



East Central Illinois Regional Water Supply Planning Committee

A REGIONAL WATER SUPPLY PLAN FOR EAST-CENTRAL ILLINOIS

- **MANDATE**
- **THE REGION**
- **PLANNING PROCESS**
- **KEY FINDINGS**
- **RECOMMENDATIONS**



East Central Illinois Regional Water Supply Planning Committee

MANDATE

Executive Order 2006-01 Water Supply Planning

- Two Priority Regions established
 - Northeastern Illinois - CMAP
 - East Central Illinois – Mahomet Aquifer Consortium

- Funding

Contracts from IDNR-OWR with the Mahomet Aquifer Consortium and the Illinois State Water Survey and Illinois State Geological Survey [funding for the 3rd year was not provided]

*IDNR – Illinois Department of Natural Resources

*OWR – Office of Water Resources

*CMAP – Chicago Metropolitan Agency for Planning



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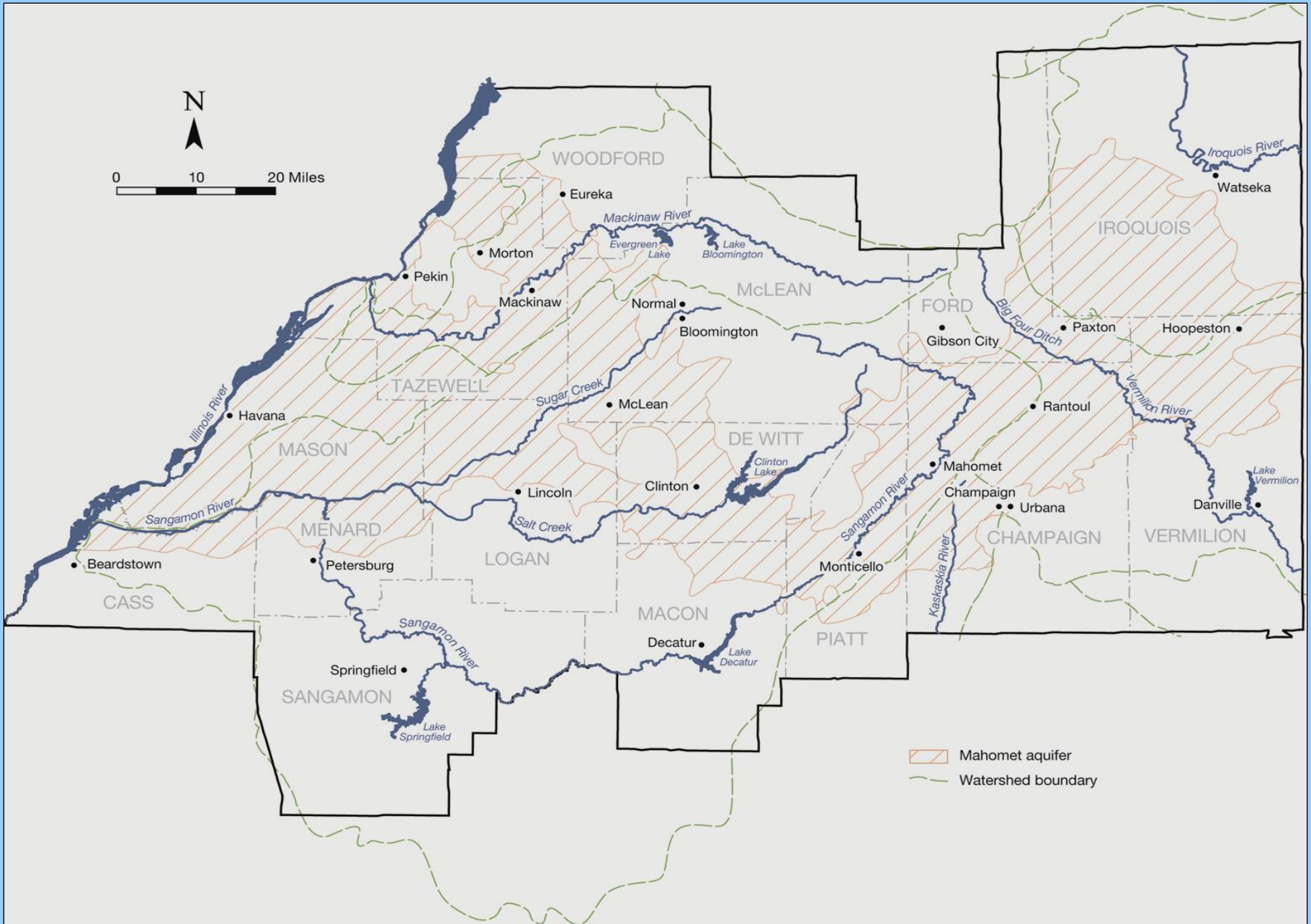
COMMITTEE TASKS

- Develop water demand scenarios to the year 2050.
- Compare available water supplies and future demand scenarios.
- Participate in the development and approval of regional plan within existing regulations, laws and property rights.
- Public education and outreach.



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THE REGION





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PLANNING PROCESS

PROJECT PARTICIPANTS

- Grassroots interest
- Individuals selected
- Regional participants (West, Central, and East)
 - Four representatives from each area
- Term
- Cross section stakeholders



East Central Illinois Regional Water Supply Planning Committee

Public - Bradley Uken (Chair)

Water Authorities - Morris Bell

Counties - Evelyn Neavear

Agriculture - Jeff Smith

Small Business - Robert Betzelberger

Soil and Water - Shannon Allen

Rural Water Districts - Frank Dunmire

Industries - Mark Sheppard

Electric Generating – Jay Henry

Water Utilities – Steve Wegman

Environmental - Dwain Berggren

Municipalities - William Smith

PROJECT TIMELINE

- March 9, 2007 – RWSPC first meeting
- August - September 2007 – Outreach meetings
- May 2008 – Water Demand Study Report
- March 2009 – Preliminary water supply analyses by the Illinois State Scientific surveys
- June 2009 – RWSPC FINAL REPORT: REGIONAL PLAN
- Summer 2009 – Draft final report by the Illinois Scientific Surveys

Wittman Hydro Planning Associates, Inc.
Water Demand Scenarios to 2050

- Current trend
 - Lower demand
 - Increased demand
- Effects of drought and possible climate changes on water demand also addressed.

WHY REGIONAL PLANNING?

- Long-range planning and management are needed to ensure that water shortages do not occur and the environment is protected.
- Regional planning brings together diverse stakeholders to consider cumulative impacts.
- Climate, surface water and groundwater are closely interrelated.

WATER SUPPLY PLANNING

- How much water will be needed?
- How much water will be available?
- What will be the environmental impacts of supplying more water?

**TOPICS NOT ADDRESSED IN ANY
SUBSTANTIAL MANNER**

Economics;

Social and cultural factors;

Law and regulation;

Water infrastructure;

Water treatment;

Water losses;

TOPICS NOT ADDRESSED (contd.)

Water efficiencies and conservation;

Water rates and prices;

Consumptive water use;

Storm water and floods;

Effluent water and water reuse;

Water utility operations;

In-stream and riparian water uses;

TOPICS NOT ADDRESSED (contd.)

Ecosystem management;

Water quality;

Land-cover changes; and

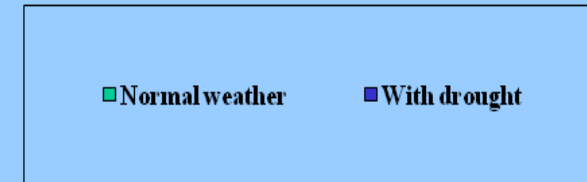
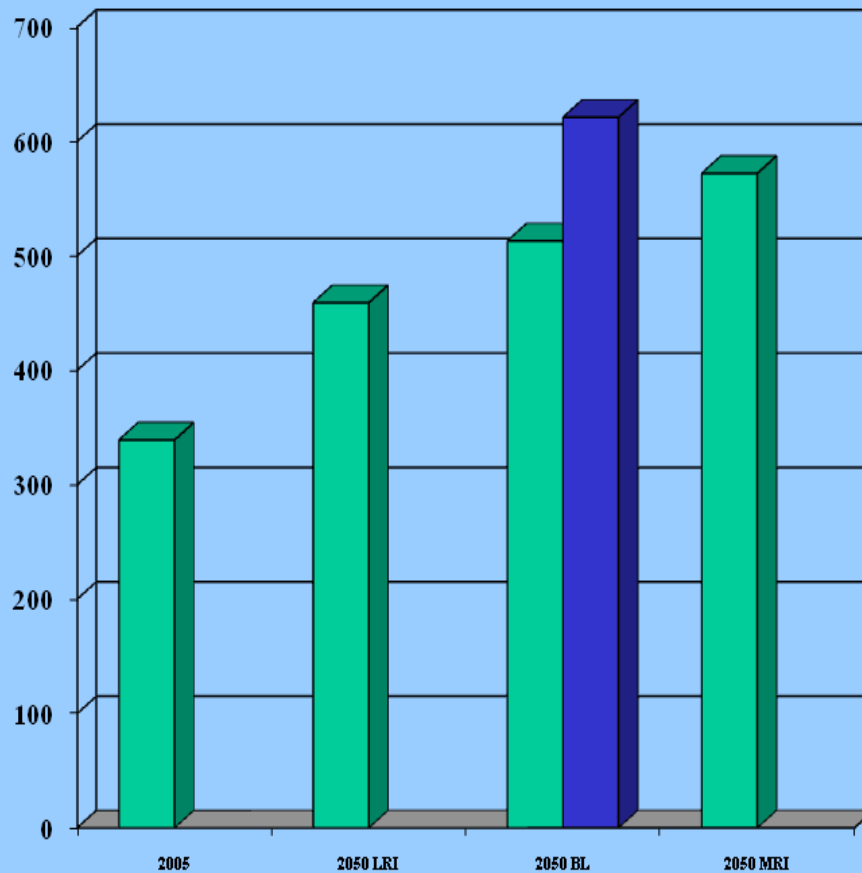
Land-use, transportation, and development
planning.



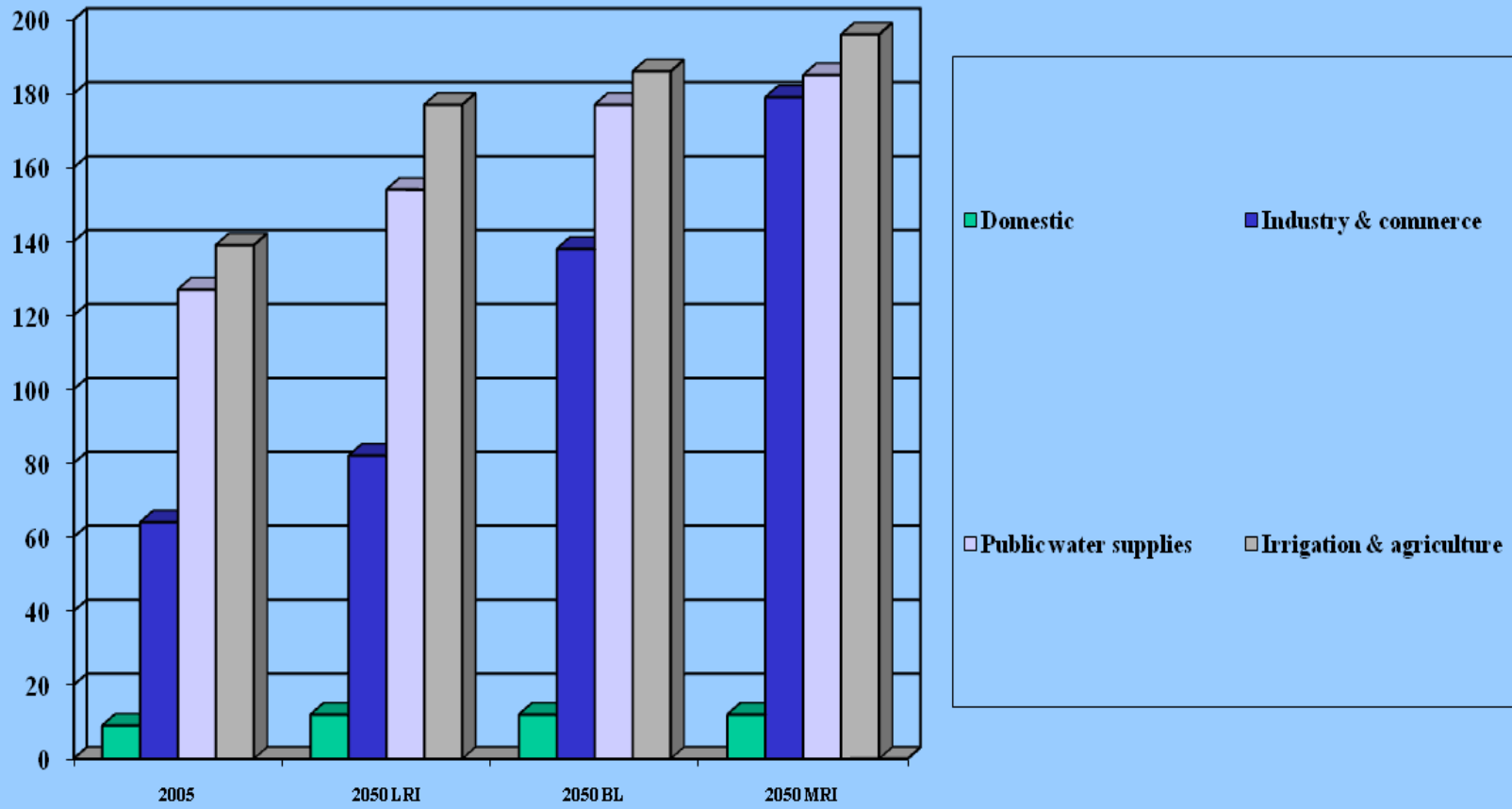
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KEY FINDINGS

Water withdrawals (mgd) in East-Central Illinois 2005 and 2050



Water withdrawals (mgd) in East-Central Illinois by water-use sector 2005 and 2050



Water withdrawals (mgd) by county: 2005 and 2050

County	2005 normal withdrawals	LRI 2050 withdrawals	BL 2050 withdrawals	MRI 2050 withdrawals
Cass	13	20	22	24
Champaign	35	46	52	57
DeWitt	2	3	3	3
Ford	5	9	10	12
Iroquois	6	8	9	10
Logan	6	8	10	10
Macon	38	51	59	68
Mason	94	111	117	125
McLean	18	26	30	32
Menard	3	4	4	4
Piatt	3	4	4	5
Sangamon	30	38	43	47
Tazewell	71	112	127	149
Vermilion	13	18	18	20
Woodford	4	6	6	6
TOTAL	341	464	514	572

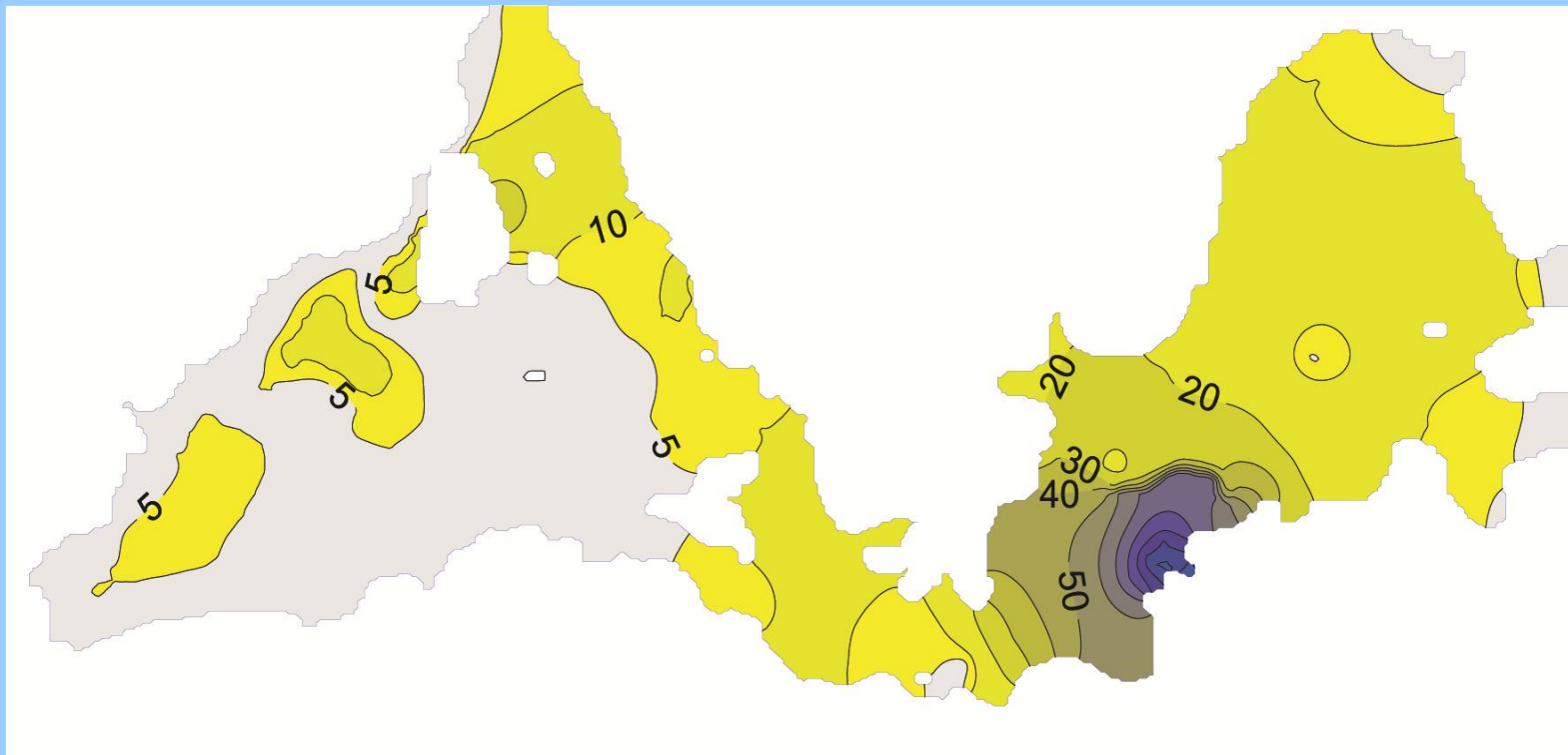
CLIMATE

- Severe droughts may recur.
- Mean annual temperature could increase 0-6 deg F by 2050.
- Mean annual precipitation could increase, decrease or remain the same.
- Drought and temperature increase would increase demand and reduce water availability, especially to reservoirs.
- Drought preparedness also will help prepare for possible climate change.

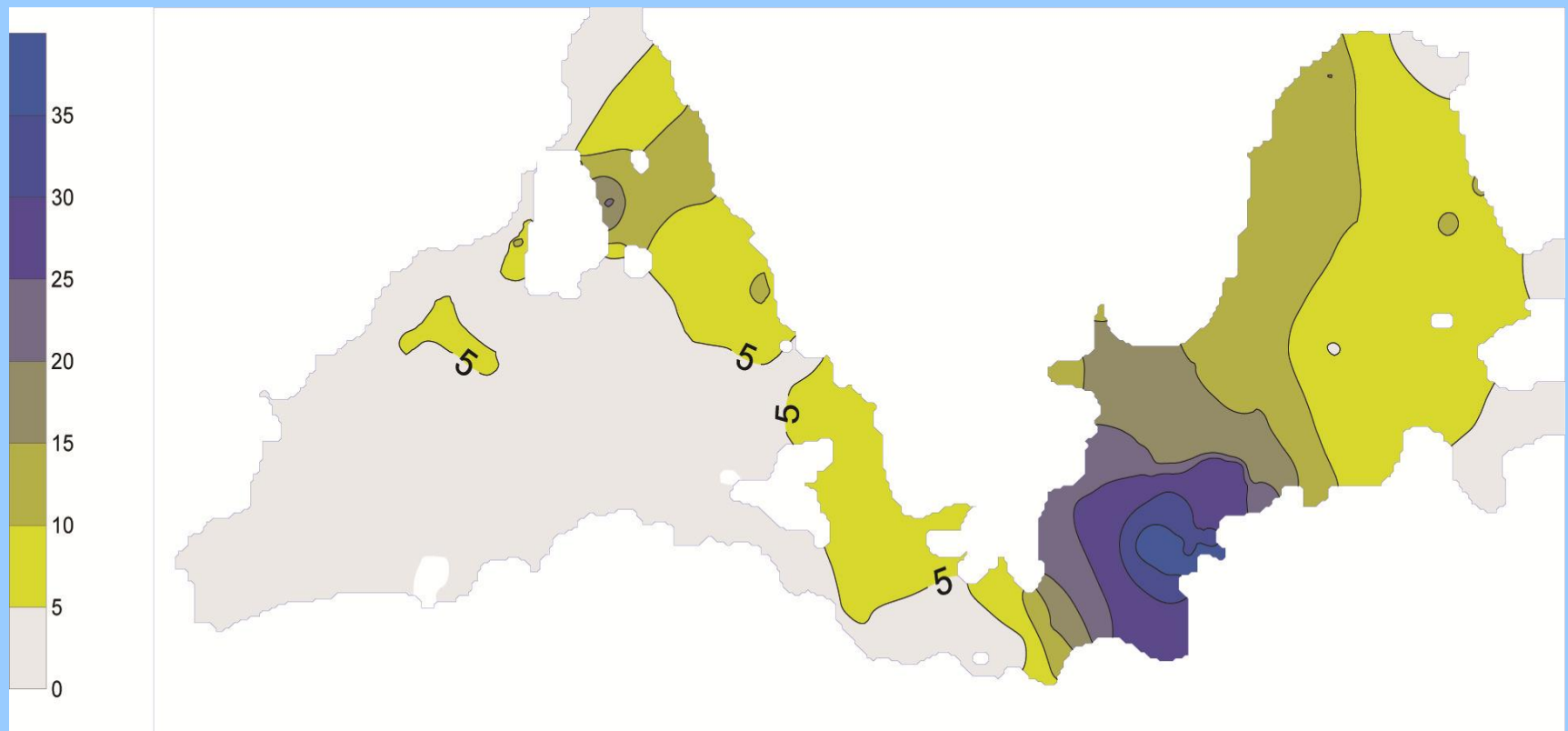
GROUNDWATER

- Most water pumped in the Havana Lowlands.
- This part of the aquifer is unconfined and can support large withdrawals.
- The central and eastern parts of the aquifer are confined and recharge is slow.
- Head will continue to decline in the Champaign County area, but likely remain above the top of the aquifer through 2050.

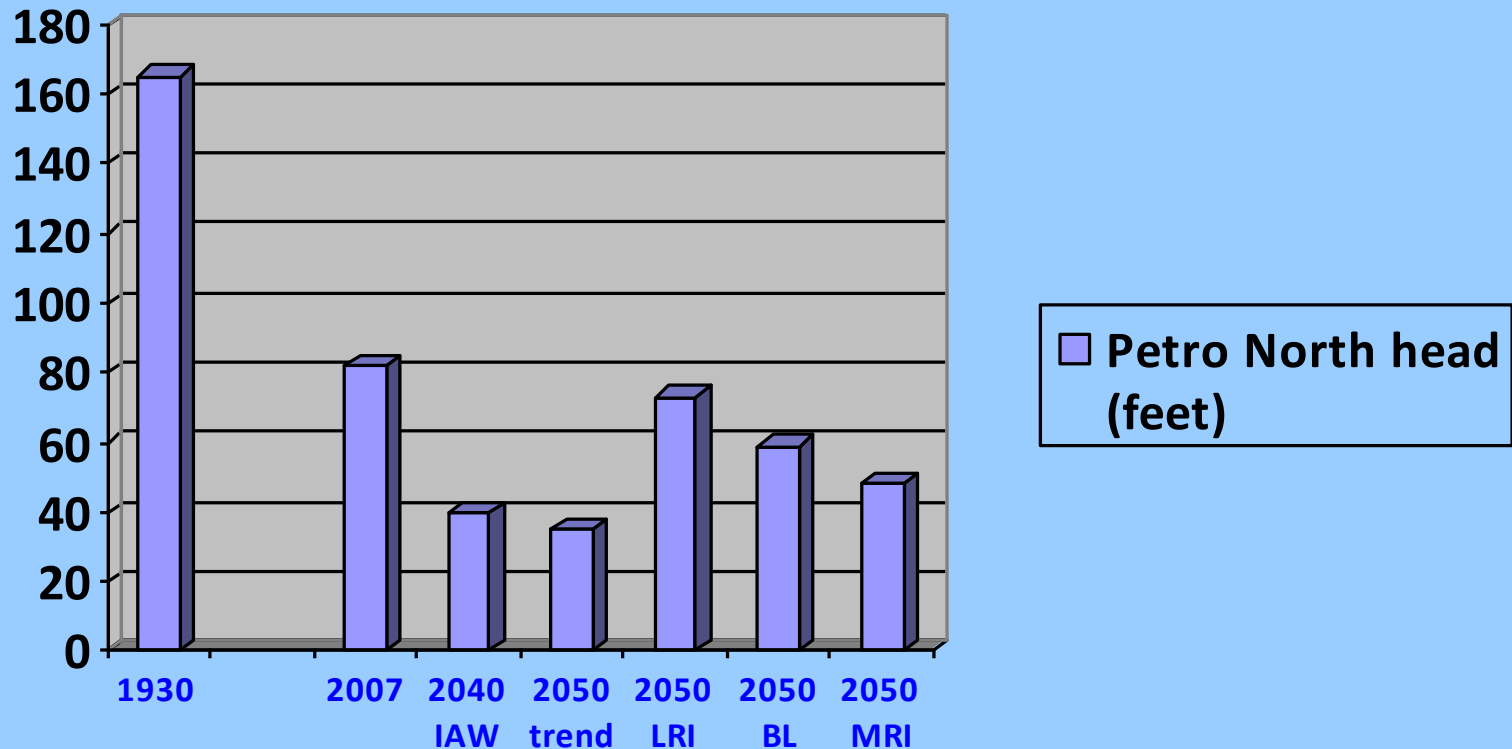
Mahomet Aquifer: simulated drawdown (feet) 1930-2005 (ISWS)



Mahomet Aquifer: simulated drawdown (feet) 2005-2050 (ISWS)



Head (feet) above the top of the Mahomet Aquifer



SURFACE WATER

- Bloomington, Decatur, Springfield and Danville rely on surface water.
- Sedimentation and loss of water storage capacity in reservoirs.
- Bloomington, Springfield and Decatur likely will face water shortages with recurrence of a multi-year drought.



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RECOMMENDATIONS

VISION

- East-Central Illinois will be a model for regional water supply planning and management.
- Future generations will inherit a legacy of responsible water supply planning and management.
- The provision of dependable and adequate supplies of clean water for all users at reasonable economic and environmental cost will enhance public health and the quality of life, reduce conflict, and preserve and enhance economic, agricultural and environmental resources and opportunities.

GOAL

- Make recommendations that will be adopted and implemented by stakeholders to improve the planning and management of water supplies in East-Central Illinois

FOUNDATIONS

- Sustainable water supplies
- Shared responsibilities
- Sound science
- Self governance and voluntary actions
- Informed public
- Adaptive management



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**ESTABLISH A PERMANENT PROCESS
FOR REGIONAL WATER SUPPLY
PLANNING AND MANAGEMENT**

**UPDATE PLANS AT LEAST EVERY
5 YEARS**



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ENSURE SUSTAINABLE WATER SUPPLIES

**ESTABLISH STANDARDS
(VOLUNTARY) TO PROTECT
AQUIFERS, SURFACE WATERS AND
ECOSYSTEMS WHILE PROVIDING
SUFFICIENT WATER TO MEET
DEMAND**

RETOOL THE MAHOMET AQUIFER CONSORTIUM

- Groundwater **and** surface water
- Extend to 15 county region
- Broaden membership
- Encourage all operators to participate in regional planning
- Improve education and outreach
- Establish appropriate committee structure
- Implement a regional plan

REGIONAL PLAN

- Collection of local plans meeting regional guidelines will constitute a regional plan.
- Authorities and responsibilities for operators do not change.
- Increased cooperation and collaboration.

**University of Illinois
at Urbana-Champaign**
is encouraged to consolidate and
strengthen its important role as a
partner with local entities and
government agencies

FURTHER RECOMMENDATIONS

- Bloomington, Decatur and Springfield have insufficient yield during severe droughts.
- All operators should determine their water supply needs during periods of drought and implement drought preparedness plans – increase supplies and/or reduce demand.
- All operators should increase water conservation and reduce water losses.

FUNDING

- Stable and adequate funding from state government through the Illinois Department of Natural Resources and local entities is essential to support efforts to implement a regional plan. Federal funds also should be pursued as a possible source



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**SELF-GOVERNANCE REQUIRES
STAKEHOLDER PARTICIPATION**



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FOR COPIES OF REPORTS
AND FURTHER INFORMATION

www.rwspc.org

www.MahometAquiferConsortium.org

www.sws.uiuc.edu/wsp