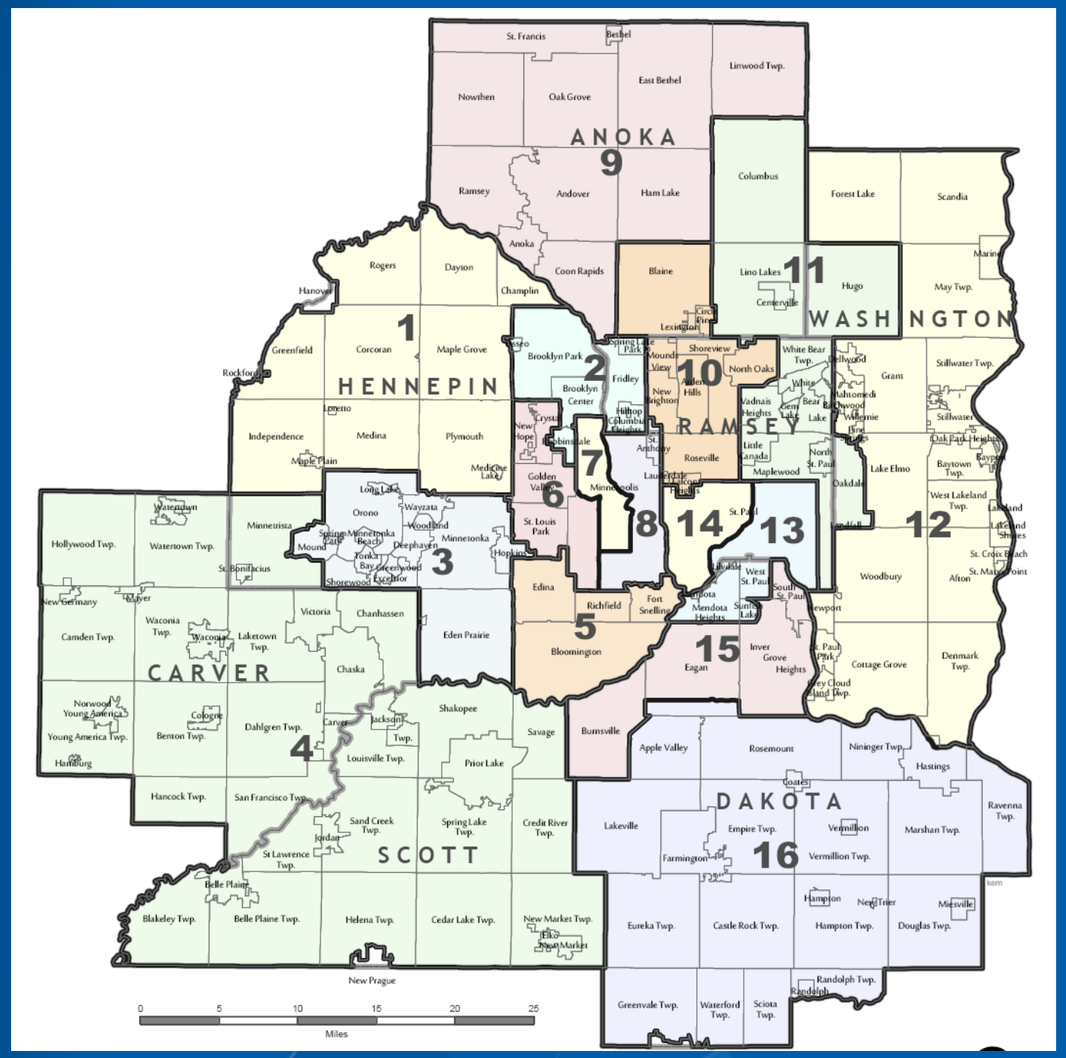
Groundwater Issues in the Metro Area



Ali Elhassan,

Manager, Water Supply Planning
Metropolitan Council

LUAC

September 19, 2013

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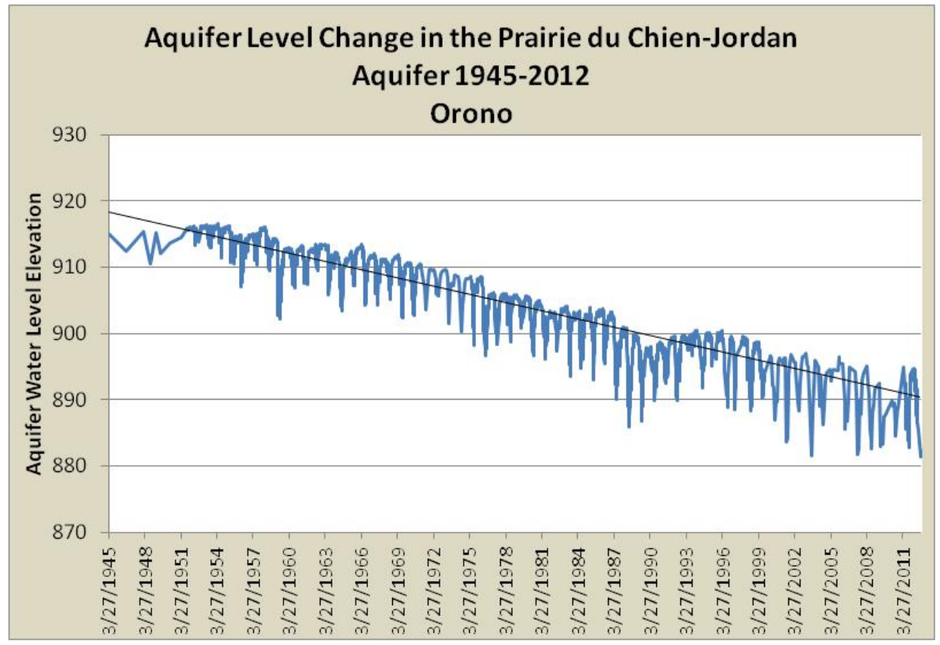
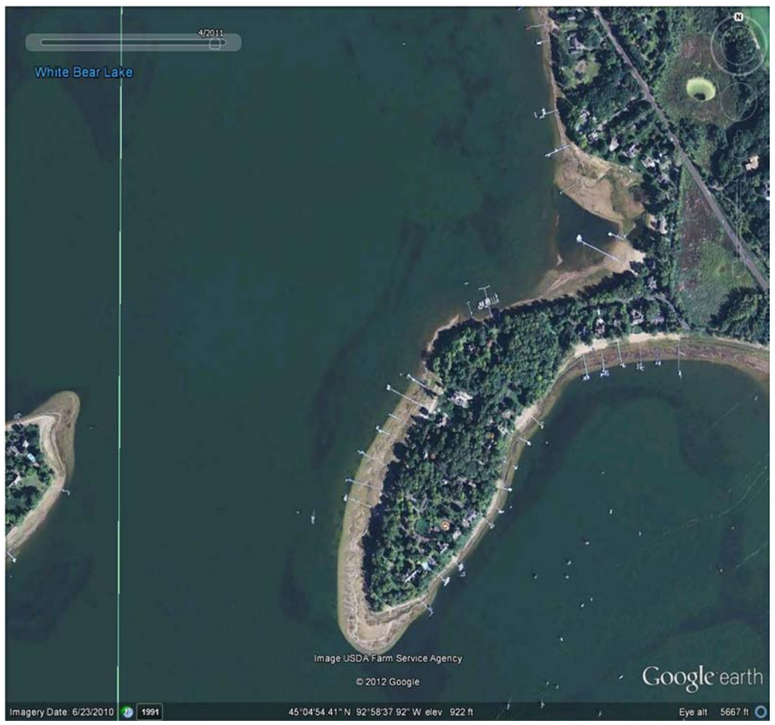
Findings

- Current approach to water supply management and development is unsustainable

- Aquifer levels declined – depleted

- Lakes, Stream and wetlands damaged





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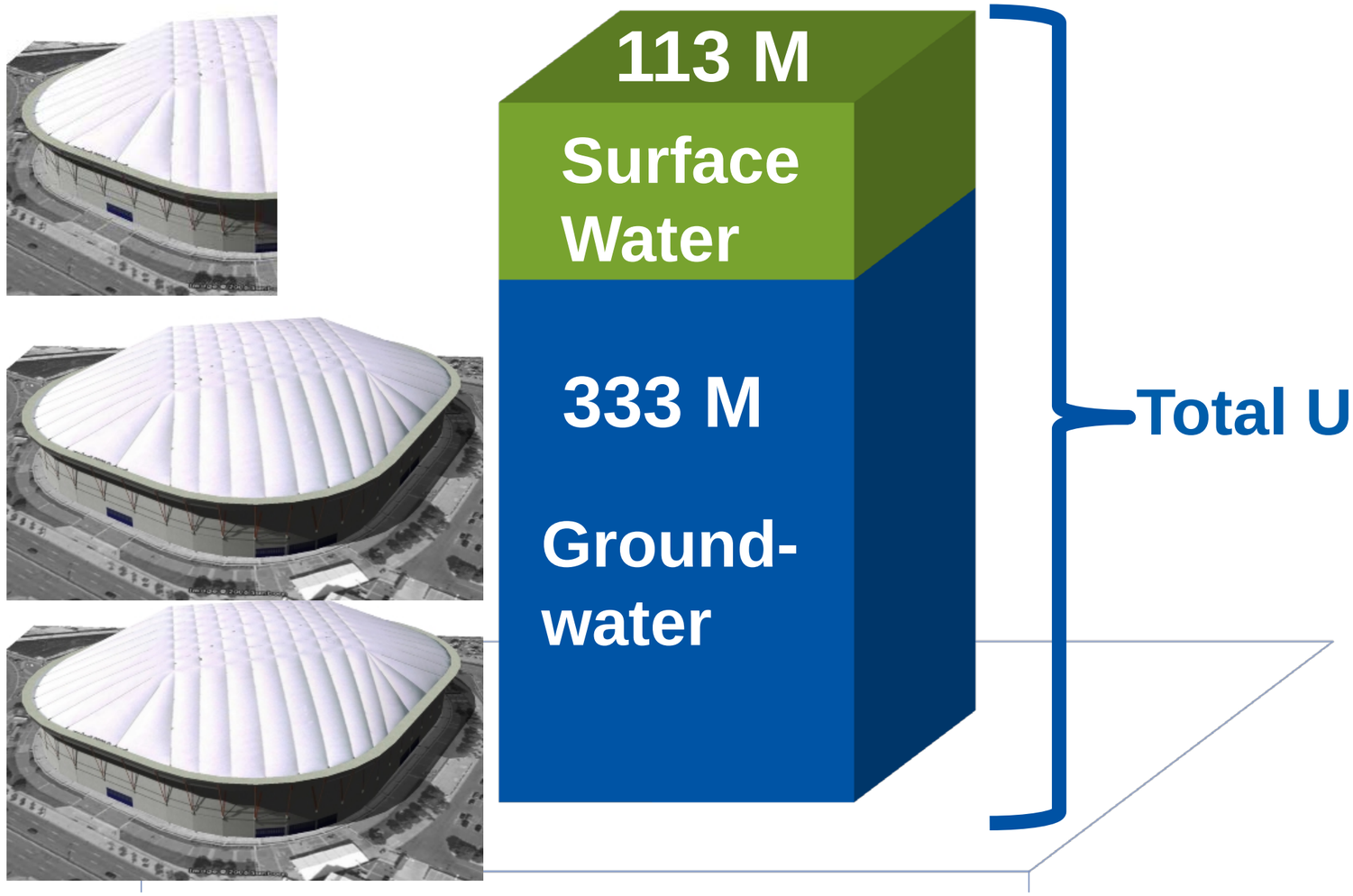
Metro Region in 2010

Population: about 3 Million



Average Municipal Water Use (Million Gallons per Day)

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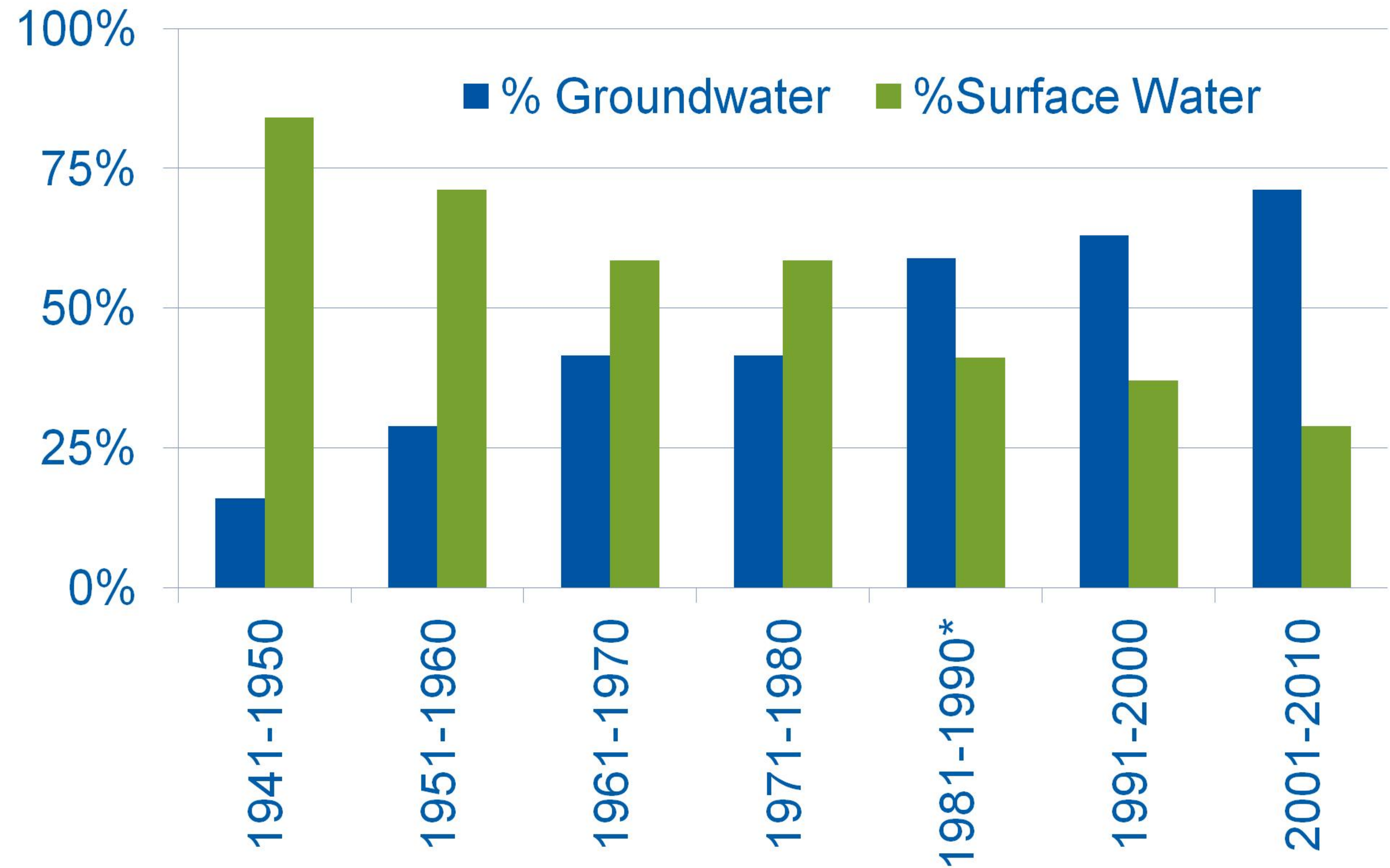
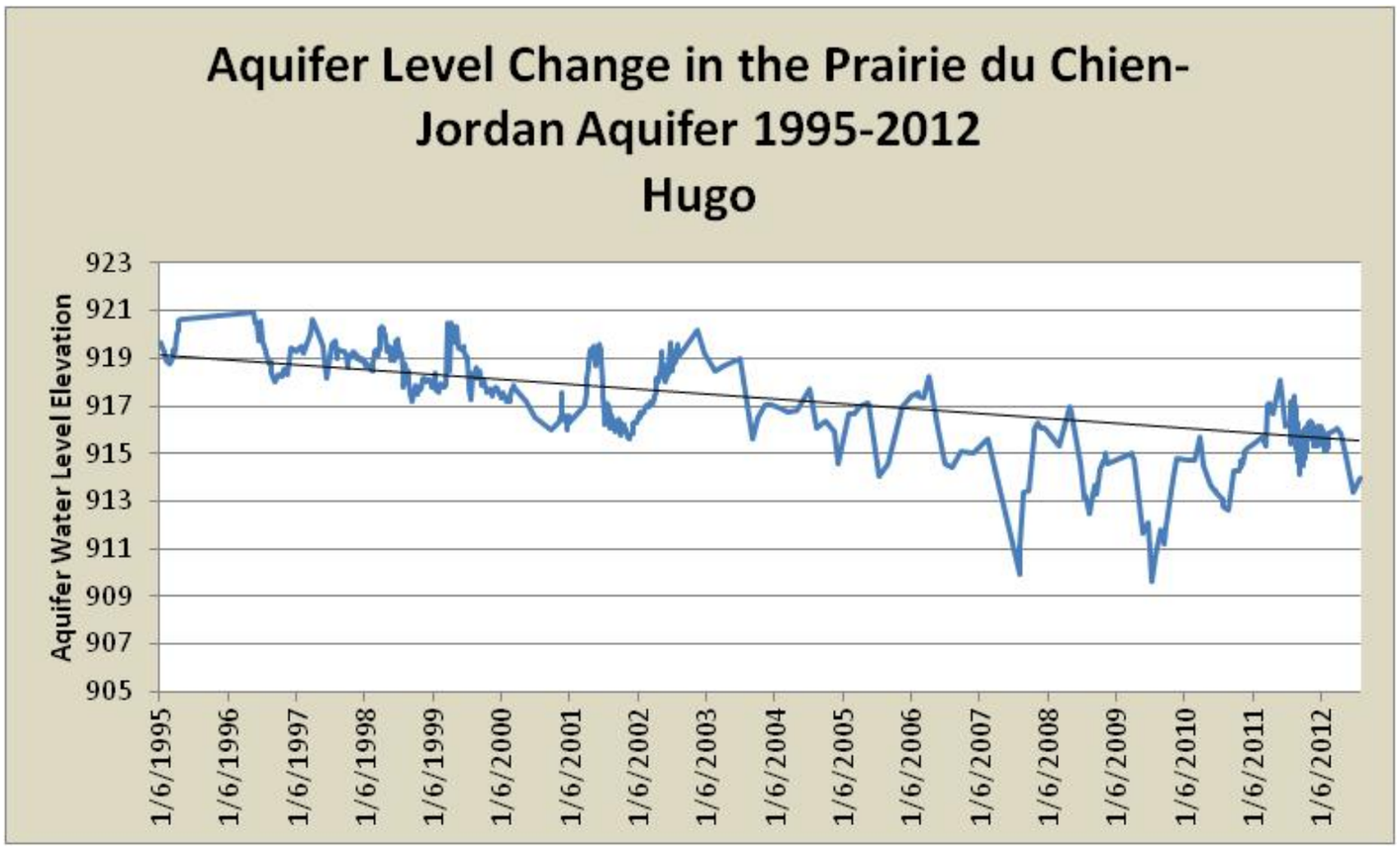
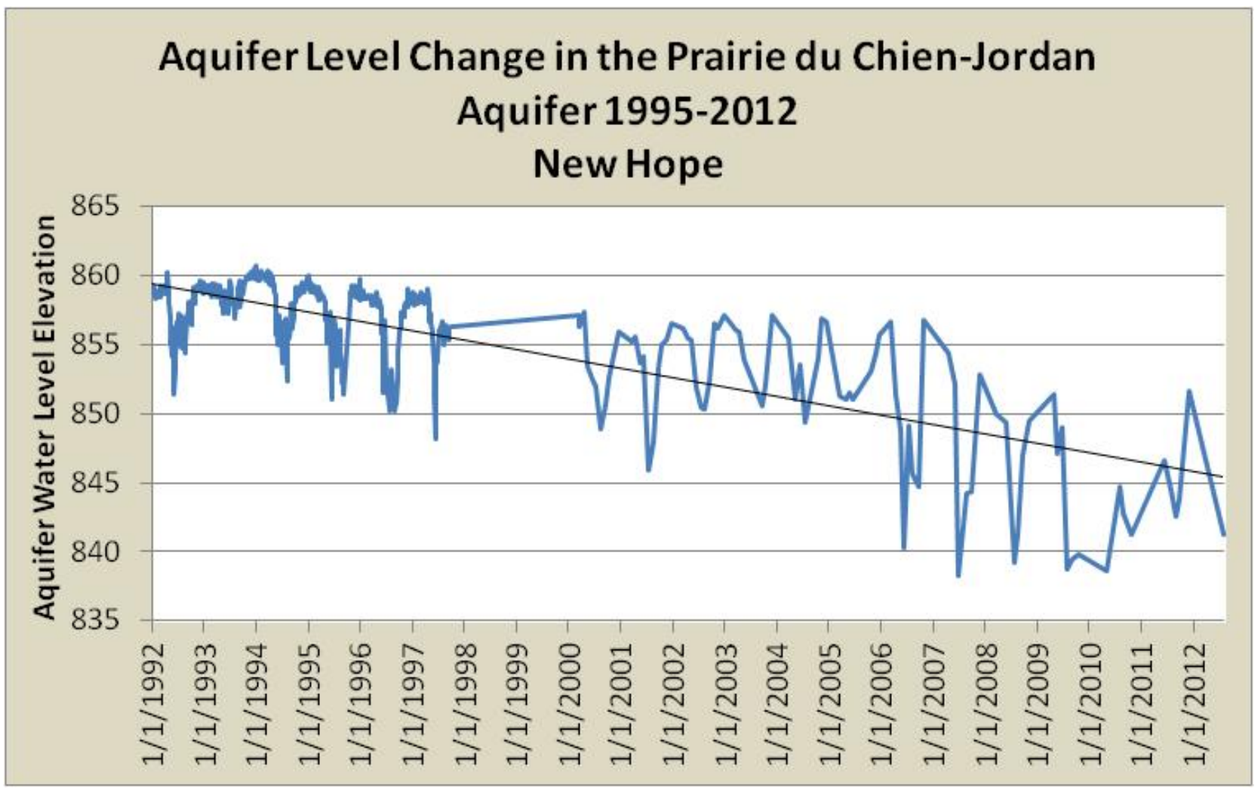
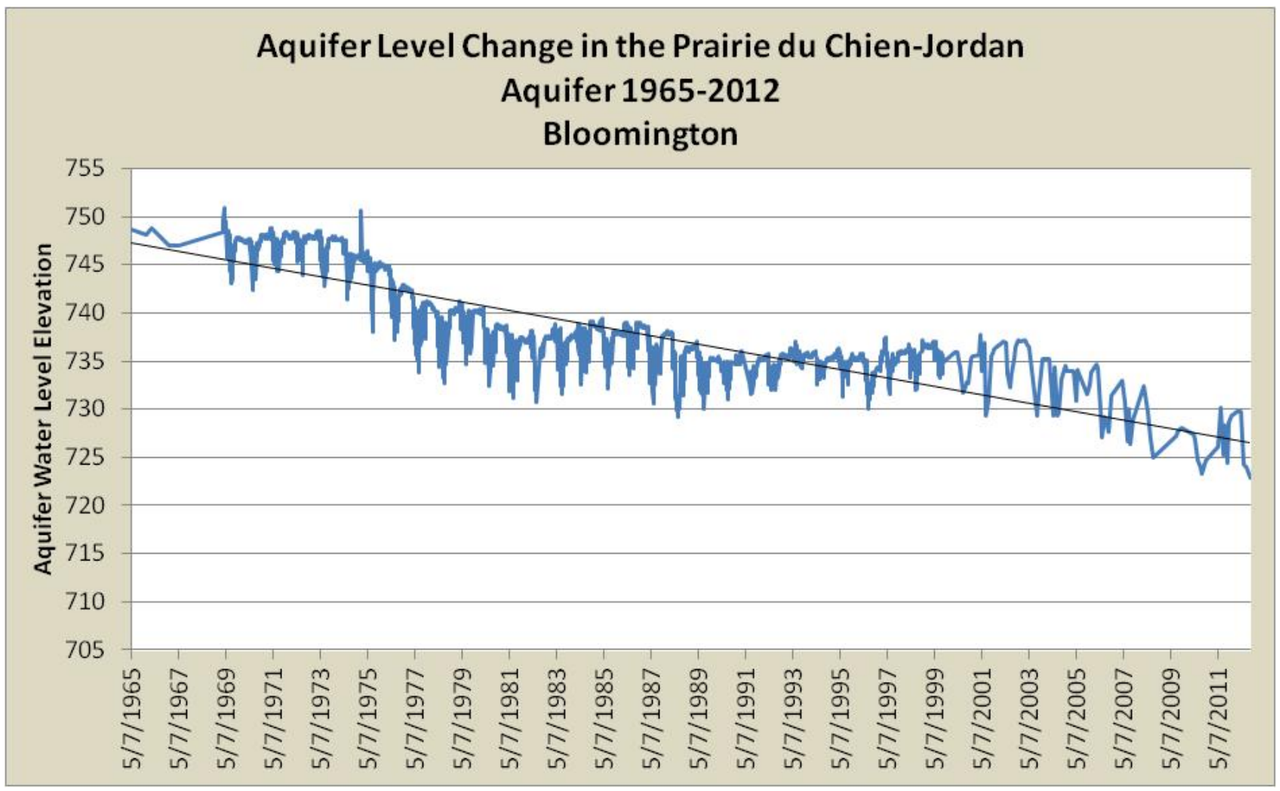
Municipal Water Use in Seven-County Twin Cities Metropolitan Area, Minnesota



Aquifers are Impacted

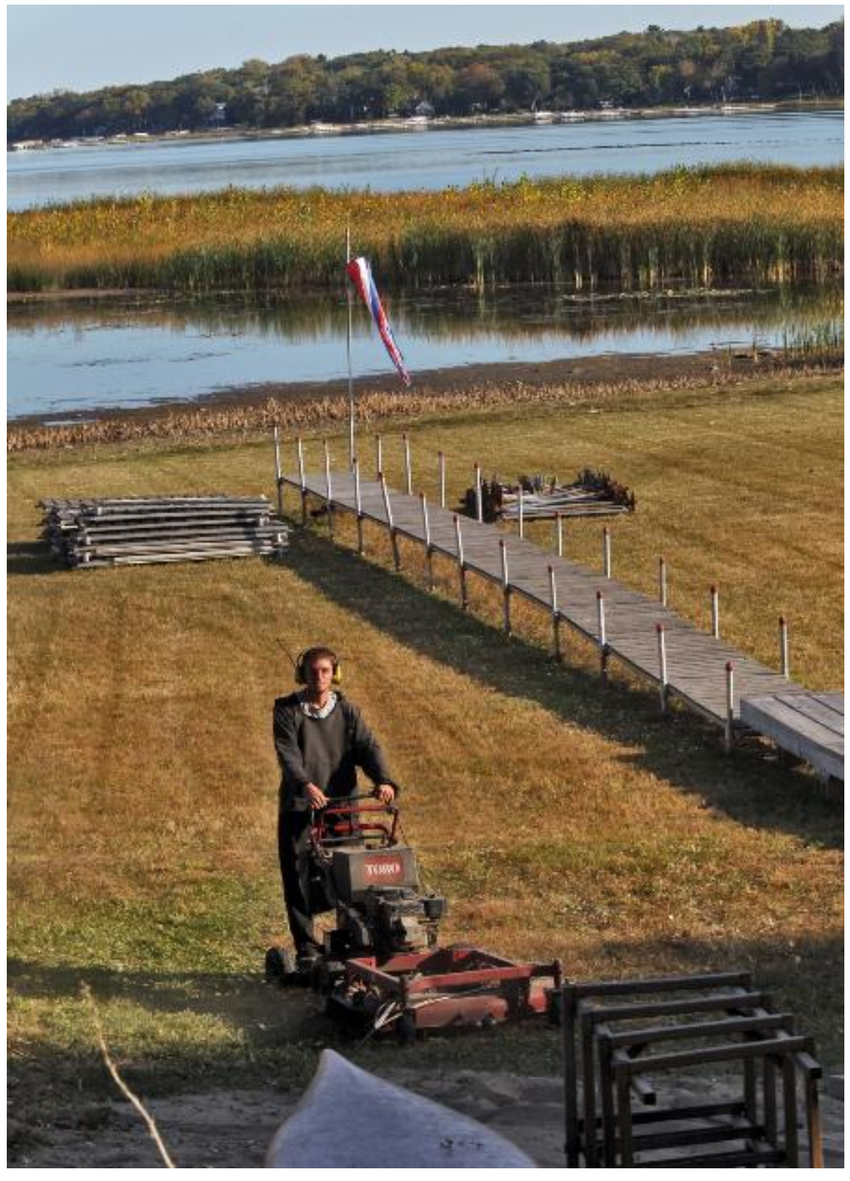






Surface Waters are Impacted

Example - White Bear Lake



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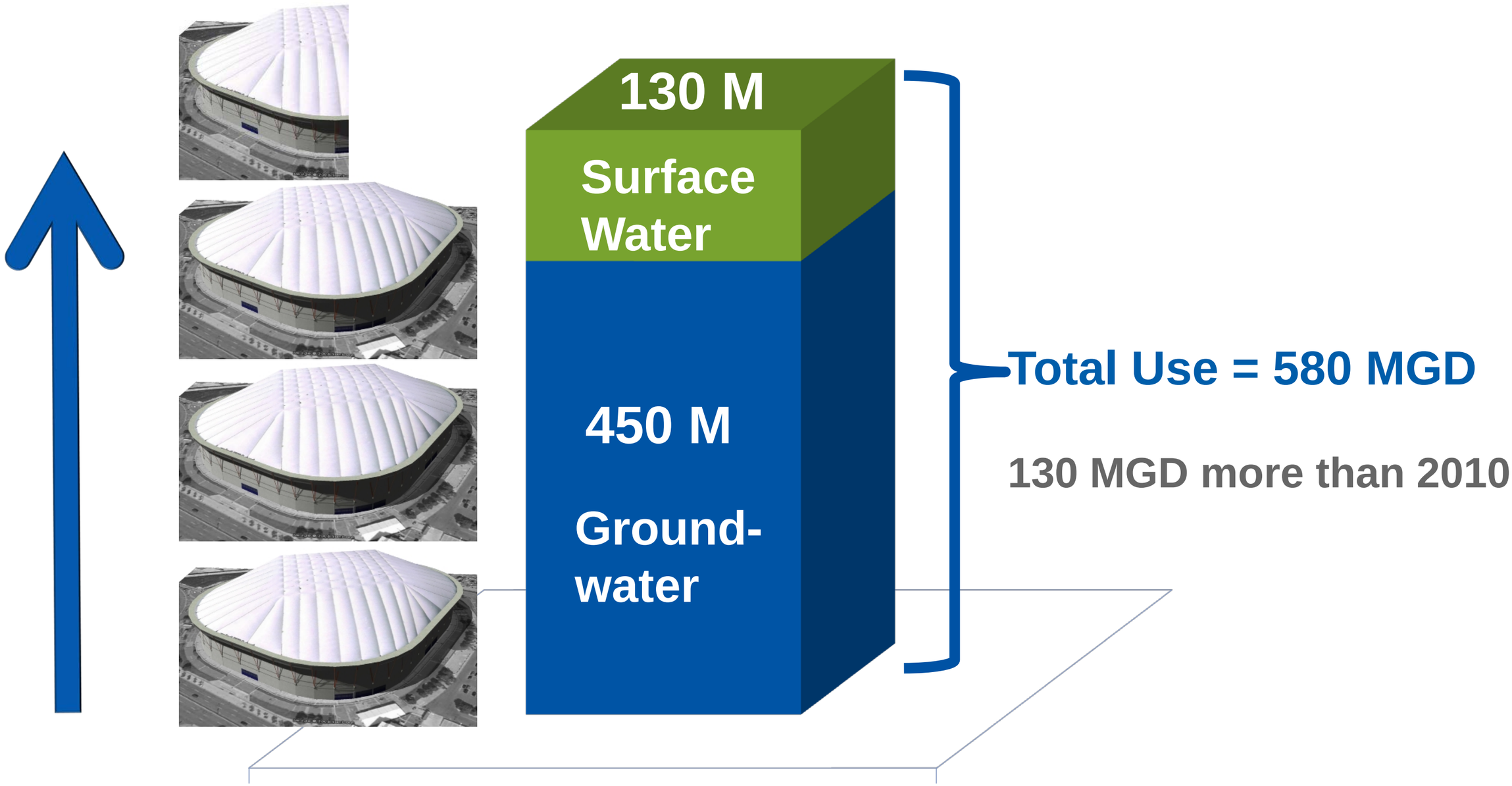
Metro Region in 2030

Projected Population: about 3.5 Million



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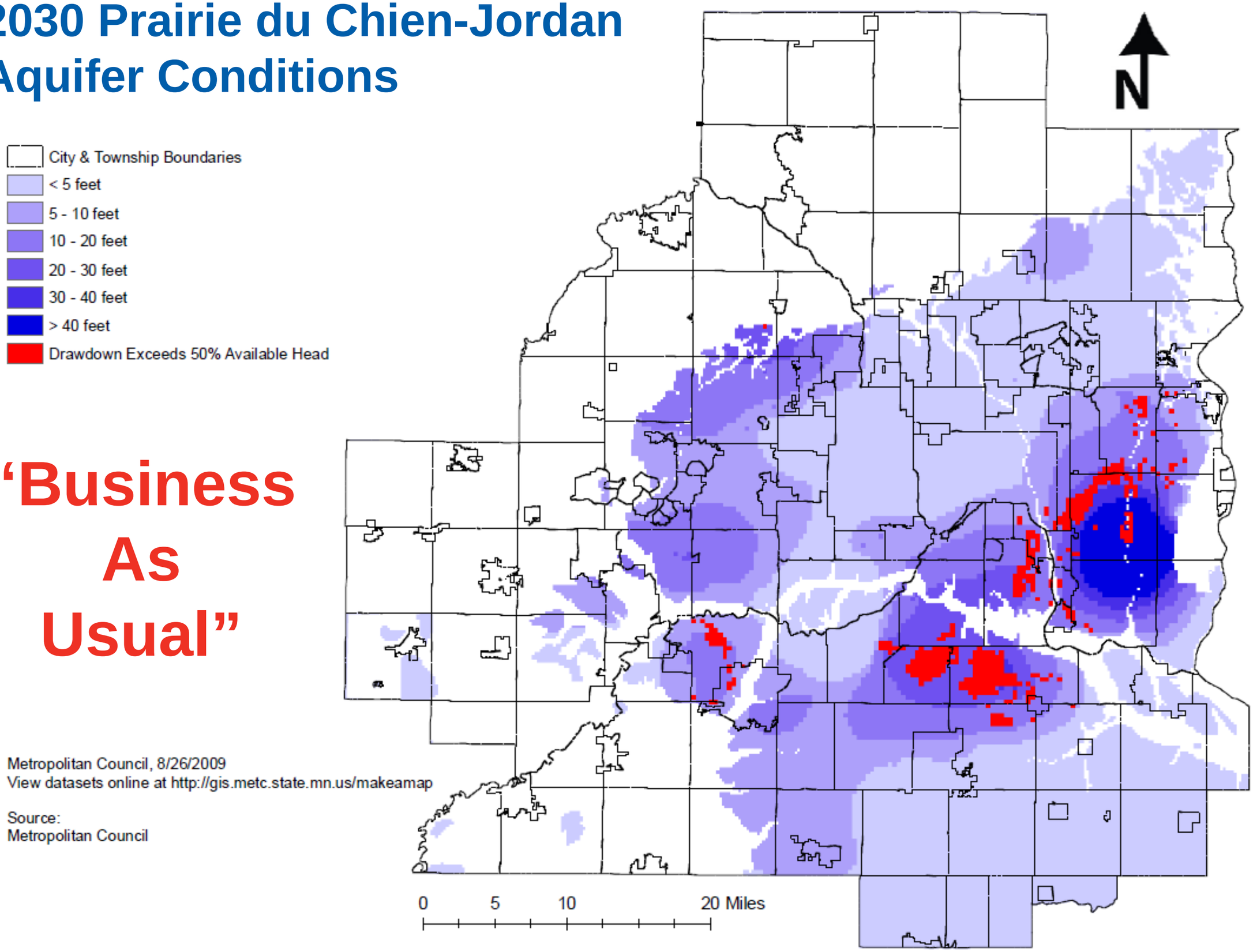
2030 Prairie du Chien-Jordan Aquifer Conditions



"Business As Usual"

Metropolitan Council, 8/26/2009
View datasets online at http://gis.metc.state.mn.us/makeamap

Source:
Metropolitan Council

Future Directions

- "Business As Usual" is not a solution
  - Recognizing limits on regional groundwater supplies
  - Balanced use of surface water, groundwater, and reclaimed water

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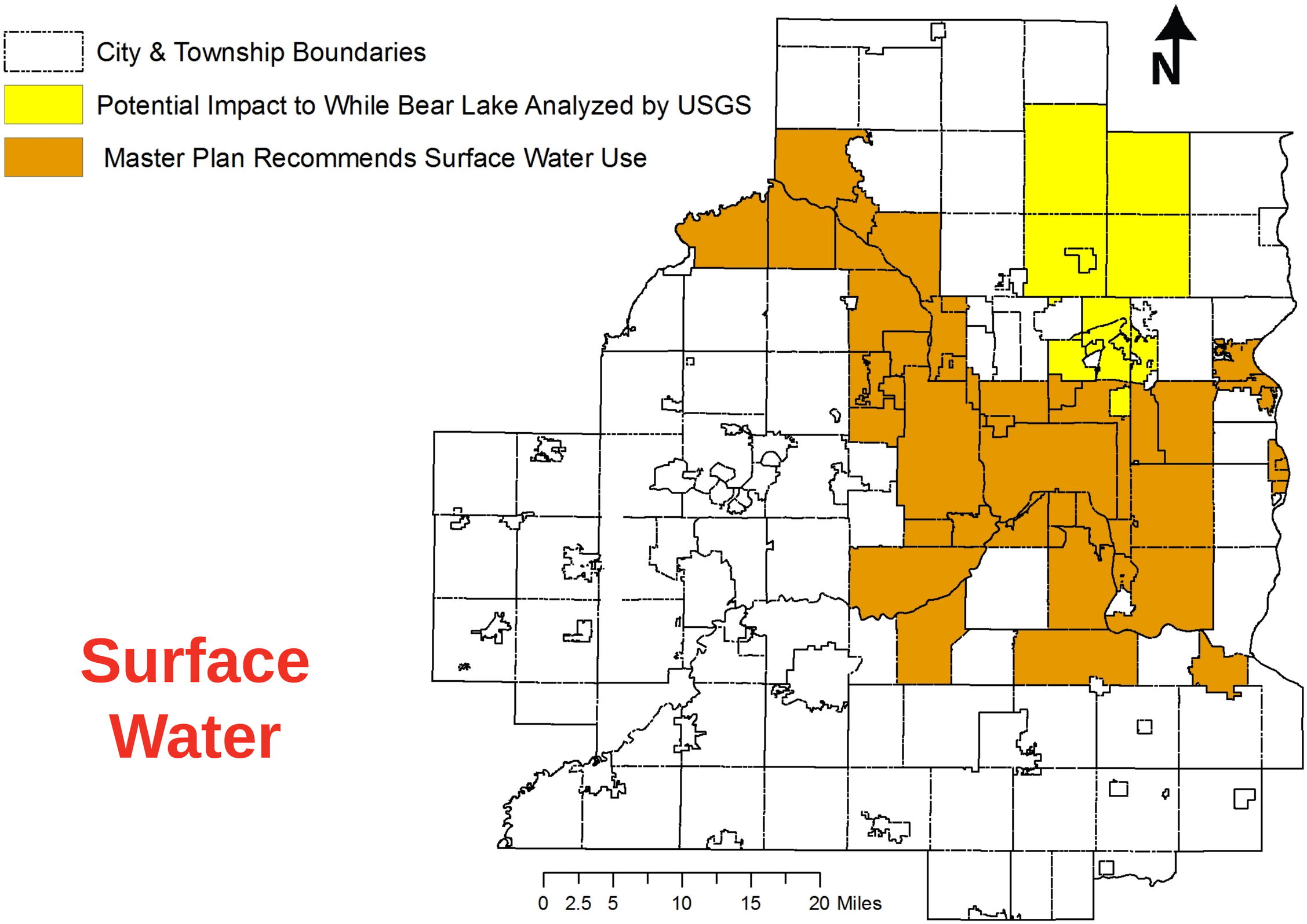
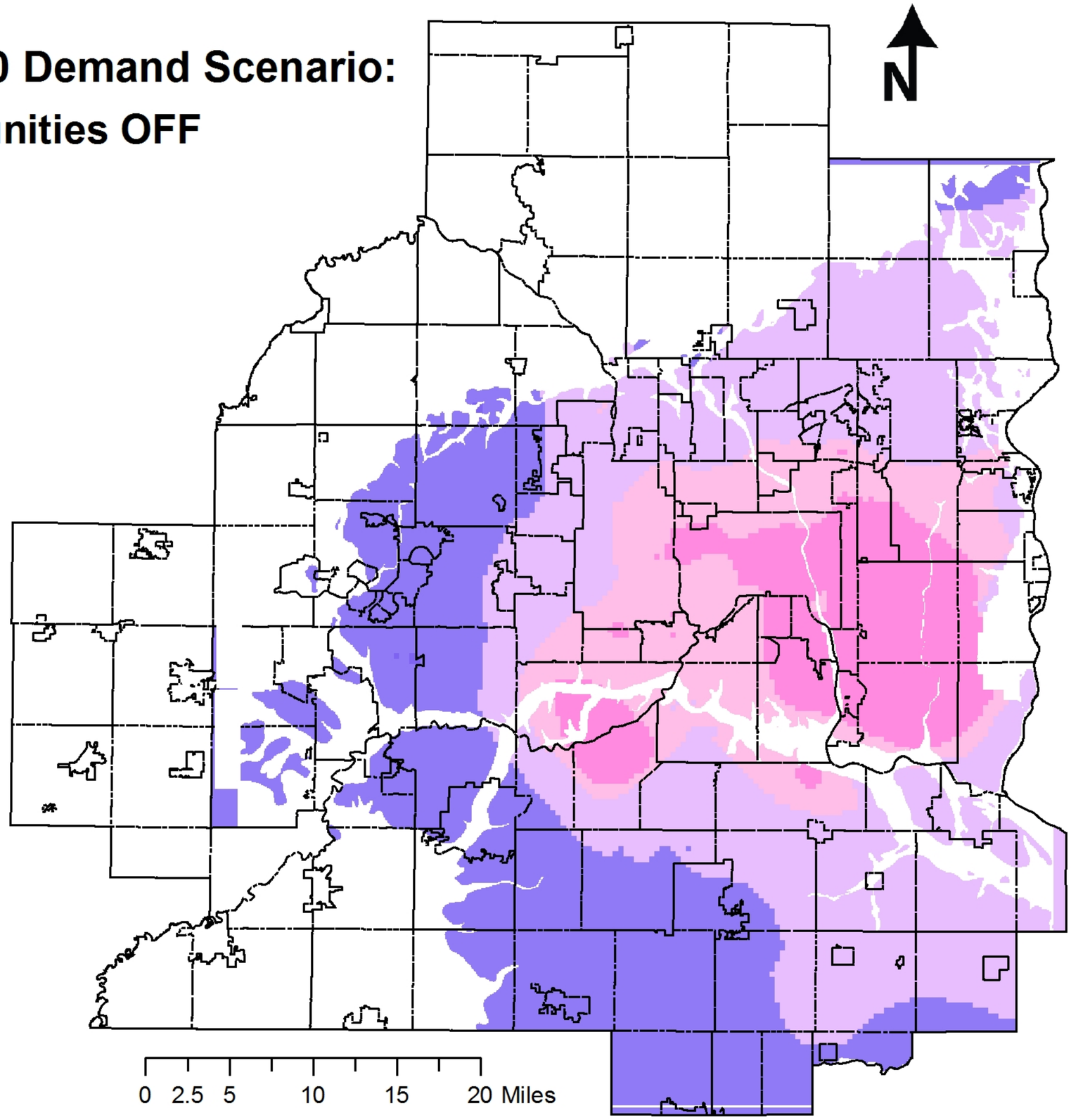
Surface Water

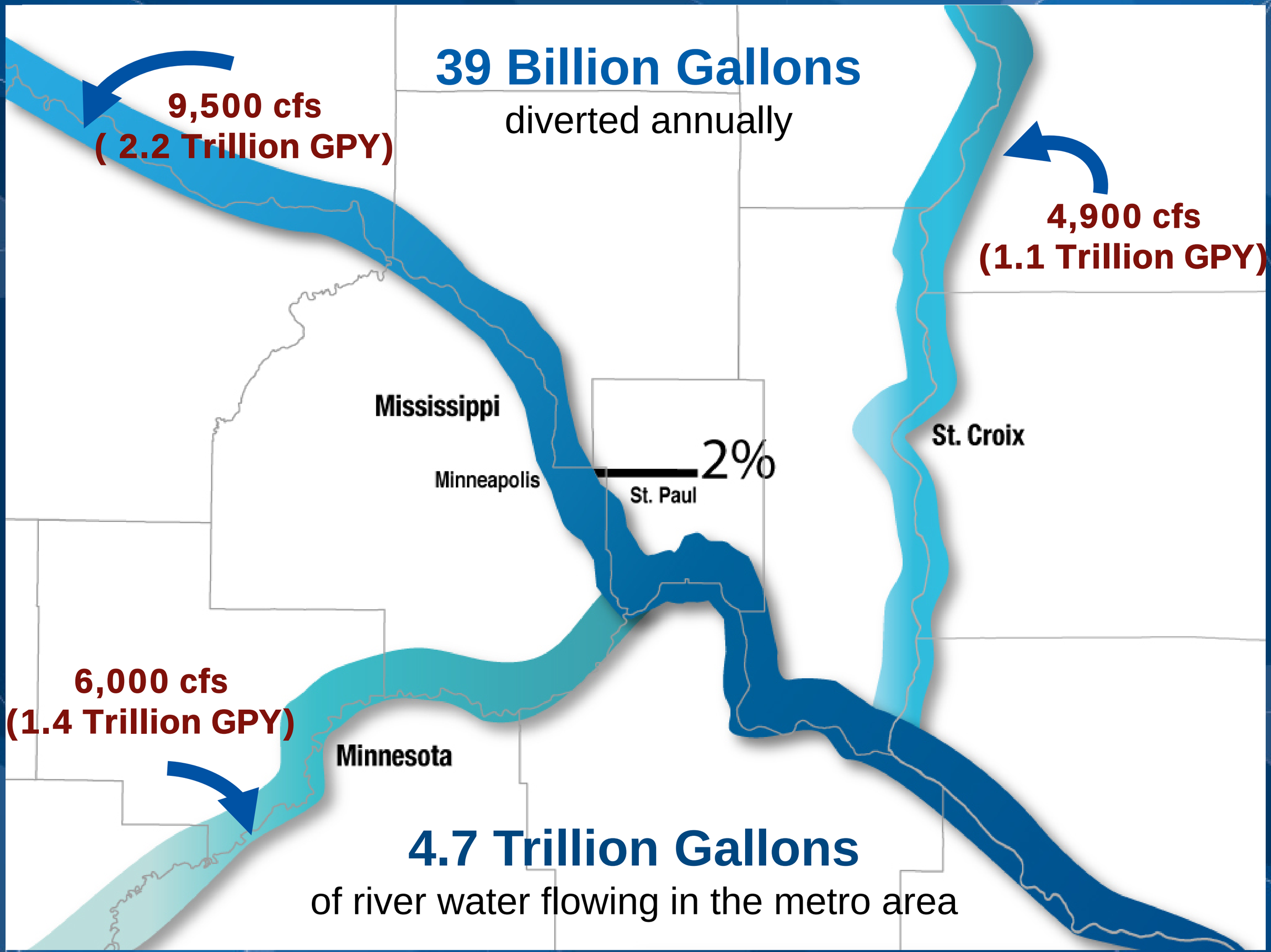


Aquifer Change (ft) - 2030 Demand Scenario:
All Wells in Target Communities OFF

- <-10 feet of rebound
- -9.9 - -5 feet of rebound
- -4.9 - 0 feet of rebound
- 0.1 - 5 feet of decline
- 5.1 - 10 feet of decline
- 10.1 - 20 feet of decline
- 20.1 - 30 feet of decline
- 30.1 - 40 feet of decline
- 40.1 - 45 feet of decline



Prairie du Chien-Jordan Aquifer

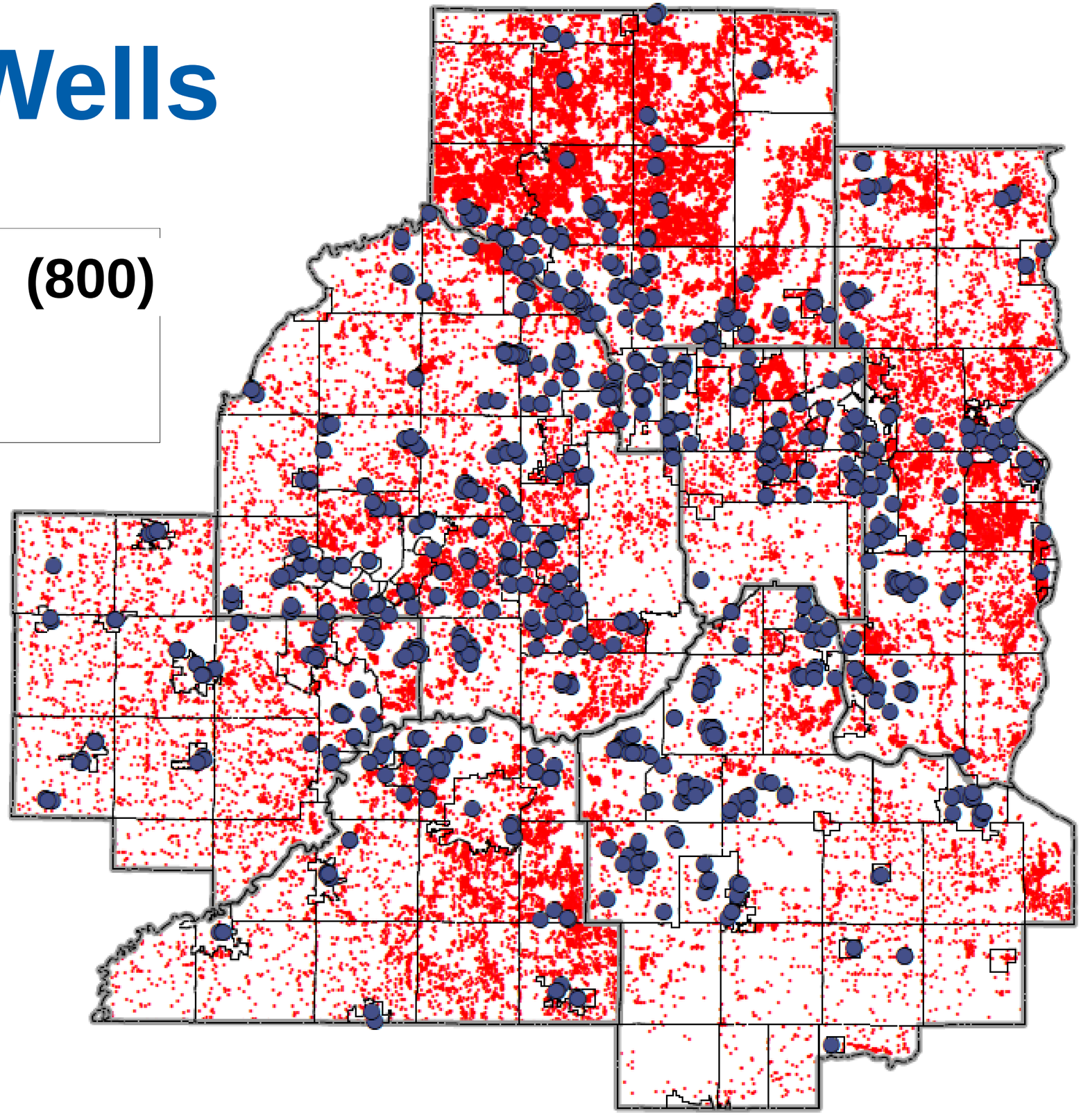

39 Billion Gallons
diverted annually
9,500 cfs
(2.2 Trillion GPY)
4,900 cfs
(1.1 Trillion GPY)
6,000 cfs
(1.4 Trillion GPY)
Mississippi
Minneapolis
St. Paul
2%
St. Croix
Minnesota
4.7 Trillion Gallons
of river water flowing in the metro area

Recharge Potential

Metro Area Wells

(800)

(60,000)



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Conclusion

- **Region needs to**
  - Restore Balance among water sources
  - Maintain and enhance recharge capability
  - Conservation

- **Council needs in partnership with stakeholders to**
  - Develop plans and projects that ensure sustainable water supply

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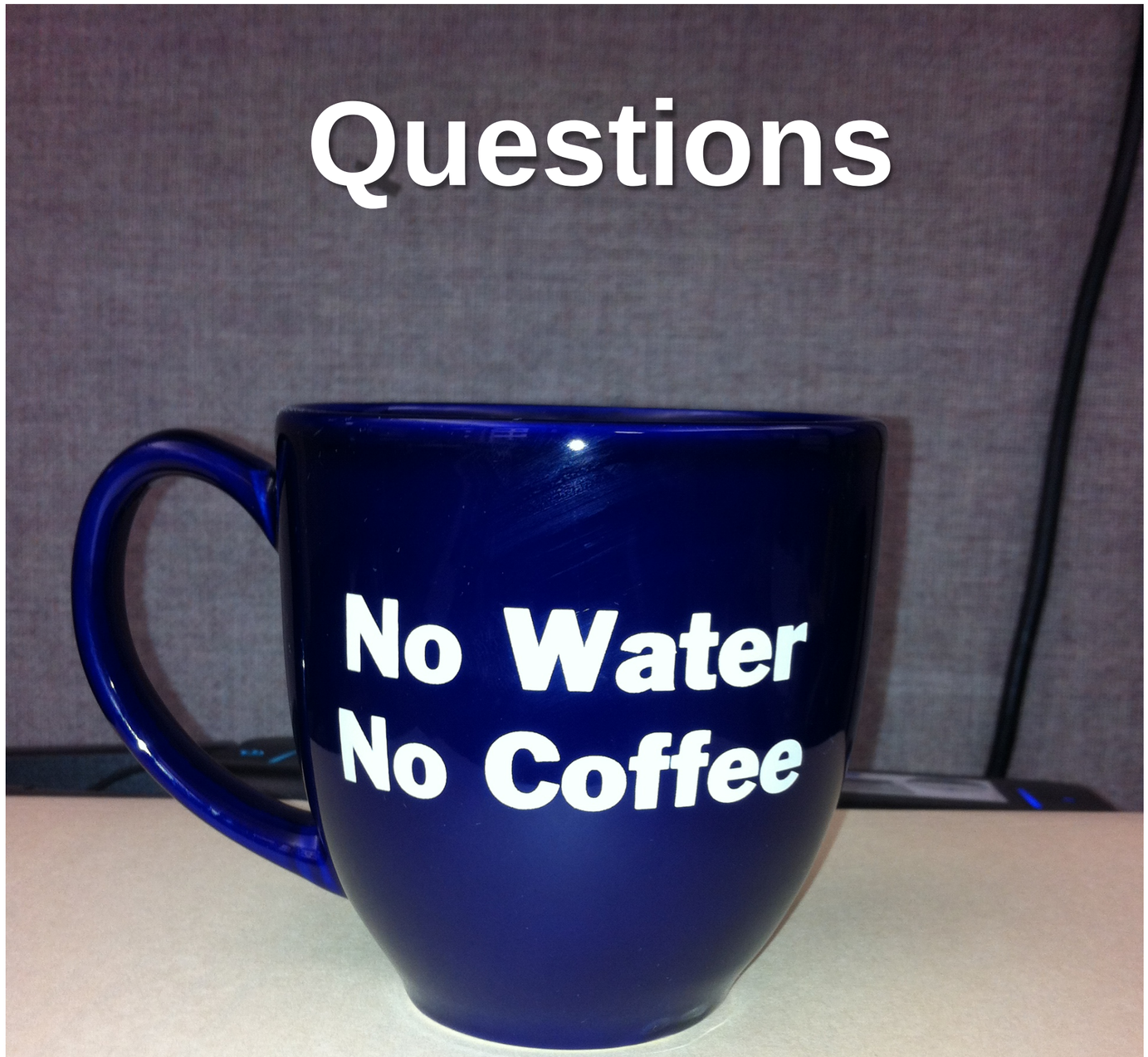
Questions



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