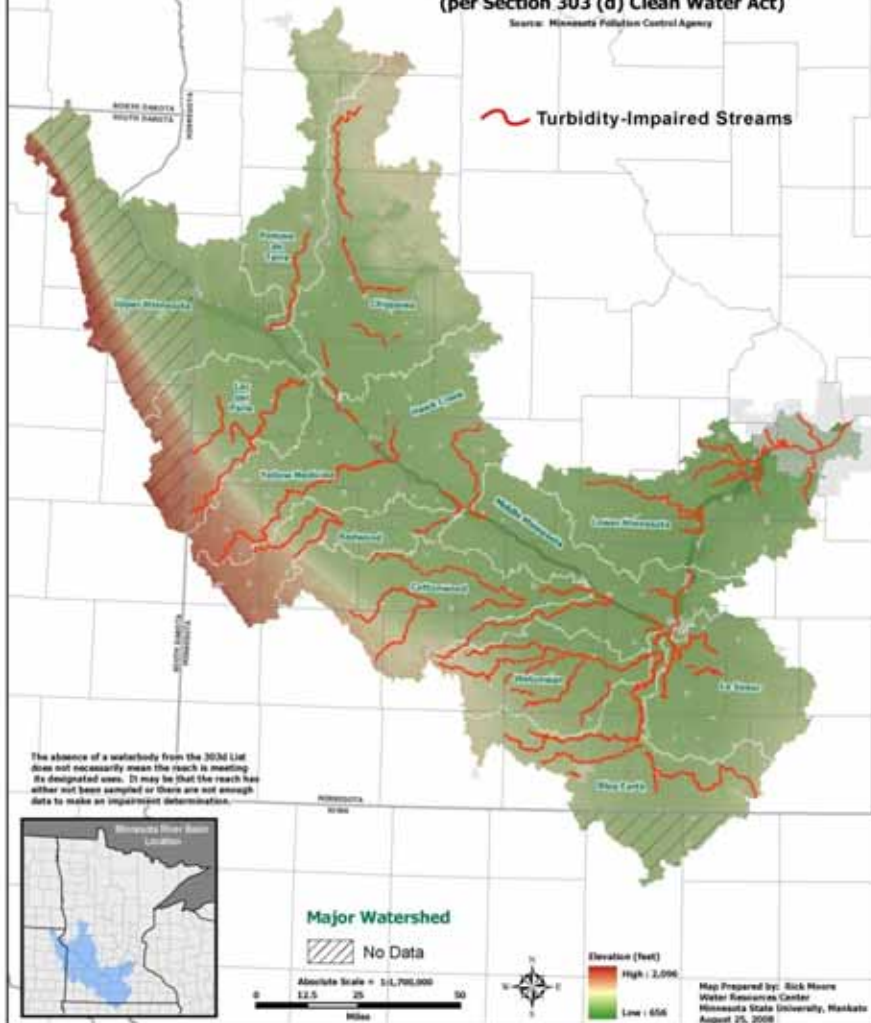


The Minnesota River Today

Minnesota River Basin Turbidity-Impaired Streams

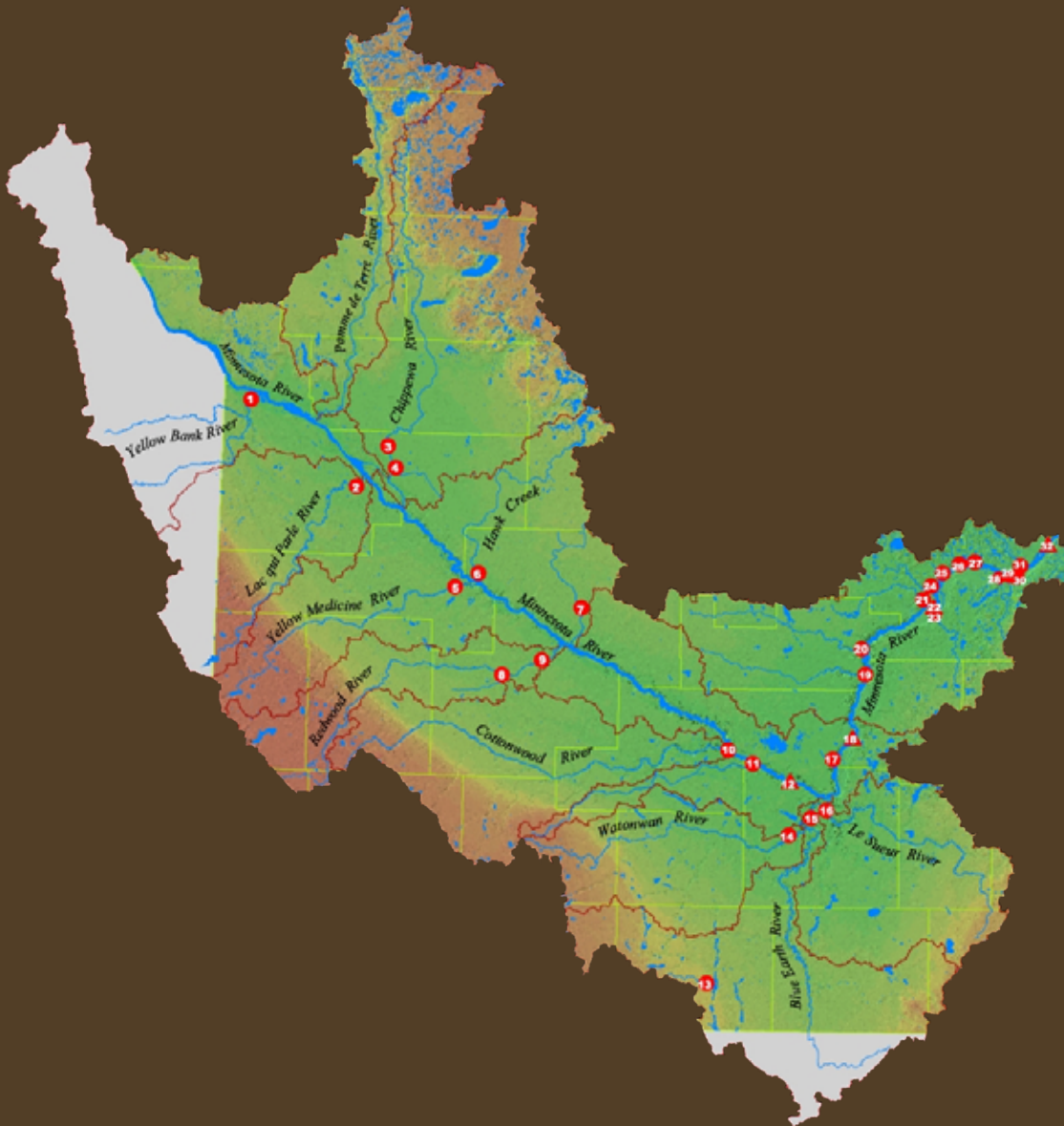
2008 Impaired Waters Requiring a TMDL
(per Section 303 (d) Clean Water Act)

Source: Minnesota Pollution Control Agency



In 2008, American Rivers listed the Minnesota River as the 5th most endangered river in the nation due to the threat of increased water usage and mercury emissions

Water Quality Monitoring Sites



Water Quality Trends

Total Suspended Solids ~ decreasing

Total Phosphorus ~ decreasing

Nitrate-N ~ no trends detected or mixed



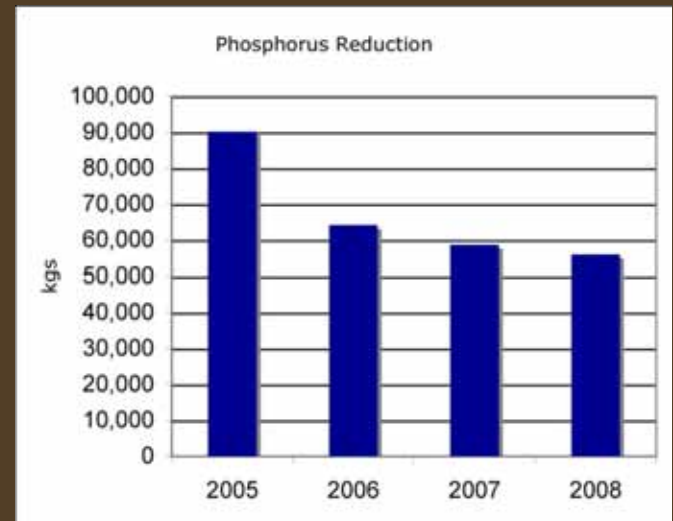
Conservation Easements



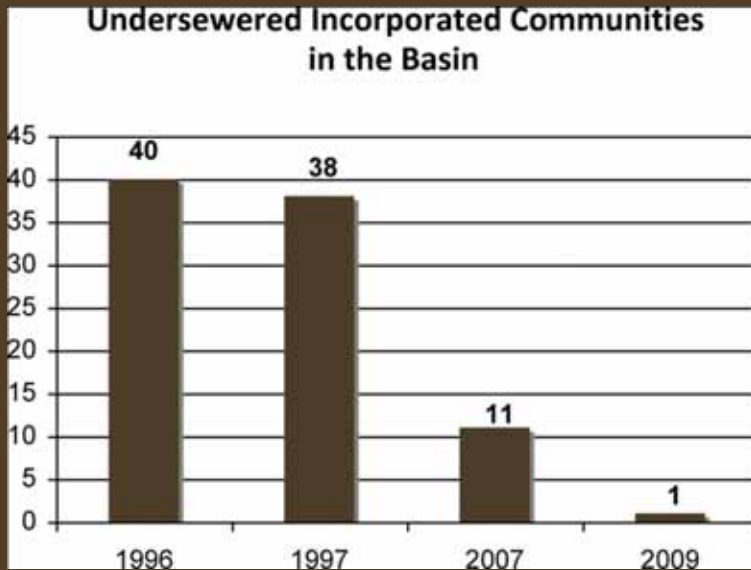
- Conservation Reserve Program (CRP)
- Reinvest in Minnesota (RIM)
- Conservation Reserve Enhancement Program (CREP)

Wastewater Treatment Plants

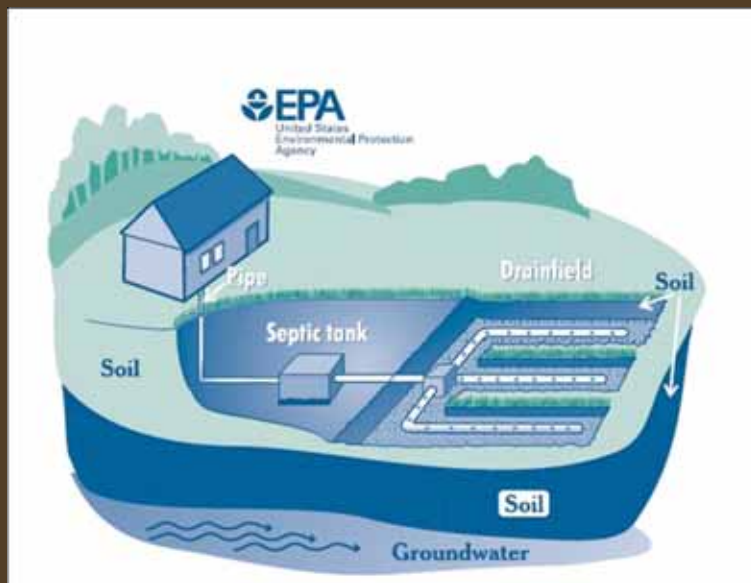
Wastewater treatment plant (WWTP) upgrades result in significant phosphorus reduction



Undersewered Communities



- Significant progress addressing undersewered incorporated communities



- Non-compliant septics still a concern



**US Army Corps
of Engineers** ®
St Paul District

MINNESOTA RIVER BASIN RECONNAISSANCE STUDY

**Section 905(b) Analysis
(WRDA of 1986)**

**Minnesota, South Dakota,
North Dakota, and Iowa**

December 2004

What's happened since 2004?

- Sediment source studies
 - Sediment fingerprinting
 - Sediment budget
 - Ravine, bank, and bluff studies
- Watershed project work
- TMDLs
- Other

What's happened since 2004?

- Full Cost Accounting study - Seven Mile Creek watershed and Beaver Creek - includes SWAT modeling and an economic analysis
- SWAT modeling in LeSueur
- Terrain Analysis in LeSueur

Minnesota River Issues

- Flow
- Sediment
- Nutrients
- Aquatic life

Need a better understanding of...

- Delays in system
- Ways to do better targeting
- What practices?
- How to break down land use into management forms
- Small and large scale linkages
 - Field, watershed, Minn R, L Pepin

Need a better understanding of...

- Pollutant stressors and biology
- DSS people can understand
 - Variety of decision makers
- Impact of historical, present, and future land use on pollutant transport