

Groundwater Withdrawals in Kendall County

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Organization

- Sources of water
- Sources of groundwater
- Historical groundwater withdrawals
- Future groundwater withdrawals
- Locations of deep groundwater withdrawals
- Summary

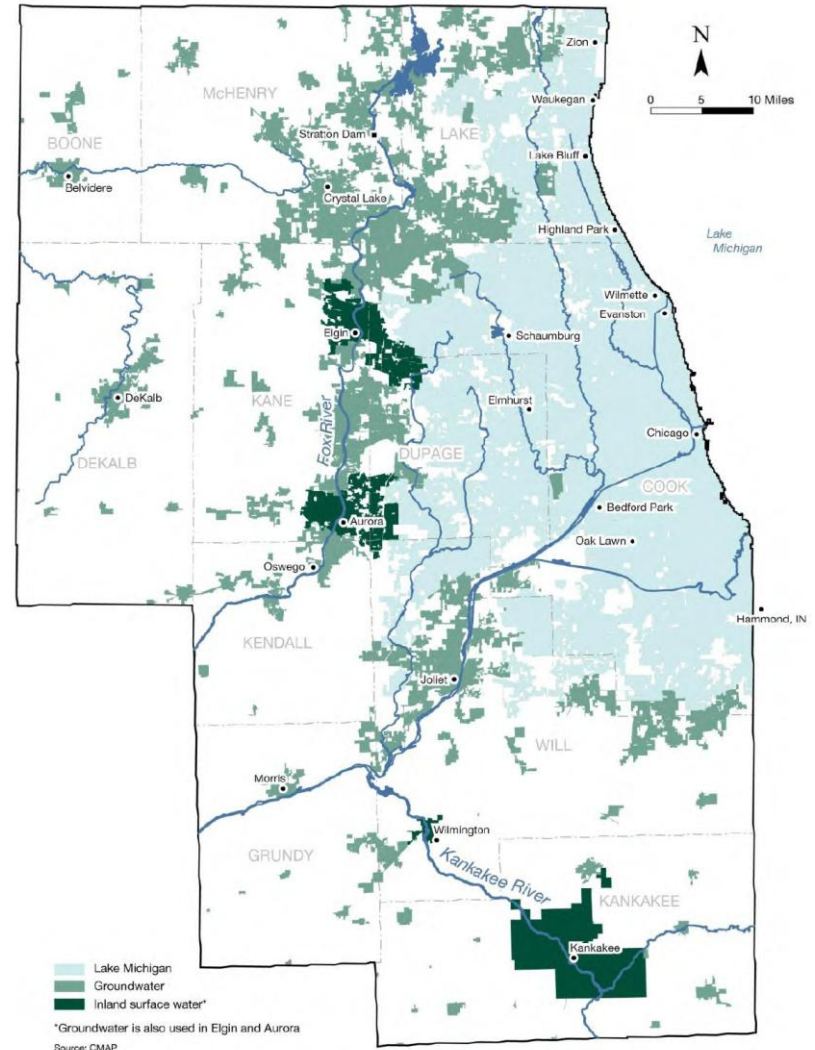
Sources of Water, NE Illinois

Sources of Water Supply (2005*)
(excluding through-flow for power generation)

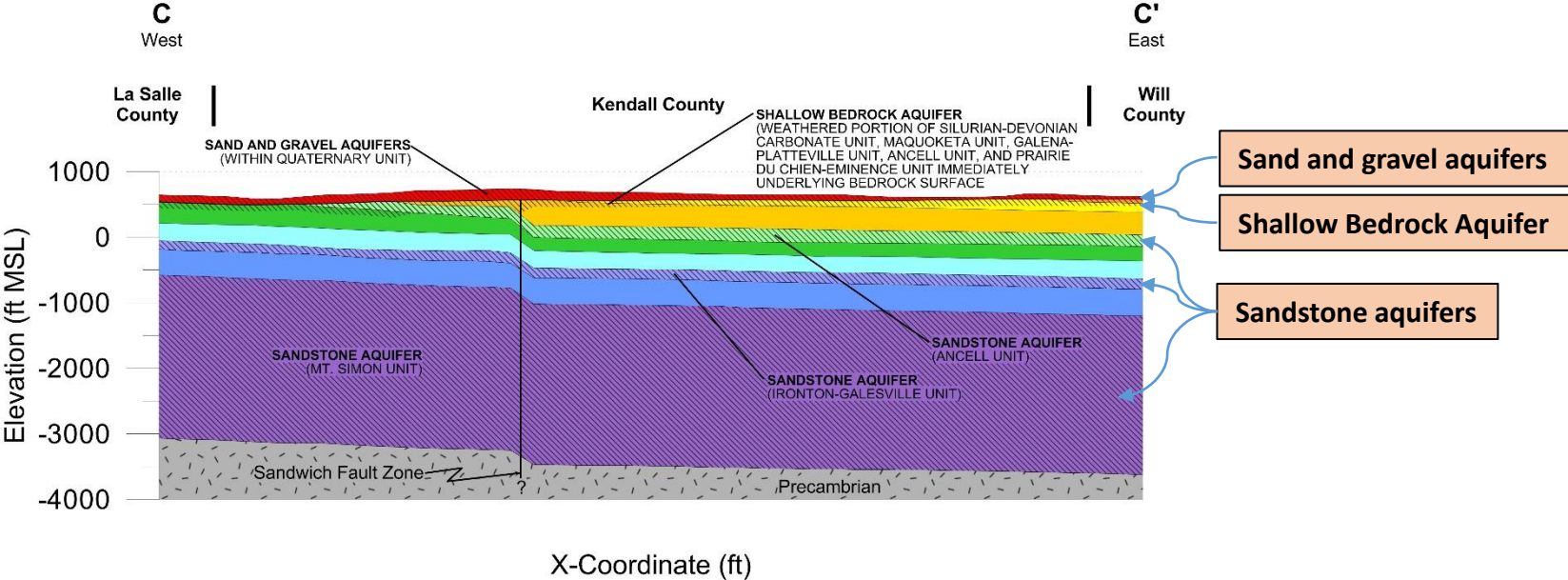
Source	Total (Mgd)*	Proportion*
Lake Michigan	1,018.0	69%
Inland surface waters	212.2	14%
Groundwater	250.1	17%
TOTAL	1,480.3	100%

*adjusted to average 1971-200 climate

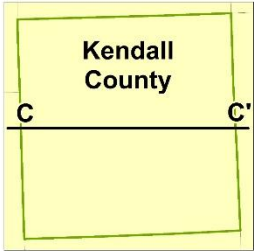
Sources of Water for Public Supply (2005)



Sources of Groundwater

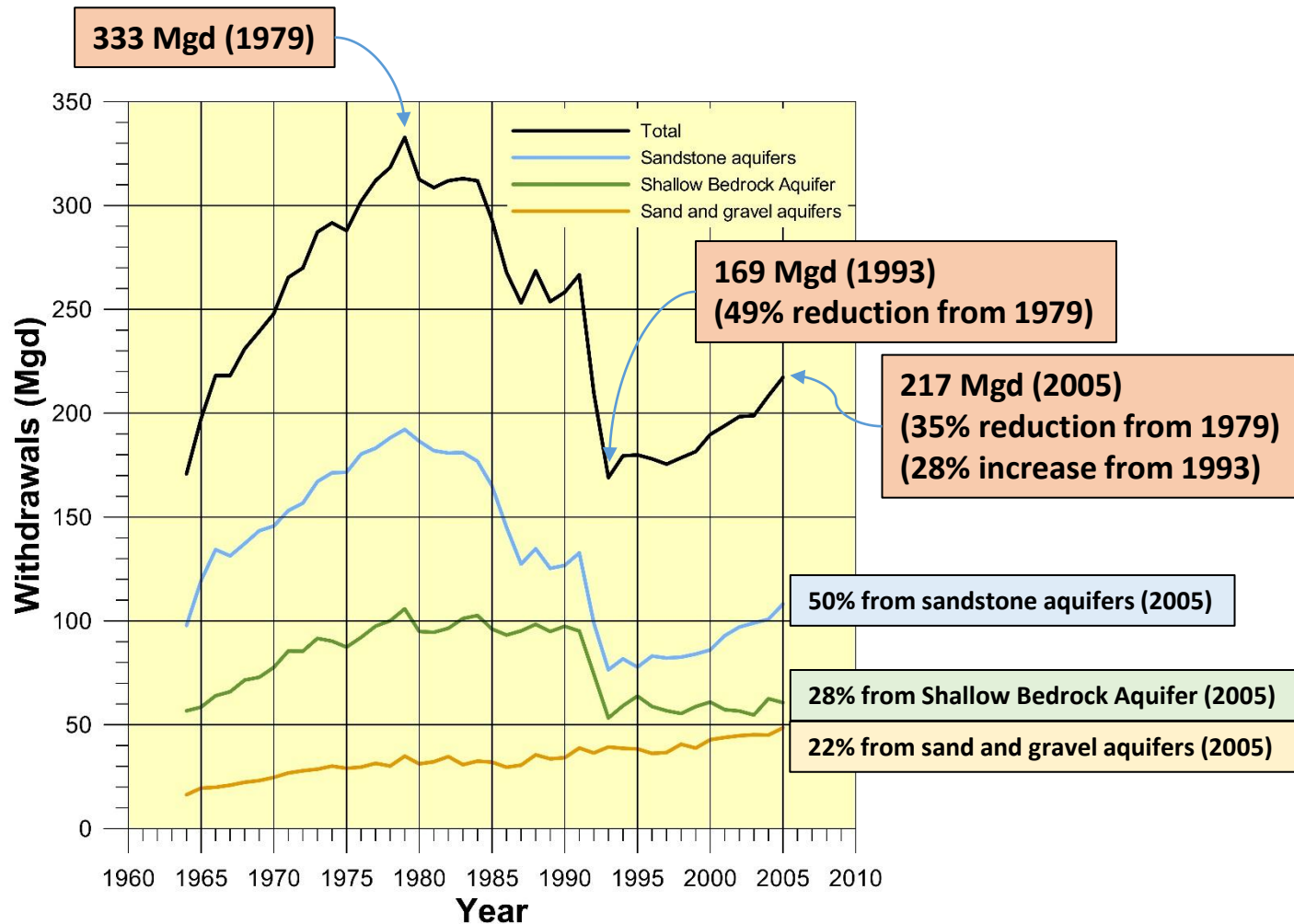


- | | |
|-----------------------------------|---------------------------------|
| Quaternary Unit | Prairie du Chien-Eminence Unit* |
| Upper Bedrock Unit | Potosi-Franconia Unit |
| Silurian-Devonian Carbonate Unit* | Ironton-Galesville Unit |
| Maquoketa Unit* | Eau Claire Unit |
| Galena-Platteville Unit* | Mt. Simon Unit |
| Ancell Unit* | Aquifer |

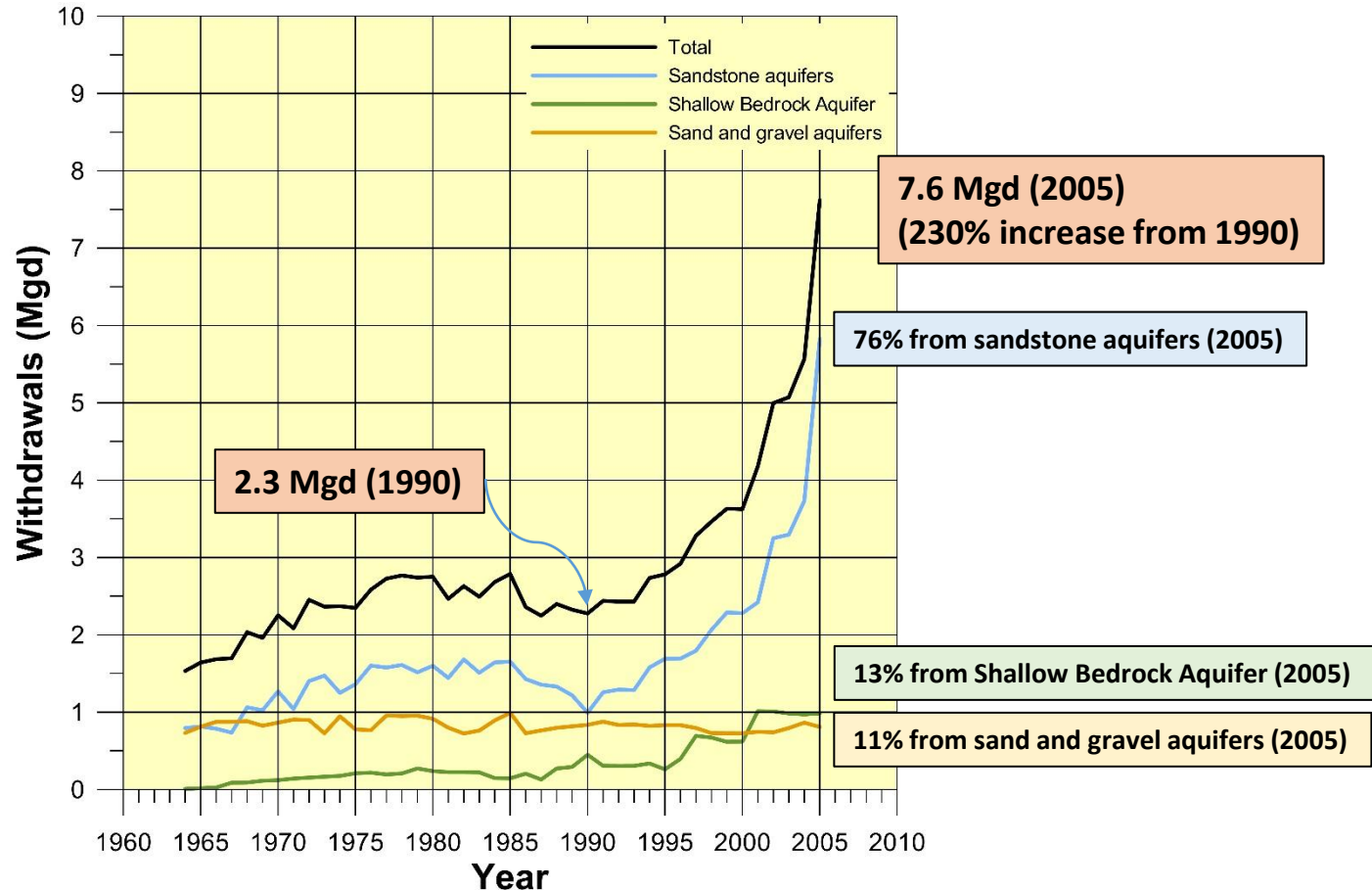


*Included in Shallow Bedrock Aquifer where near the bedrock surface and Upper Bedrock Unit is absent.

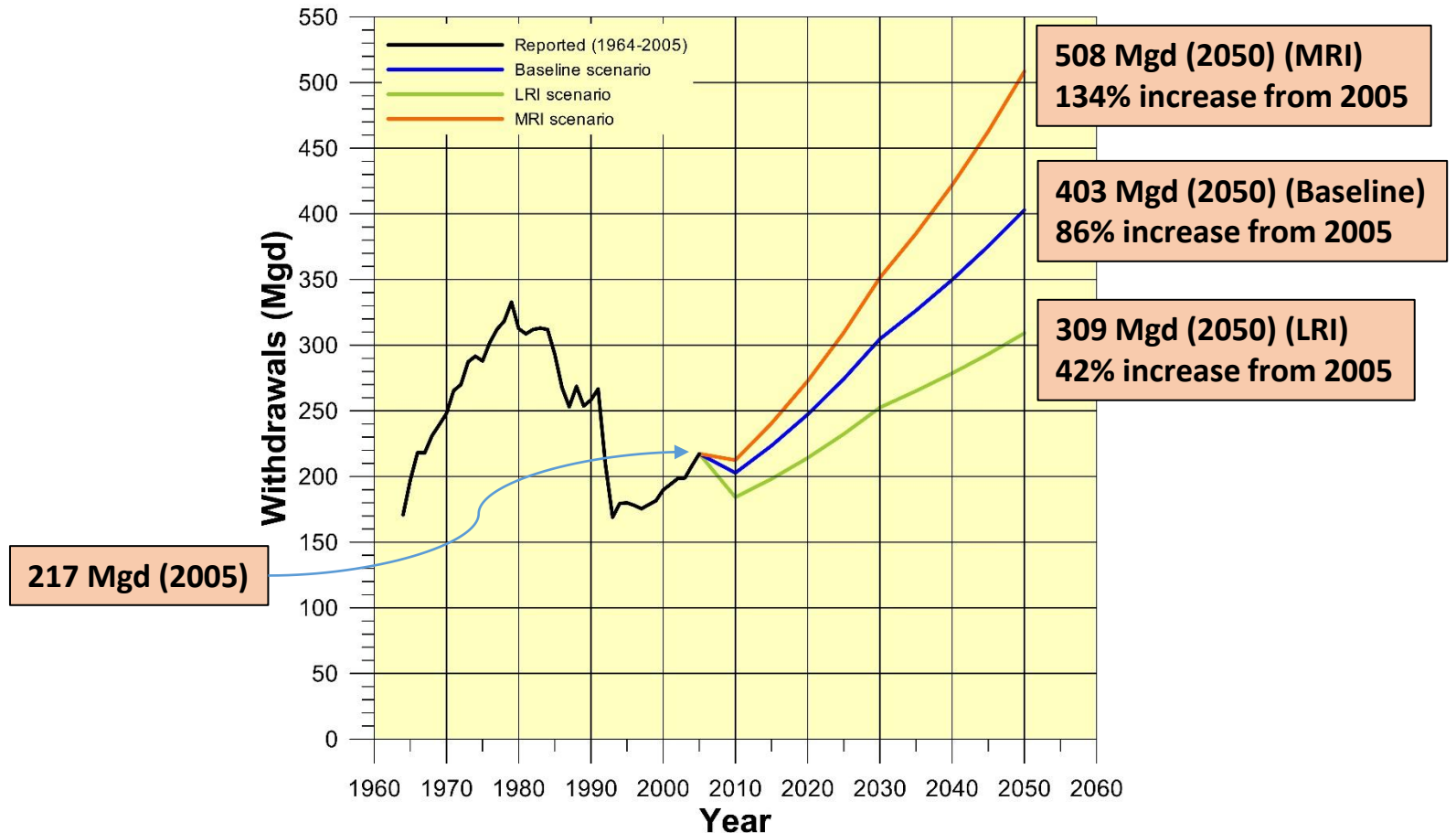
Groundwater Withdrawals, NE Illinois (1964-2005)



Groundwater Withdrawals, Kendall County (1964-2005)



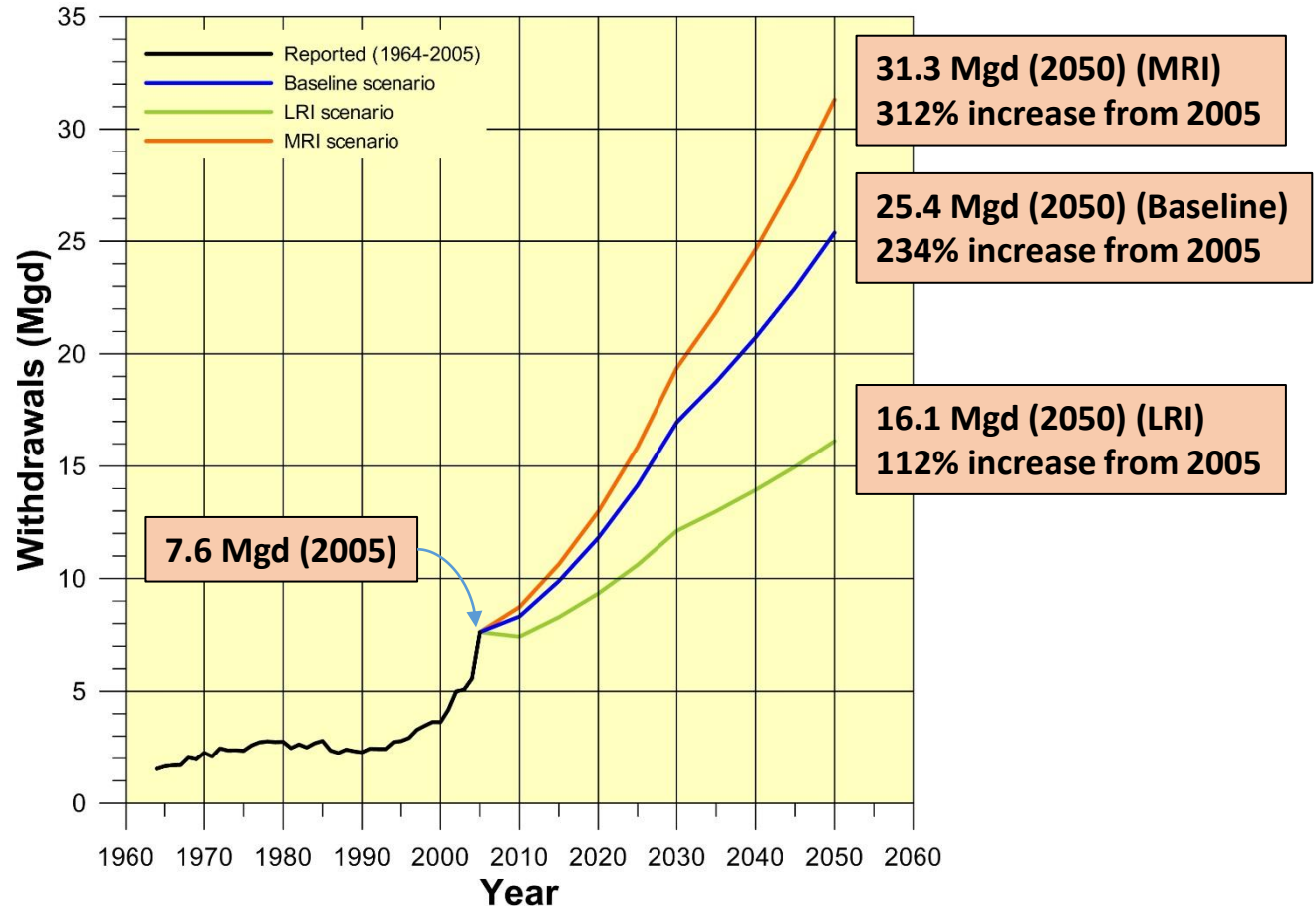
Groundwater Withdrawals, NE Illinois (1964-2050)



LRI=Less Resource Intensive

MRI=More Resource Intensive

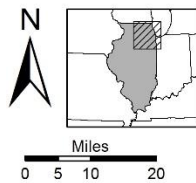
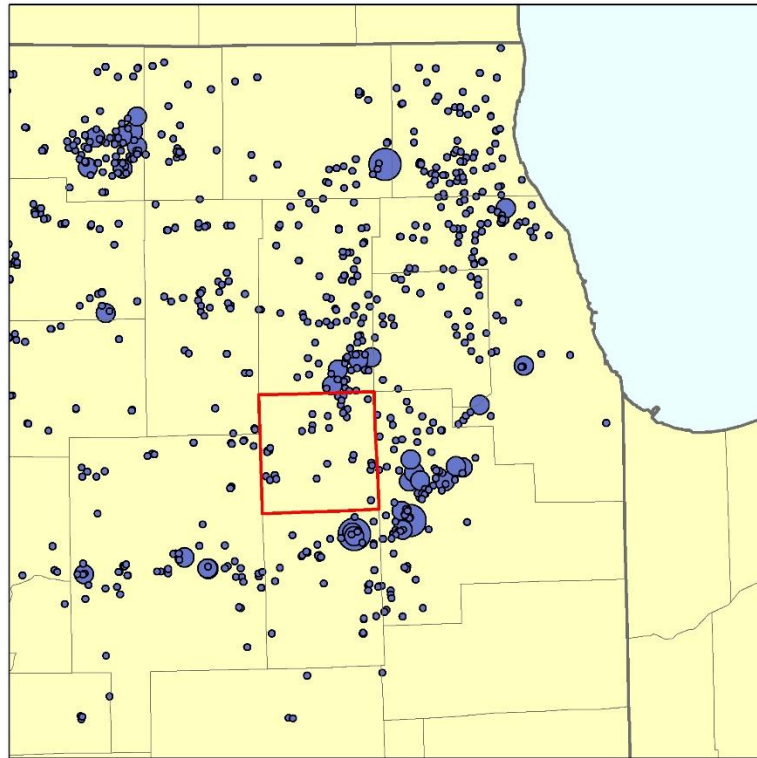
Groundwater Withdrawals, Kendall County (1964-2050)



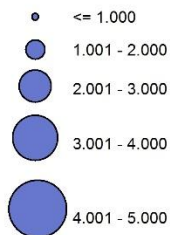
LRI=Less Resource Intensive

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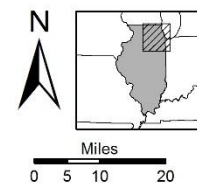
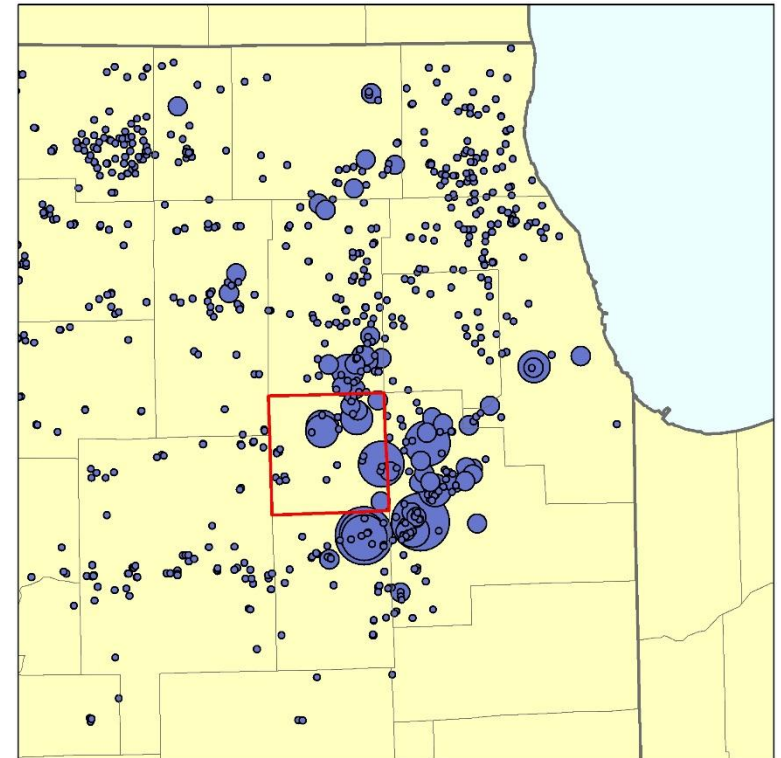
Sandstone Aquifer Withdrawals (2005 and 2050)



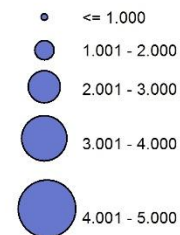
2005 Withdrawals (Mgd)



 Kendall County



**2050 Withdrawals (Mgd)
(Baseline Scenario)**



 Kendall County

Summary (1/2)

- Sources of water in NE Illinois include Lake Michigan (69%), inland surface waters (14%), and groundwater (17%)
- Kendall County is 100% dependent on groundwater for water supply
- Groundwater withdrawals in NE Illinois declined 49% from 1979 to 1993 by deliberately shifting public system sources to Lake Michigan
- Groundwater withdrawals in NE Illinois increased 28% from 1993 to 2005
- Kendall County groundwater withdrawals increased 230% from 1990 to 2005
- 76% of Kendall County groundwater withdrawals are obtained from the sandstone aquifers, as opposed to 50% in the NE Illinois region (2005)

Summary (2/2)

- Plausible scenarios of future water demand show water demand in NE Illinois increasing by 42 to 134% from 2005 to 2050
- Plausible scenarios of future water demand show water demand in Kendall County increasing by 112 to 312% from 2005 to 2050
- Sandstone wells in Kendall County are subject to the effects of large withdrawals at locations outside of the county

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