

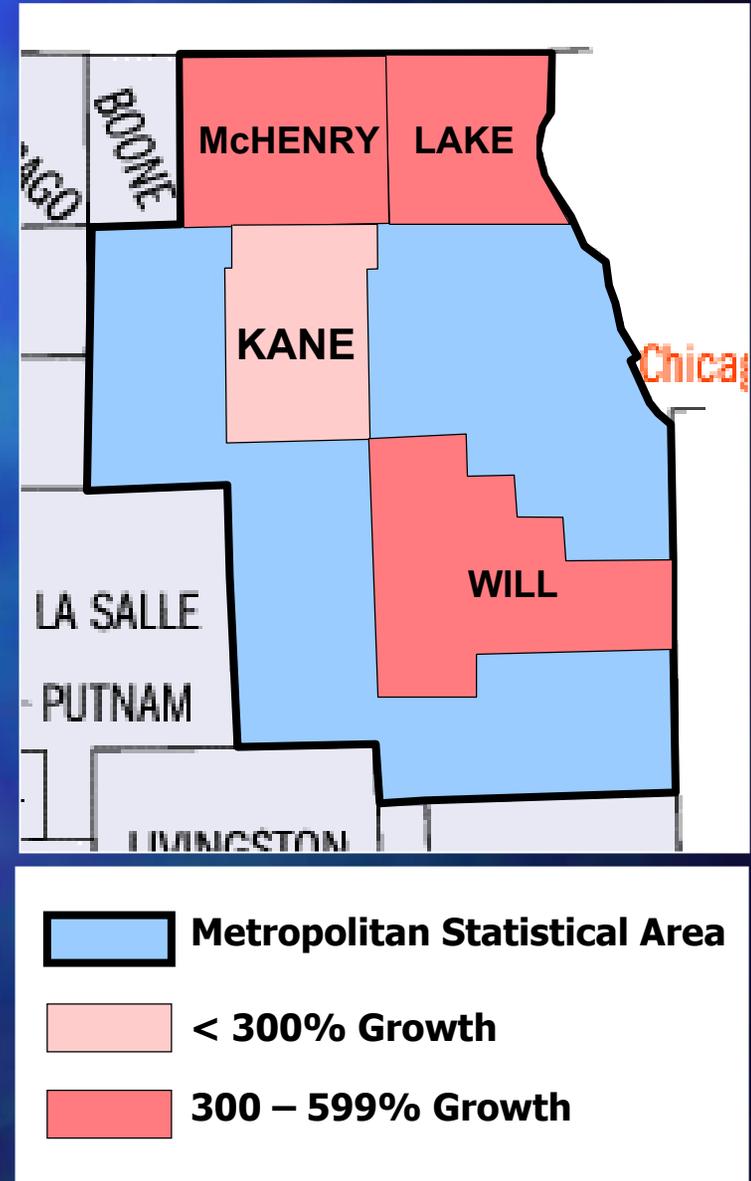
Northeastern Illinois Development and Kane County Needs

“Straddling The Divide”
February 15, 2005

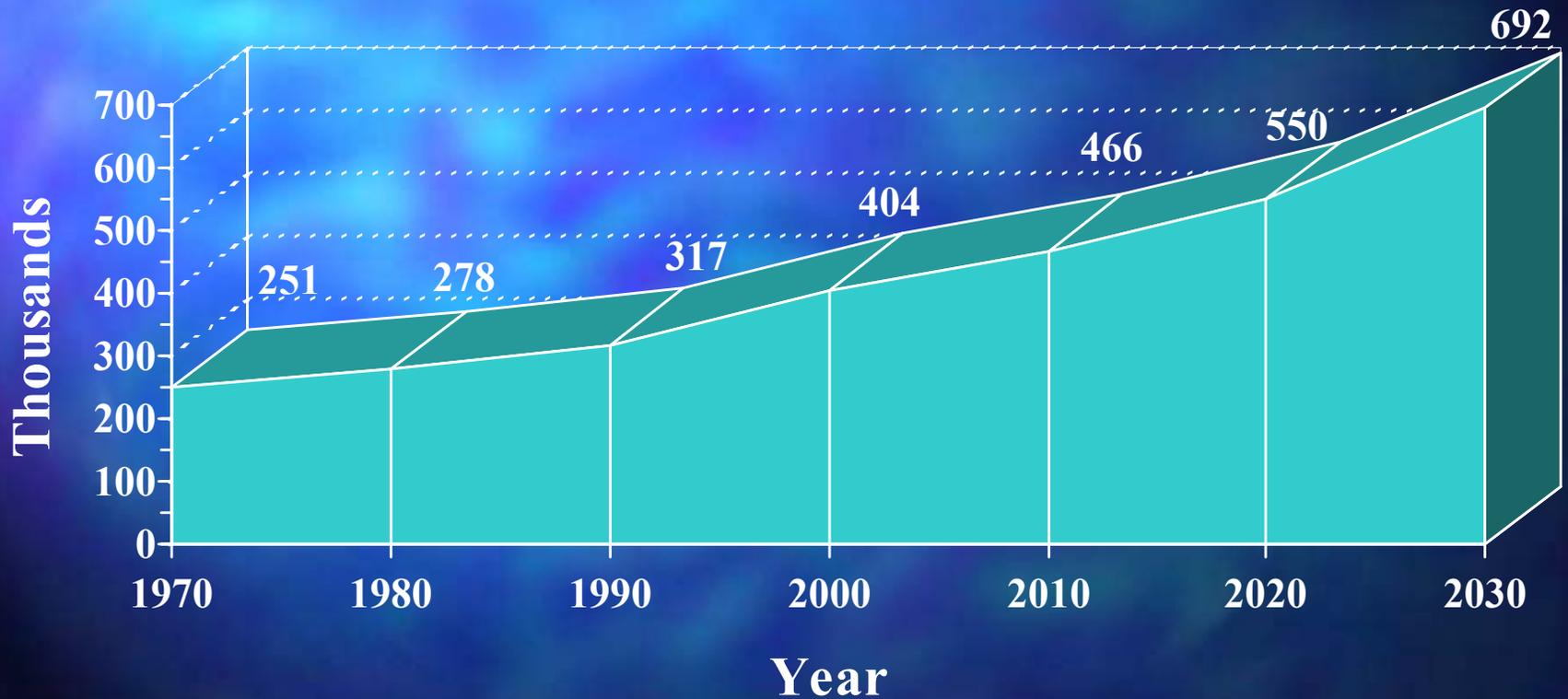
Presented by Phil Bus, Executive Director
Kane County Development and Resource
Management Department

Edge Counties

- “Metropolitan Growth Engines”
- Growing at Double Digit Rates since 1950



Population in Kane County

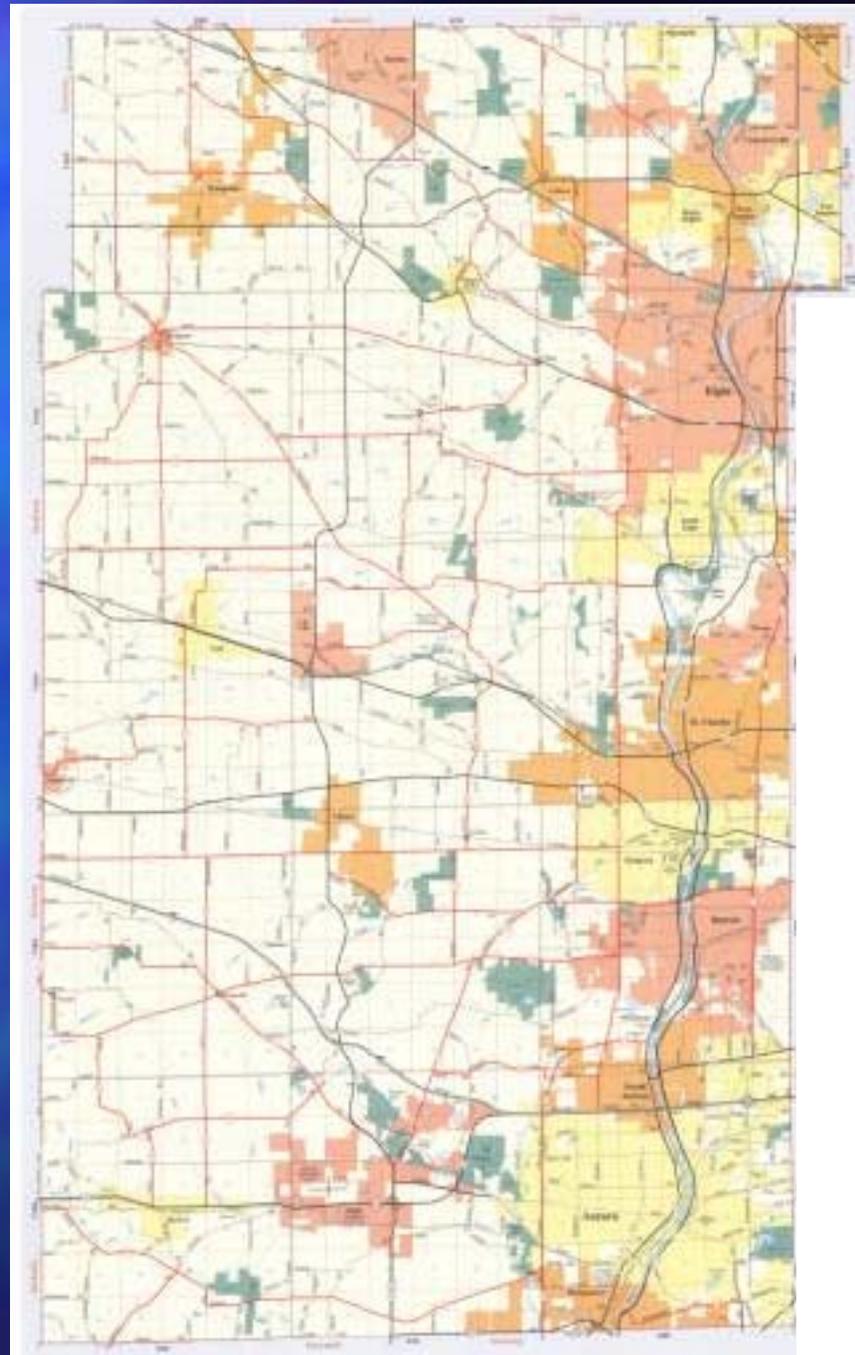


Kane County Population Estimate

County	2000 Census	Population Estimate, July 2003	Population Change 2000 to 2003	Percent Change
DeKalb	88,969	94,041	5,072	5.7%
DuPage	904,161	925,188	21,027	2.3%
Kane	404,119	457,122	53,003	13.1%
Kendall	54,544	66,565	12,021	22.0%
Lake	644,592	685,019	40,427	6.3%
McHenry	260,075	286,091	26,016	10.0%
Will	502,266	586,706	84,440	16.8%

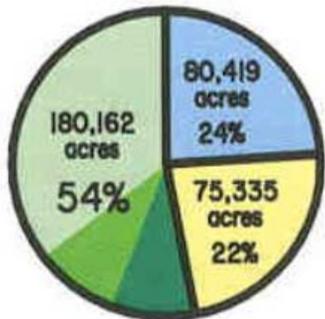
Kane County Municipalities

- 28 Municipalities

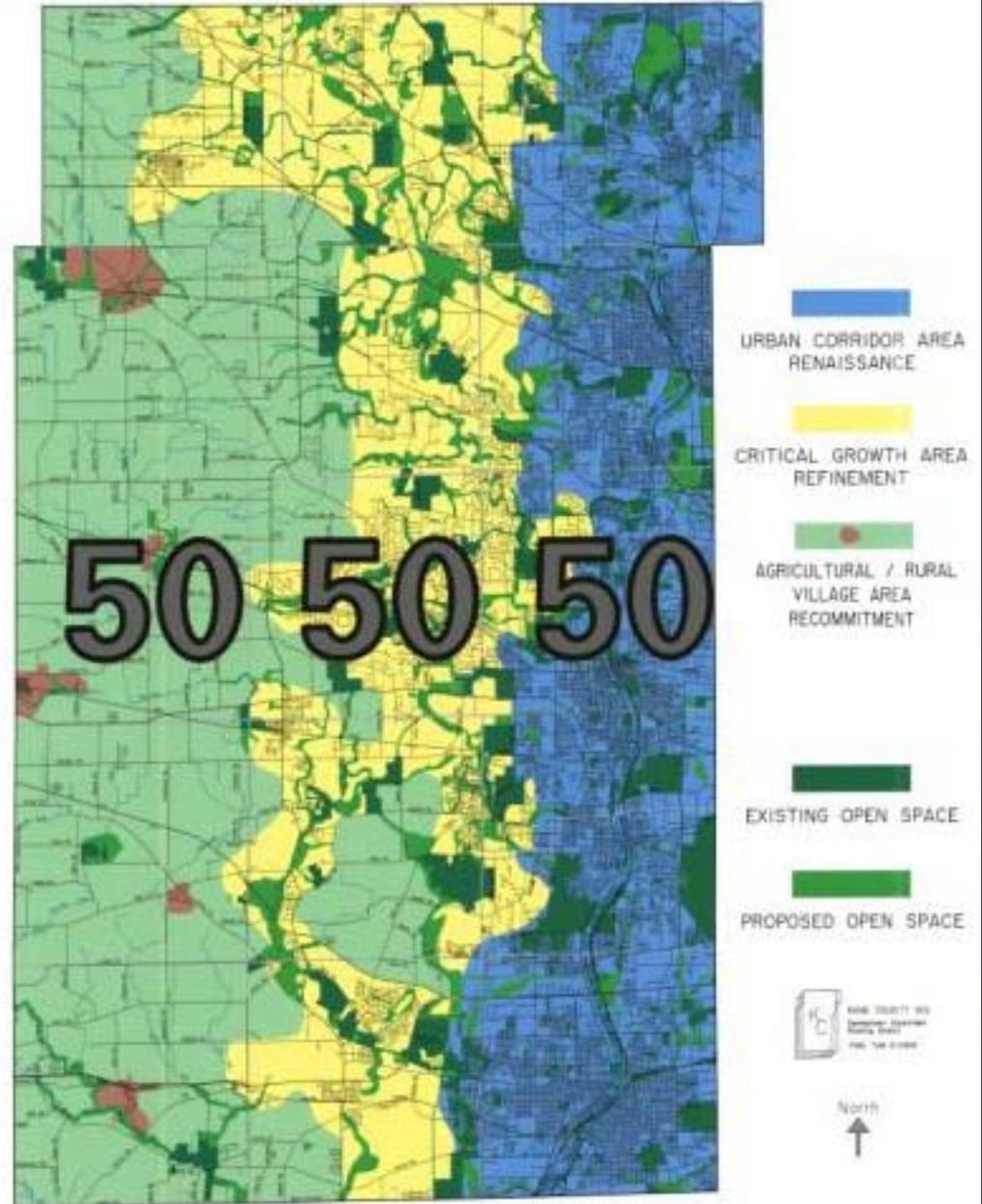
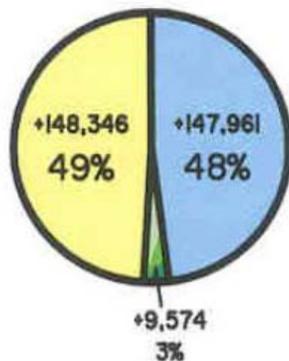


Kane County 2030 Plan

TOTAL LAND AREA



POPULATION INCREASE from 2000-2030

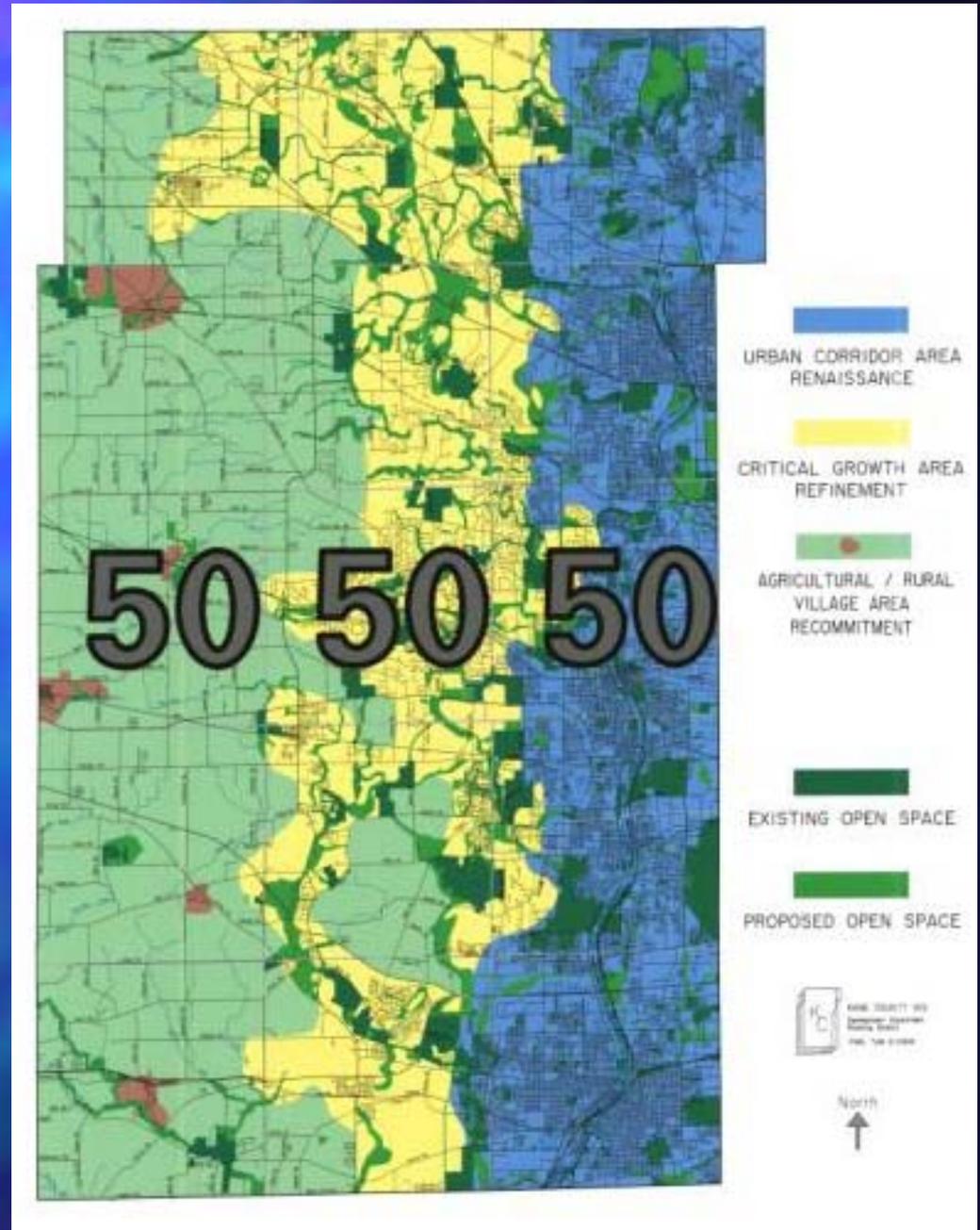


Kane County 2030 Plan

How do we provide opportunities for growth in the Urban Corridor and Critical Growth Areas for an increase in population of 300,000 by the year 2030?

Must be a “Shared Vision” for the WHOLE County

All decisions should consider “conservation and wise use”



Kane County Challenges



- Future Water Supply



- Traffic Congestion



- Diverse, Affordable Housing

Kane County Future Water Supply



Where Will Our Water Come From?

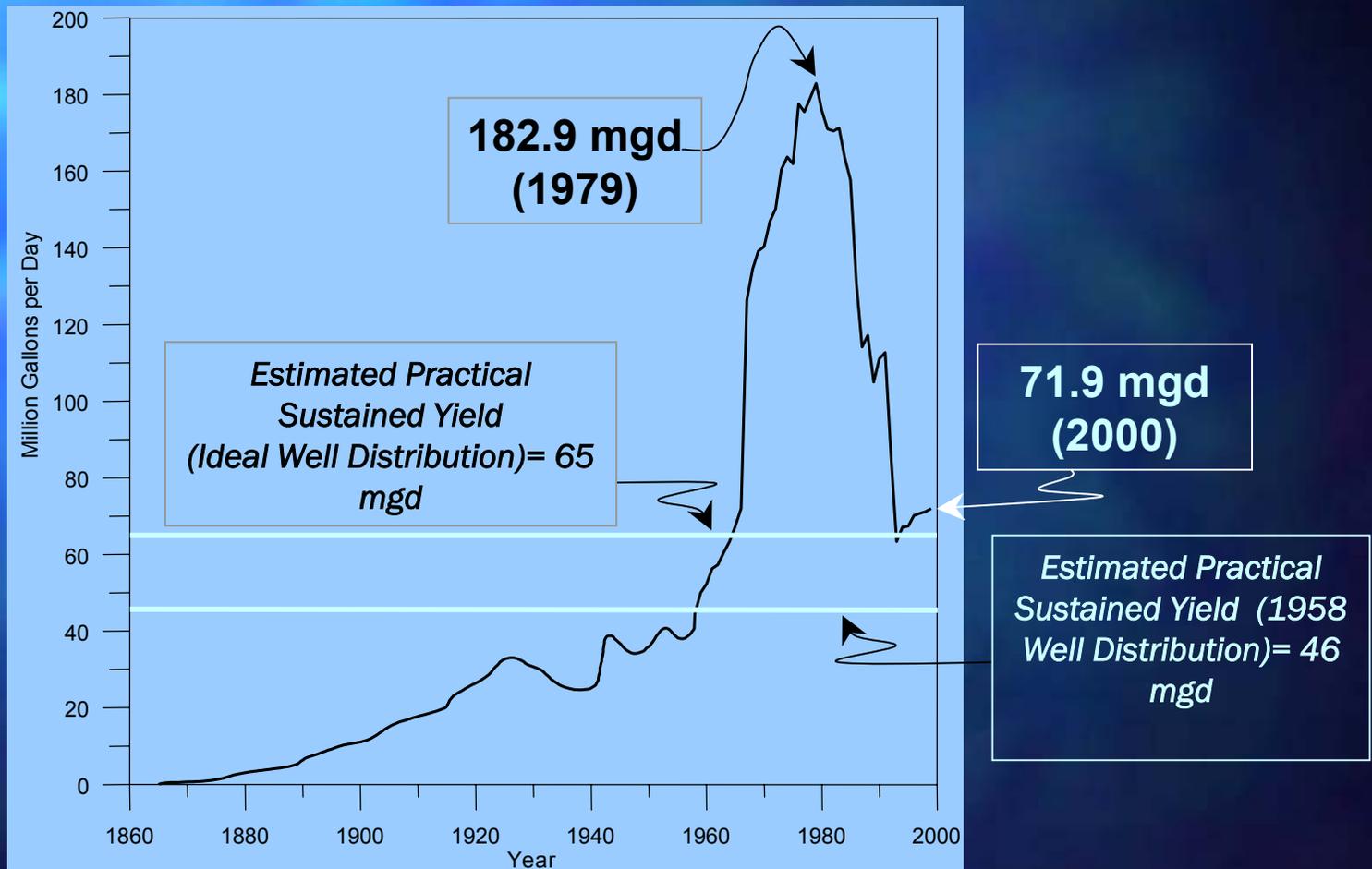
Lake Michigan Water

- Not an option for Kane County:
 - Economically and politically not feasible
 - International treaty with Canada limits Lake Michigan withdrawals to 3,200 cfs

Kane County must depend on its own water resources for drinking water supply

- Deep Aquifer
- Shallow Aquifer
- Surface Water

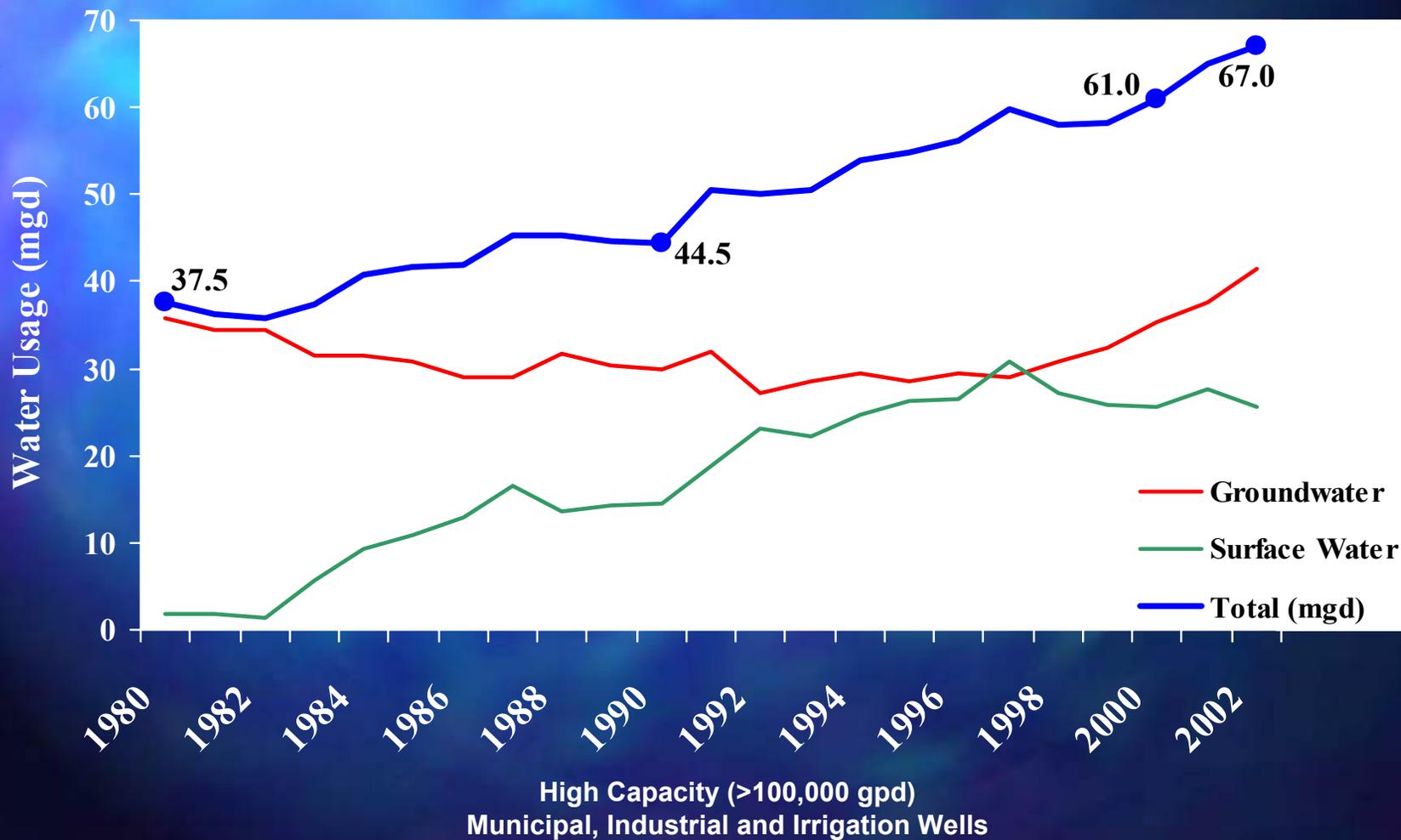
Northeastern Illinois Deep Bedrock Withdrawals, 1900-2000



Modified from
Burch (in review)

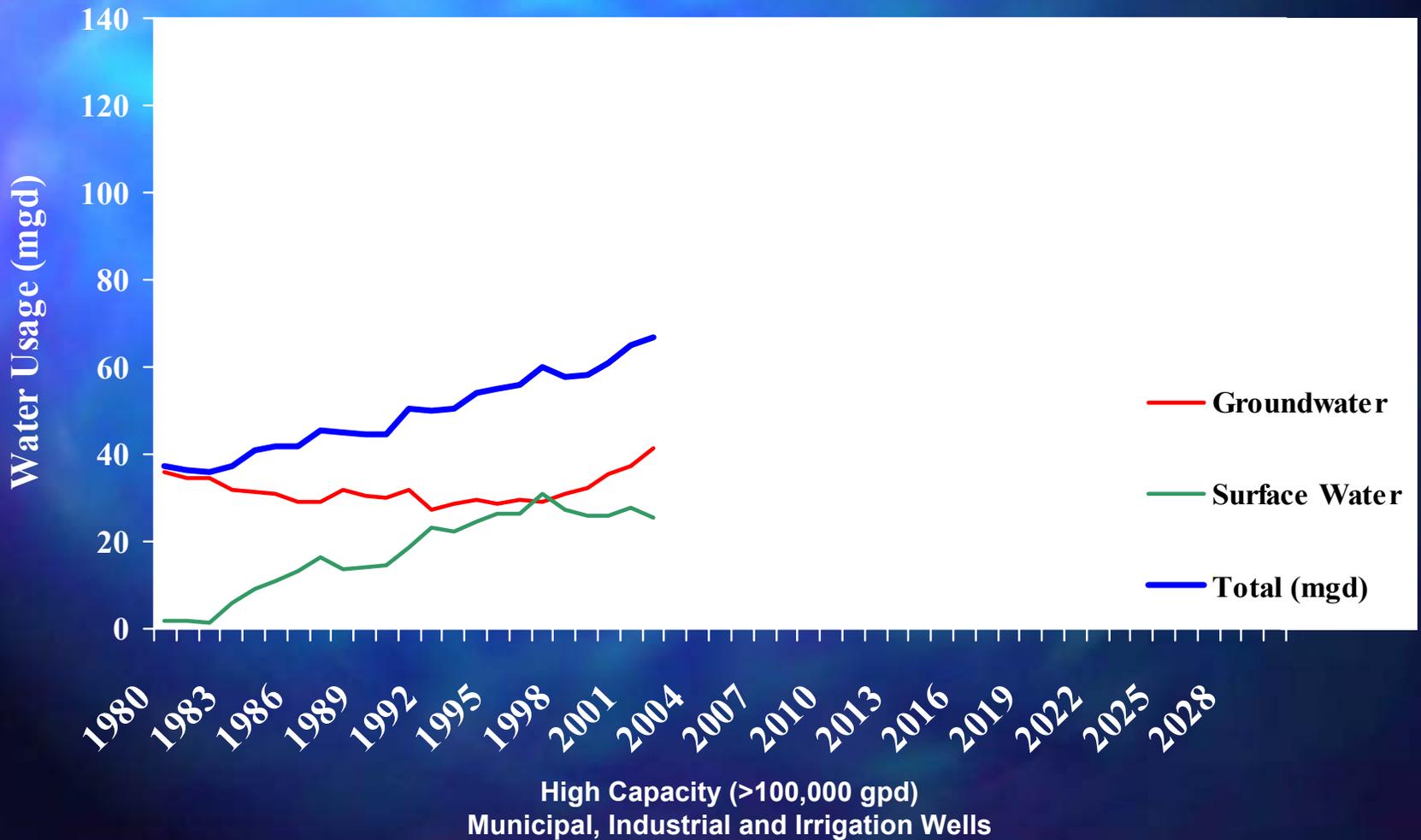
Kane County Water Withdrawals

Reported to ISWS 1980 – 2002



Kane County Water Withdrawals

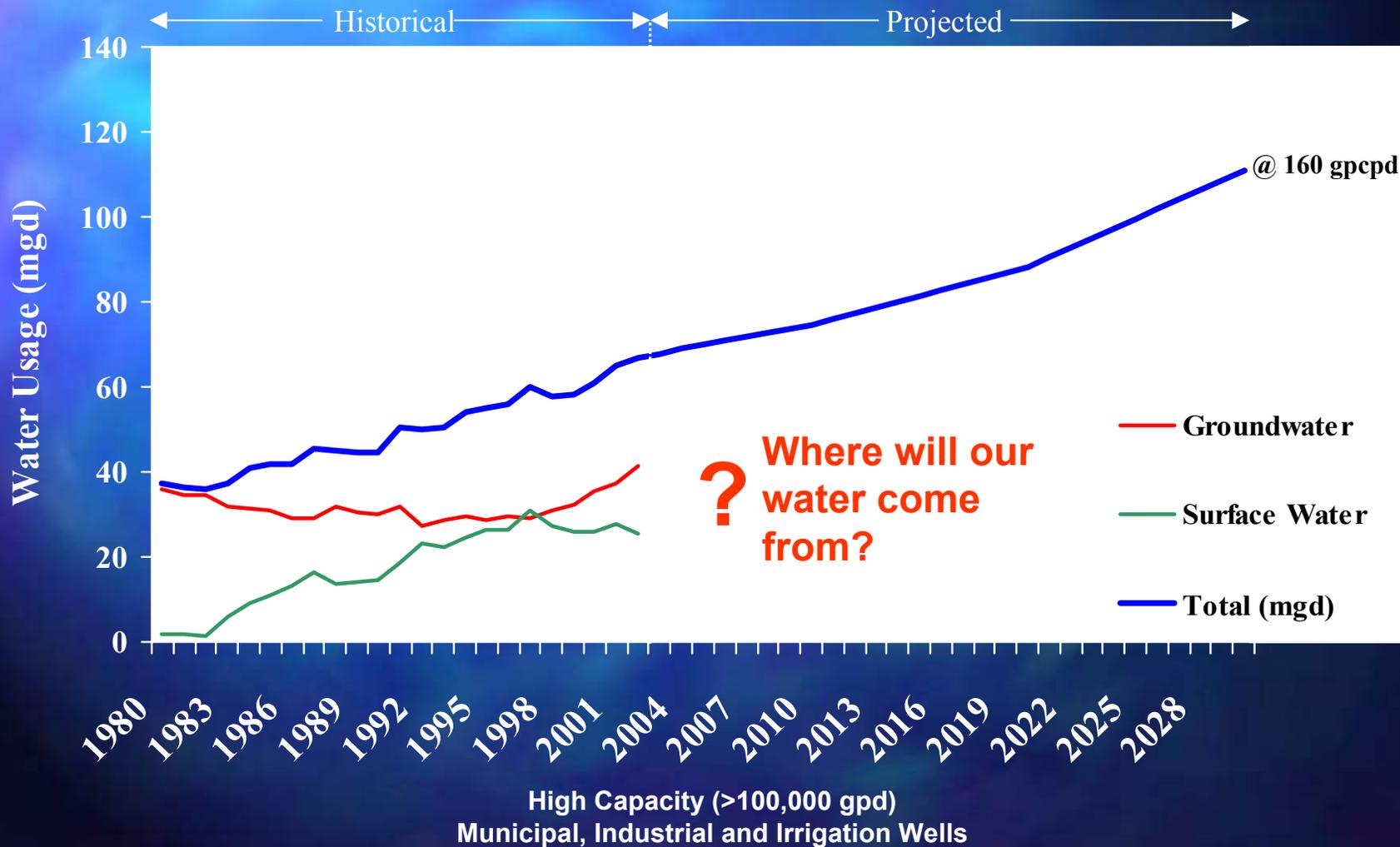
Reported to ISWS 1980 – 2002



Kane County

Projected Water Withdrawals

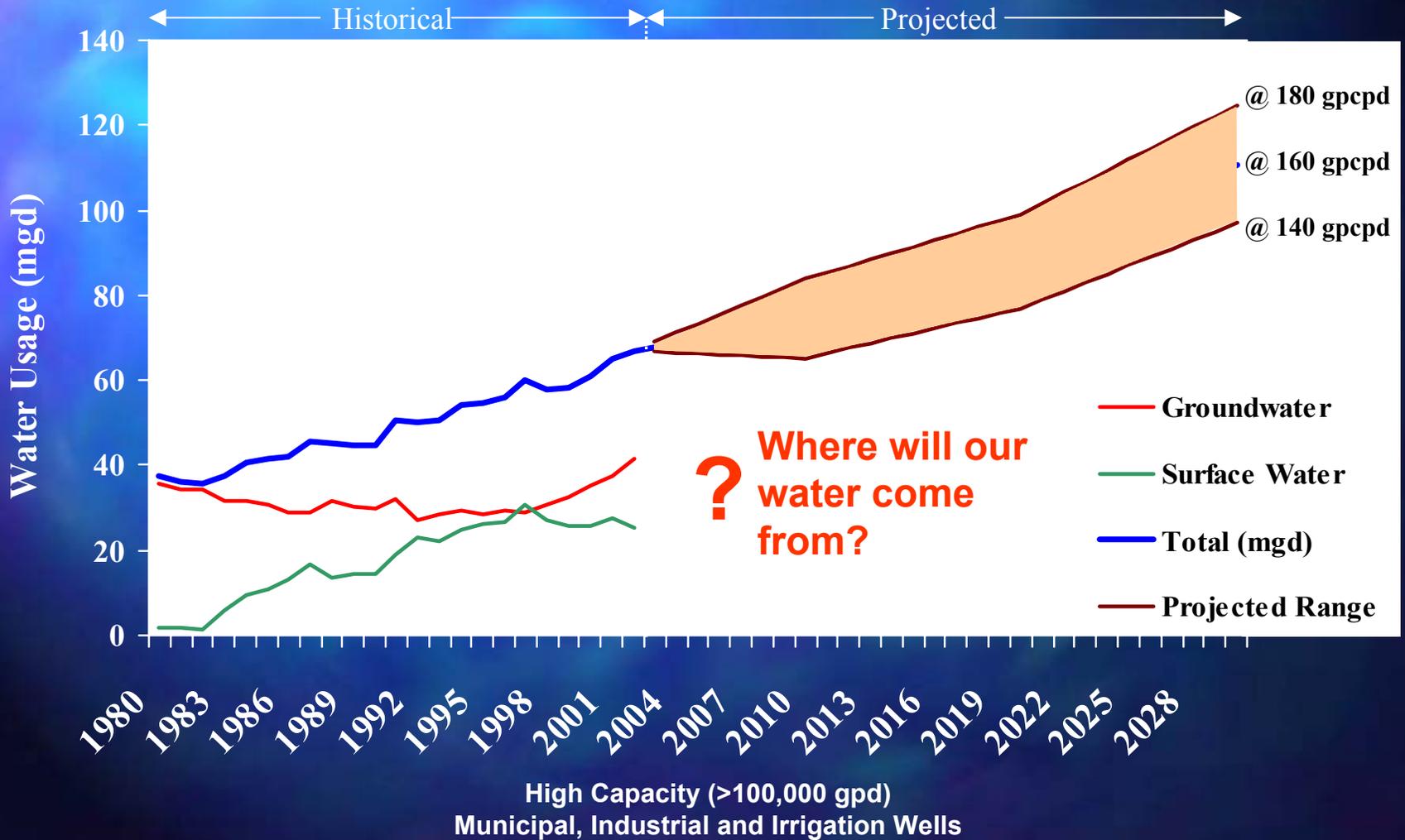
at 160 gpcpd Usage 2010 – 2030



Kane County

Projected Water Withdrawals

with 140 to 180 gpcpd Usage 2010 – 2030



ISWS Proposal

What is the County doing to answer some of these water supply questions?

The issue of Water Supply is so important that the County is spending close to \$2 million in the next 5 years on:

Geologic and Hydrogeologic Models:

- Deep Bedrock Aquifer
- Shallow Aquifer

Flow Accounting Model:

- Surface Water from the Fox River

Exhibit A



Illinois State Water Survey

Main Office • 2204 Griffith Drive • Champaign, IL 61820-7495 • Tel (217) 333-2210 • Fax (217) 333-6540
Peoria Office • P.O. Box 697 • Peoria, IL 61652-0697 • Tel (309) 671-3196 • Fax (309) 671-3106



RESEARCH PROPOSAL

SUBMITTED TO: Kane County Development Department
Geneva, Illinois

GRANTEE: Board of Trustees, University of Illinois
State Water Survey Division

SCIENTIFIC GROUP: IL State Water Survey IL State Geological Survey
2204 Griffith Drive 615 E. Peabody
Champaign, IL 61820 Champaign, IL 61820

TITLE: Water-Resources Investigations for Kane County, Illinois

Amount Requested: \$1,818,578

Proposed Duration: 5 years

Principal Investigators

Scott C. Meyer, P.G.
Illinois State Water Survey
Phone: (217) 333-5382

William S. Dey
Illinois State Geological Survey
Phone: (217) 244-2779

Approving Administrative Official

Derek Winstanley, D.Phil.
Chief, Illinois State Water Survey
Phone: (217) 244-5459

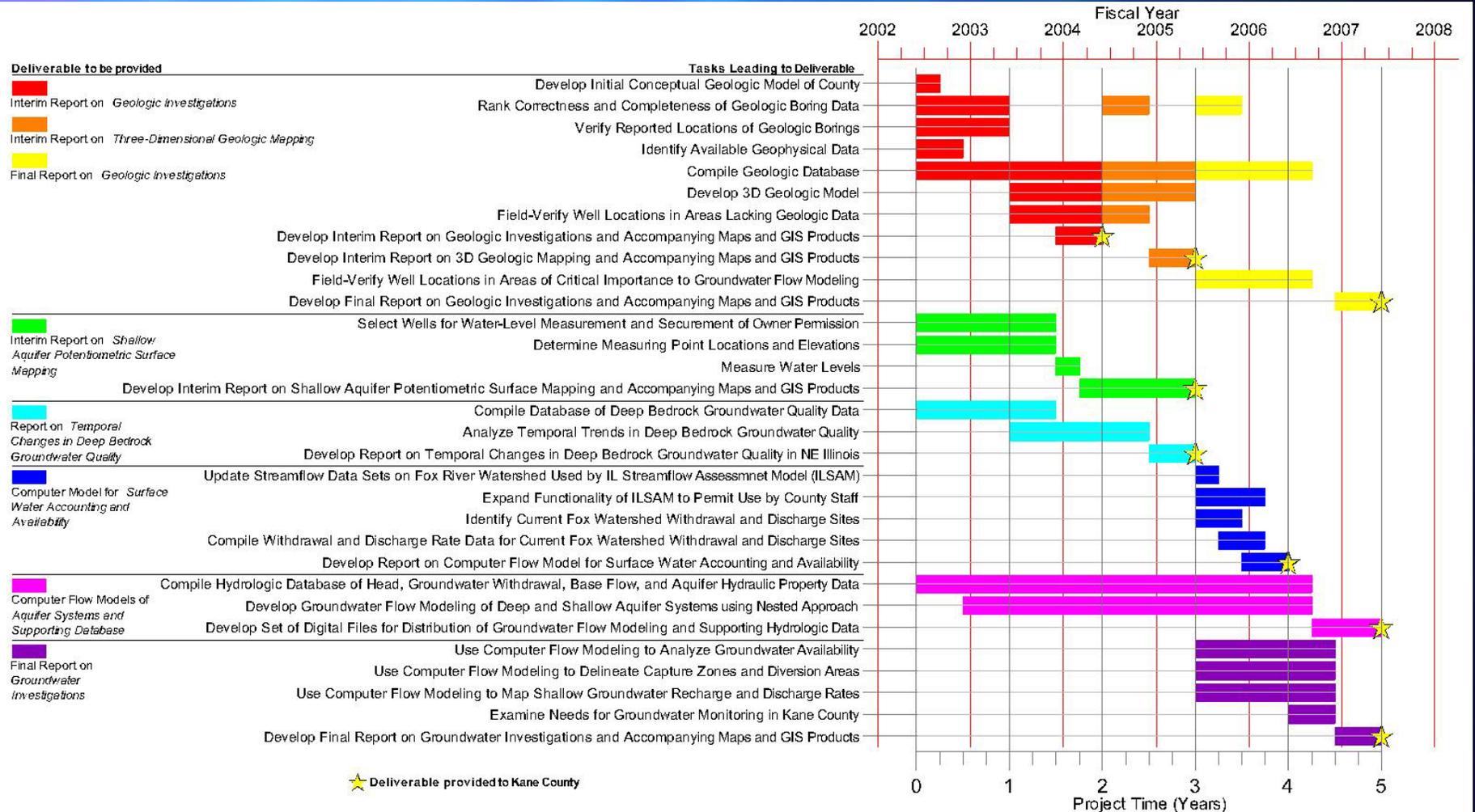
William W. Shilts
Chief, Illinois State Geological Survey
Phone: (217) 333-5111

Approving University Officials

J.J. Kamerer, Director
Grant & Contract Administration
University of Illinois
Phone: (217) 333-2187

Paul W. Bohn
Interim Chair, Research Board
University of Illinois
Phone: (217) 333-2187

Kane County 5-Year Water Resources Investigations by the ISWS/ISGS



Kane County 5-Year Water Resources Investigations by the ISWS/ISGS

2004

- Interim Report of Geologic Investigations

2005

- Interim Report on Three-Dimensional Geologic Mapping
- Interim Report on Shallow Aquifer Potentiometric Surface Mapping
- Report on Temporal Changes in Deep Bedrock Groundwater Quality

2006

- Computer Model for Surface Water Accounting and Availability

2007

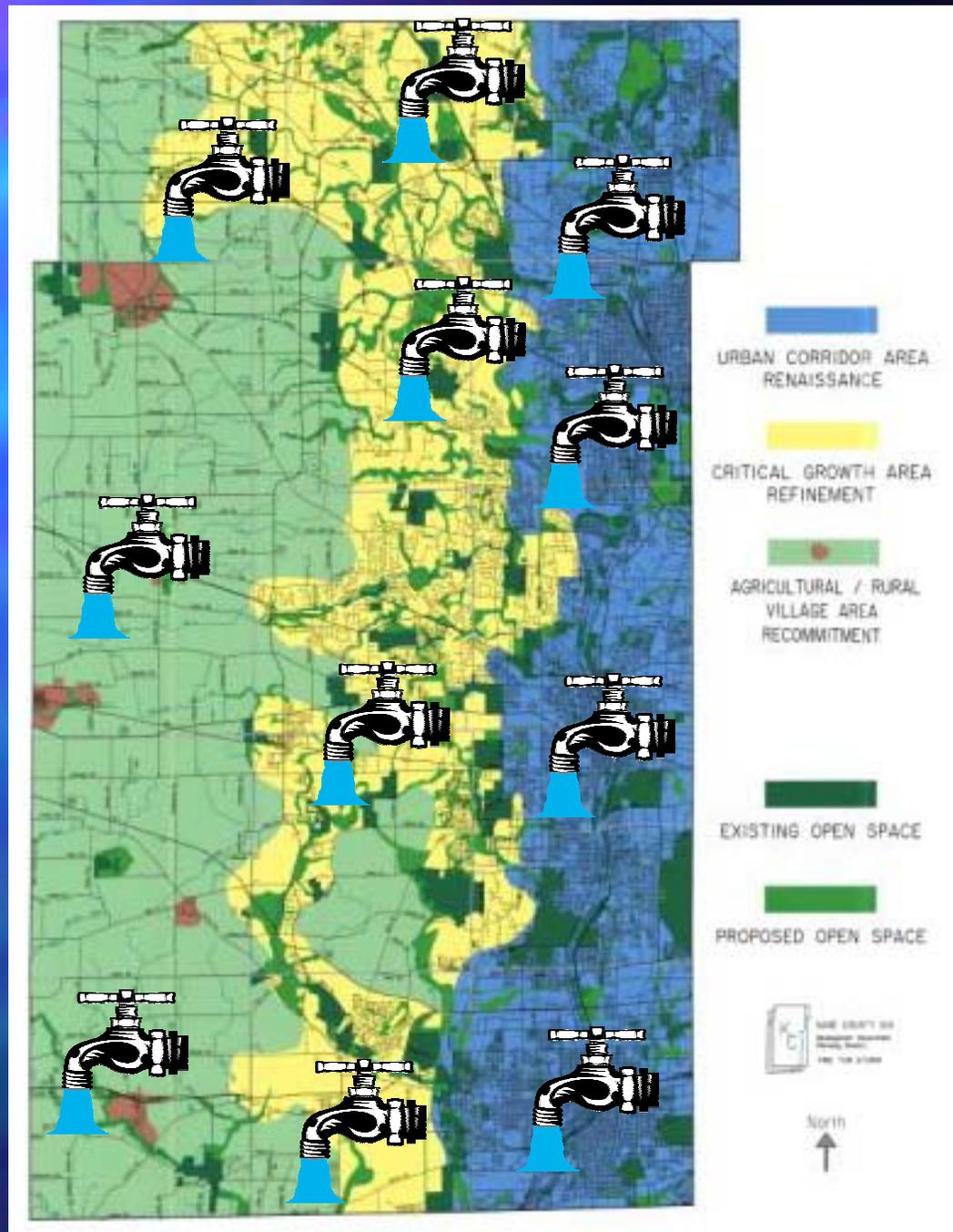
- Final Report on Geologic Investigations
- Computer Flow Models of Aquifer Systems and Supporting Database
- Final Report on Groundwater Investigations

What Kane County Needs to Address for a Sustainable Future Water Supply

- Identify sources of water
 - Deep bedrock aquifer
 - Shallow aquifer
 - Surface water
- Protect water quality
- Encourage water conservation
- Acknowledge changing demographics
- Implement Countywide Water Supply Planning and Source Water Protection

Water Resource Challenges

How do we provide an additional 50 to 60 million gallons per day of sustainable water supply for an additional 300,000 people in the most cost efficient and environmentally responsible manner?



Water Resources Policies

- Protection of Groundwater
- Encouragement of Conservation
- Creation of Countywide Water Authorities
- Development of Countywide Water Protection Plan
- Establish Countywide Regulations

2030 Plan Water Resources Objectives

1. To recognize an interacting system of land and water resources is a major component of our natural environment.
2. To preserve and protect the quantity and quality of potable groundwater and potable surface water supplies and to ensure sustainable yields for current and future generations.
3. To protect and improve the surface water quality and beneficial uses of ponds, lakes, rivers, streams, and wetlands.
4. To reduce point and non-point source discharges of pollutants into lakes, rivers, and streams.
5. To preserve and protect the recharge of our groundwater aquifers for current and future potable water supply needs of Kane County.
6. To maintain or achieve for every stream in Kane County a Class B or better water quality rating as defined by the Biological Stream Characterization system of the Illinois Environmental Protection Agency.
7. To conserve water resources via lawn watering restrictions, water-conserving plumbing fixtures, and reuse and recycling of reclaimed wastewater.
8. To promote watershed based planning in a holistic manner for water supply, stormwater management, and wastewater reclamation.
9. To promote stormwater management practices that maximize groundwater recharge potential.

2030 Plan Water Resources Objectives

- 1. To recognize an interacting system of land and**
- 2. To preserve and protect the quantity and quality of potable groundwater and potable surface water supplies and to ensure sustainable yields**
- 3. To conserve water resources via lawn watering**
- 4. To promote watershed based planning in a holistic manner for water supply, stormwater management, and wastewater reclamation.**
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- 7. To conserve water resources via lawn watering**
- 8. To promote watershed based planning in a holistic manner for water supply, stormwater management, and wastewater reclamation.**

2030 Plan Water Resources Policies

1. **Preserve and protect the quantity and quality of groundwater and surface water, the principal sources of potable water in Kane County, and encourage water conservation programs.**
2. **Develop a countywide source water protection plan, which would incorporate watershed based planning and scientific data on the geology and aquifer systems of the County in order to protect recharge areas and provide sustainable drinking water supplies for projected populations.**
3. **Preserve and improve the water quality of the Fox River and its tributaries and the tributaries of the Kishwaukee River in order to maximize their potential for wildlife habitat, recreational, and other uses.**
4. **Review and periodically update the Countywide Stormwater Management Plan and Stormwater Ordinance to incorporate new planning goals, new technology, updated regulations, and the results of watershed based planning.**
5. **Reclaim wastewater in an environmentally sound manner and conducive to public and aquatic health, including the encouragement of wastewater recycling and reuse systems, land applications of reclaimed wastewater, and wetland or other types of treatment to reduce and eliminate the impacts of nutrient discharges into rivers and creeks.**
6. **Maintain coordinated stream gauging, rainfall monitoring, and water quality stream sampling programs for all major streams in Kane County in cooperation with local, state, and federal agencies and programs.**
7. **Cooperate with the Forest Preserve, local government entities, and private landowners in the development of watershed preserves, conservation areas, greenways, wetlands and buffers in order to minimize the negative impacts of developing areas in our watersheds.**
8. **Develop watershed management plans for the remaining four major streams (Eakin, Tyler, Ferson-Otter, and Mill Creeks) in the Critical Growth Areas of Kane County.**

2030 Plan Water Resources Policies

- 1. Preserve and protect the quantity and quality of**
- 5. Reclaim wastewater in an environmentally sound manner and conducive to public and aquatic health, including the encouragement of wastewater recycling and reuse systems, land applications of reclaimed wastewater, and wetland or other types of treatment to reduce and eliminate the impacts of nutrient discharges into rivers and creeks.**

- 8. Develop watershed management plans for the remaining four major streams (Eakin, Tyler, Ferson-Otter, and Mill Creeks) in the Critical Growth Areas of Kane County.**

2030 Plan Water Resources Policies

9. **Maintain a coordinated NPDES Phase II Program with local government entities under the Countywide Stormwater Management Program in order to reduce stormwater pollutants and to enhance water quality, aquatic health, and biodiversity in our streams and riparian areas.**
10. **Initiate legislation for the 6 county NIPC region to authorize creation of a countywide water authority in order to give the county authority to adopt a water supply management ordinance, but not including the authority to regulate the agricultural use of water.**
11. **Require that the Illinois Environmental Protection Agency deny amendments to any Facility Planning Area that would create a new or increased point source discharge where such discharges would prevent streams from achieving or maintaining a Class B or greater water quality stream rating.**
12. **Require that all FPA expansion requests include the water demand aspect of land use plans within the municipal planning area and the area of the proposed expansion and identify the source of supply to meet the long-term demand.**
13. **Require that all new or expanded wastewater treatment facilities, whether conventional or reclamation and recycling, be owned and operated by a unit of local government capable of assessing property taxes and imposing user fees.**
14. **Protect and preserve wetlands as an essential component of the hydrological system and wildlife habitat, and restore degraded wetland areas where possible.**
15. **Promote and encourage the use of design techniques, Best Management Practices, and other methods to ensure that imperviousness within developing watersheds does not exceed 15%.**

2030 Plan Water Resources Policies

9. Maintain a coordinated NPDES Phase II Program with local government entities under the Countywide Stormwater Management Program in order to reduce stormwater pollutants and to enhance water quality, aquatic health, and biodiversity in our streams and riparian areas.

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Kane County Workshops



- Diverse, Affordable Housing -- 2005



- Traffic Congestion -- 2006



- Future Water Supply -- 2007

Kane County 2030 Plan

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