

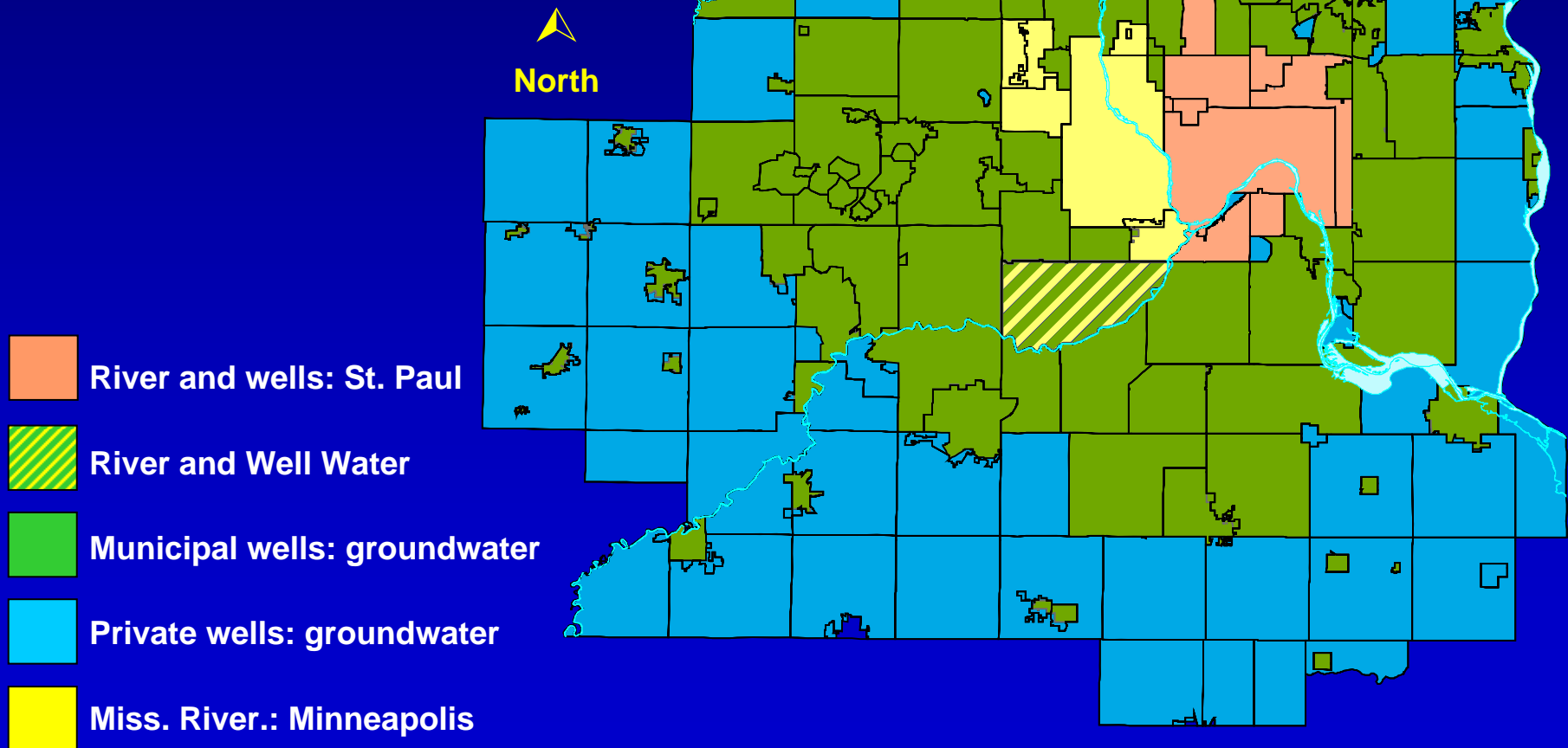
Metropolitan Area Water Supply

Presented to the
Metropolitan Area Water Supply Advisory Committee

January 26, 2006

Keith Buttleman
Assistant General Manager
Environmental Quality Assurance Department

Metropolitan Area Water Supply Sources

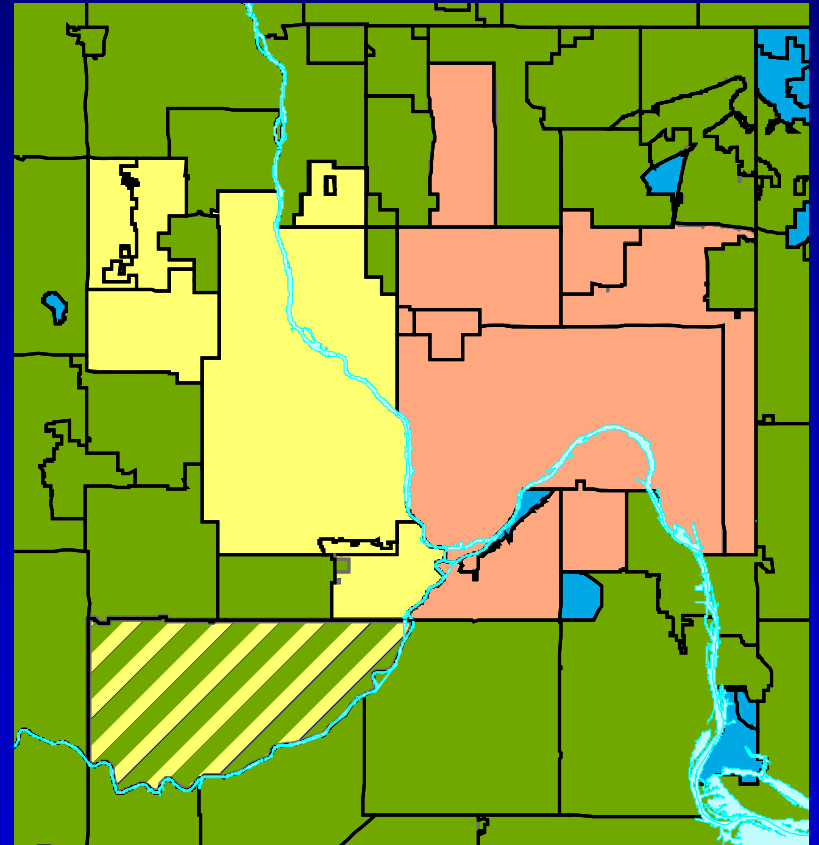


Metropolitan Area Water Supply sources



River and Well Water

-  **Mississippi River Water:
Minneapolis System**
-  **Mixed - River and Well
Water: St. Paul Regional
Water Services**
-  **Mixed – River and Well
Water: Bloomington**



870,000 population served

Metropolitan Area Water Supply sources



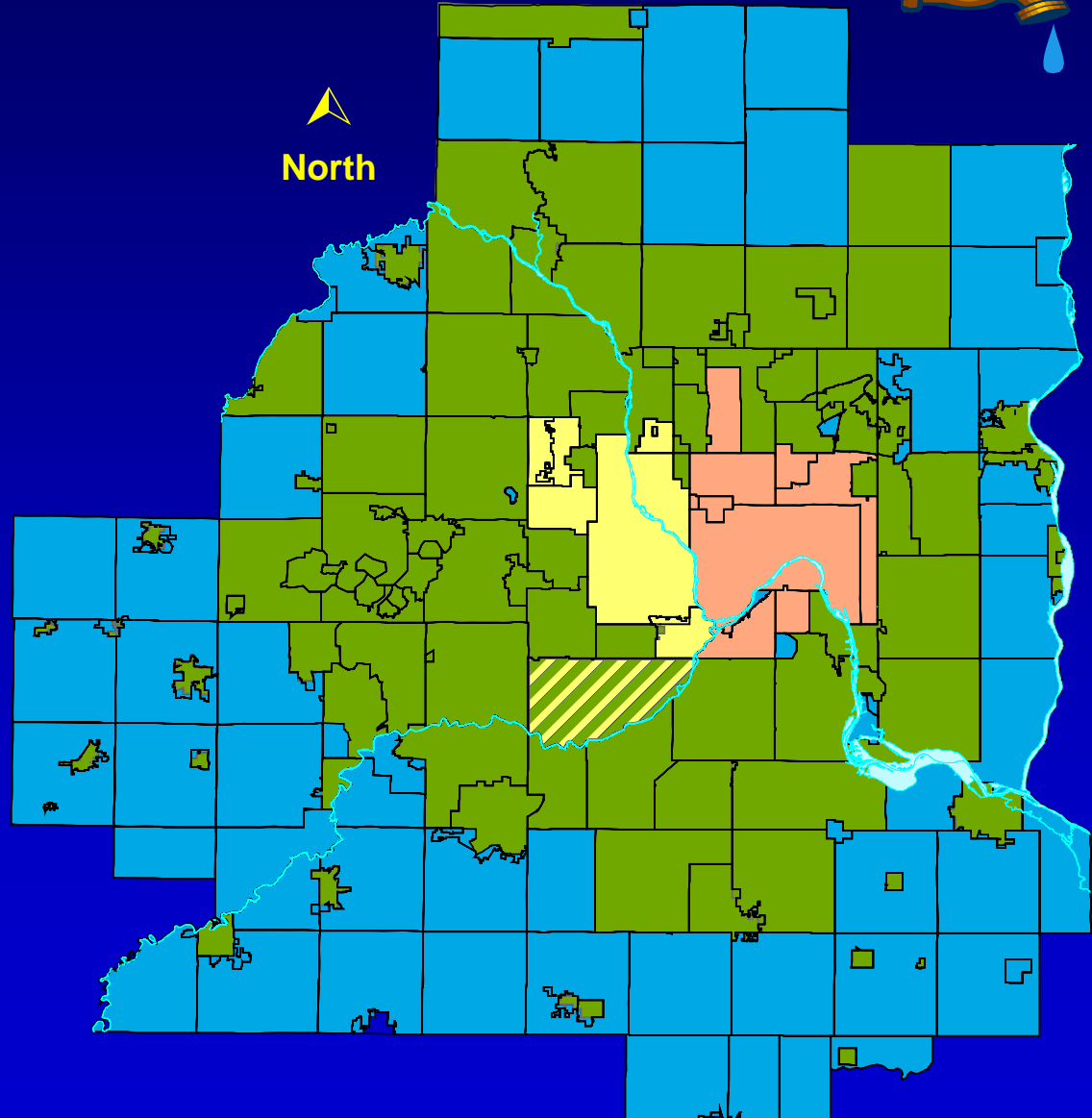
Groundwater

 **Municipal wells:
groundwater**

**1,600,000
population served**

 **Private wells:
groundwater**

**230,000
population served**



Metropolitan Area Water Use



Today

2040

1.16 bgd total

384 mgd — . . — **▶ 517** mgd
(35% increase)

- residential
- commercial
- institutional
- industrial

774 mgd — . . — **▶ ?**

- power generation
- cooling

Municipal Water System



- 2.5 million users
- 121 communities
- 106 separate systems



Metropolitan Area Water Issues



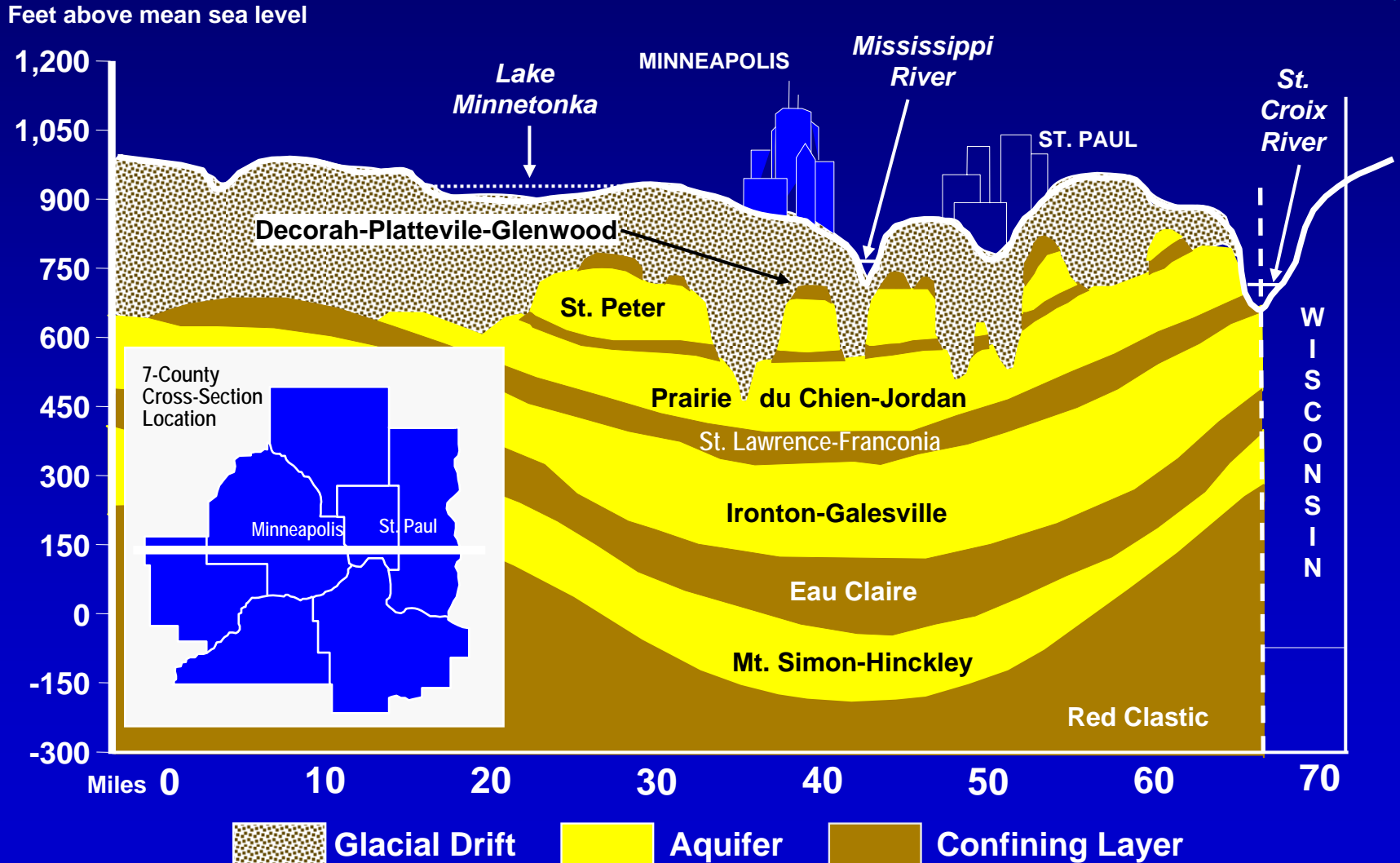
Physical Limitations

- Uneven distribution of high-yield aquifers
- Impact of withdrawals on surface and groundwater
- Potential for contamination
- Increased impervious surface
- Drought

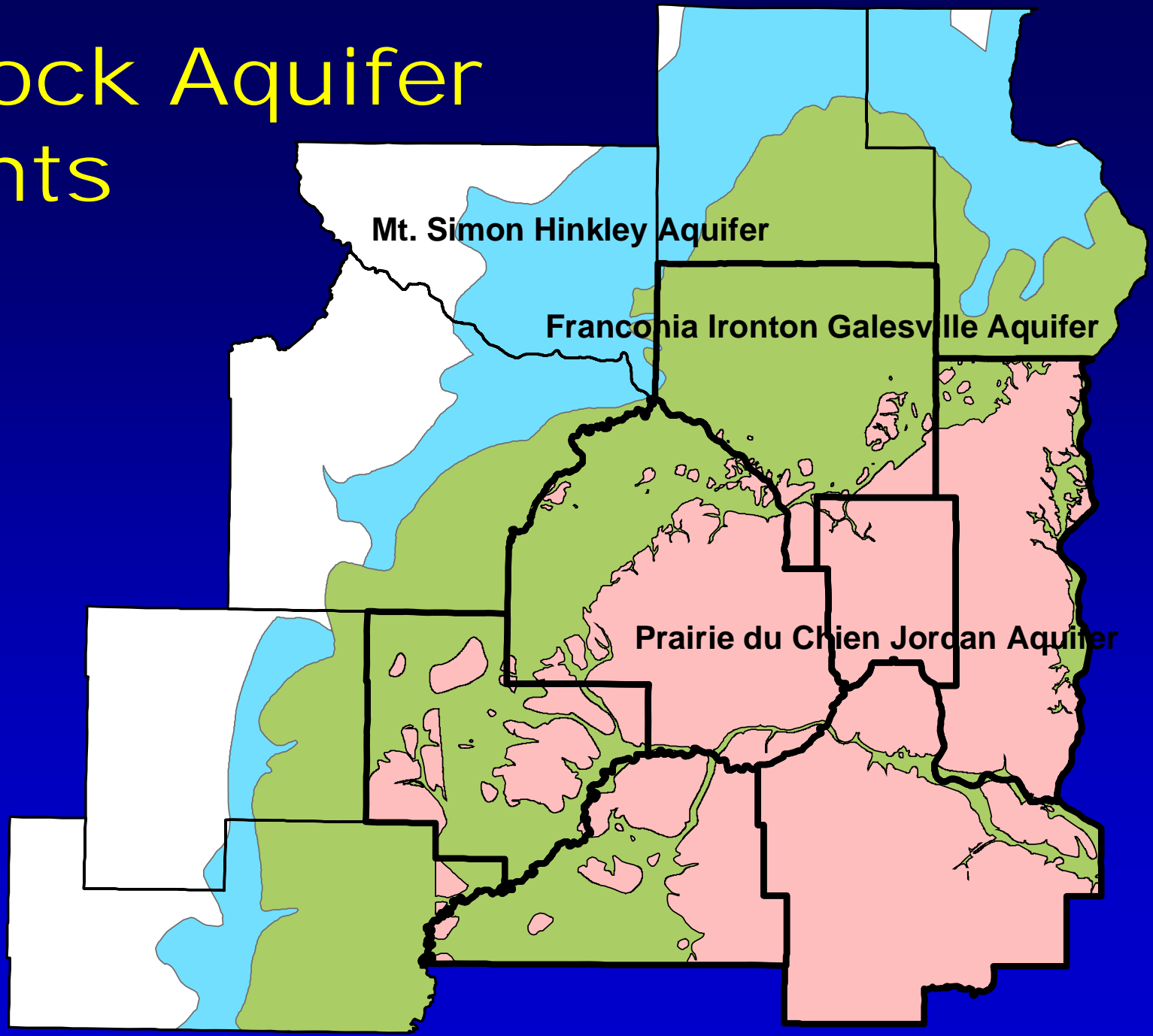
Metropolitan Area Geological Cross-Section



Vertical exaggeration approximately 130x



Bedrock Aquifer Extents



Contamination



Impervious Surface



Drought



Metropolitan Area Water Issues



Organizational Limitations

- Cumbersome permit process
- Insufficient data
- Lack of coordinated planning
- Fragmented structure

Metropolitan Council



Past Water Supply Planning Efforts

Assessment of Resources

DROUGHT OF 1988

- Legislation required Council to prepared short-term and long-term water supply plans
- Water Supply Plans required as part of local comprehensive plans

Metropolitan Council



Ongoing Water Supply Planning Efforts

- **Preparing regional supply plans addressing broad issues**
- **Facilitating and participating in solutions to inter-community issues**
 - SW Metro Groundwater Group
 - NW Metro Groundwater Group
 - Woodbury-Afton groundwater issues
 - Mississippi River protection

Metropolitan Council



Recent Water Supply Planning Efforts

Governor's Water Initiative

- Consolidating and augmenting technical information
- Developing institutional framework for long-term coordination
- Promoting interconnect project to increase core cities' system reliability, security and cost-effectiveness
- Address issues in Twin City - St. Cloud growth corridor

2005 Water Supply Legislation



Minnesota Statute 473.1565

■ **Planning Activities**

- Development of a base of technical information
- Development and periodic update water supply master plan
- Clarify government roles
- Recommendations for streamlining permit process
- Recommends ongoing funding source

■ **Advisory Committee**

■ **Report to Legislature (January 2007)**

■ **Internal Transfer of \$2 million authorized**

Water Supply Master Planning



Technical Studies

- Water system inventory
- Aquifer recharge and hydrogeologic mapping
- Groundwater contaminant mapping
- Mississippi River analysis
- Water conservation
- Expand existing subregional planning efforts

Water Supply Master Planning



Institutional Issues

- **Water Supply Governance**
- **Regulatory/Permitting Process**
- **Funding for Capital Improvements/Planning**