

CCNet  
Water Discussion Group  
4/12/10  
12 Attendees  
Location: Water Survey Research Center, Building 2

Brad Uken, IL Farm Bureau

Brad's entire slide presentation follows these notes.

The Mahomet Aquifer Consortium (MAC)

<http://www.mahometaquiferconsortium.org/>

East Central Illinois Regional Water Supply Planning Committee

<http://www.rwspec.org/index.html>

- Aquifer is not a flowing river, moves in feet or inches per year
- The water we drink comes from here – local resource
- executive order 2006 from the governor created funding for MAC
- program was supposed to be funded for 3 years, only funded for 2
- report on Aquifer was released summer 2009 (it's long – start with the exec summary!)  
<http://www.rwspec.org/commproducts.htm>
- objectives: a) look at demand to 2050, requires multi-generational planning; b) compare available supply and future demand; c) create a management plan under existing laws (ie, don't count on any new legislation to alter future demand); d) public education about the study
- program participants were all volunteers, self-selected and self-governed
- MAC came out of a water conference in 1998 and with the exception of this 2 years of funding has operated without any funding since then
- water quality was not part of the study
- looks at 3 different future scenarios: lower resource-intensive, business as usual, more resource intensive. All 3 worked off the same population projection from DCEO.
- CU is the biggest area of concern – most drawdown and slow recharge (soil type)
- the west side of the Aquifer has lots more irrigation, but this is sustainable in terms of the water supply, because the sandier soils in that region allow the irrigation to quickly recharge the aquifer
- the aquifer head just west of Champaign was 160' above the aquifer in 1930, in 2007 it was 80'.
- CU doesn't rely on surface water, but Bloomington, Decatur, Springfield and Danville do. These communities are looking at drought management plans. Prolonged drought or policy changes could potentially cause these areas to pump from the Aquifer, although they do not currently. This scenario was not addressed in the study.
- report does not make supply constraint recommendations. It says "conservation should be looked at".

Whose responsibility is it for conservation?

Read About Chicago's Regional Water Supply Planning Group here:

<http://www.cmap.illinois.gov/watersupply/default.aspx>

Brainstorming: What topics might we include as part of this ongoing discussion?

- groundwater vs. surface water
- freshwater and local water resources
- how much we use/conservation tactics
- watersheds
- geology and water impacts
- wastewater
- stormwater/drainage

- policy issues – create a “safety net” under our elected officials so that they may begin to address these issues
- research and monitoring opportunities (such as with the John St Watershed project)
- connection to energy – water is used to produce energy (such as ethanol) AND our use of water often also uses energy
- ordinances and remediation of toxic sites
- innovative approaches to water management and conservation
- understand assumptions that have gone into existing regulation
- surface water amenities as recreational resources

Who’s missing from this conversation? Who should we invite to the next meeting?

Prairie Rivers Network

John Street Watershed participants

others?

### **Homework Assignment!**

At each meeting, please come prepared to share your response to one of the following:

- I am trying to do X and I need Y (resources, ideas, partners, etc.), can anyone help me?
- I heard of something really cool the other day and here it is.
- I think that it would be interesting for us to learn more about X.
- I am trying to decide if it makes sense to do X but I am not sure how to evaluate. Anyone have experience or ideas you could point me to?
- Invite someone to attend who would add a unique perspective to the conversation.



East Central Illinois Regional Water Supply Planning Committee

**A REGIONAL WATER SUPPLY PLAN  
FOR  
EAST-CENTRAL ILLINOIS**

**Derek Winstanley**

Consultant to  
the Mahomet Aquifer Consortium



East Central Illinois Regional Water Supply Planning Committee

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



East Central Illinois Regional Water Supply Planning Committee

# **MANDATE**



## East Central Illinois Regional Water Supply Planning Committee

### **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 3<sup>rd</sup> year was not provided]

\*IDNR – Illinois Department of Natural Resources

\*OWR – Office of Water Resources

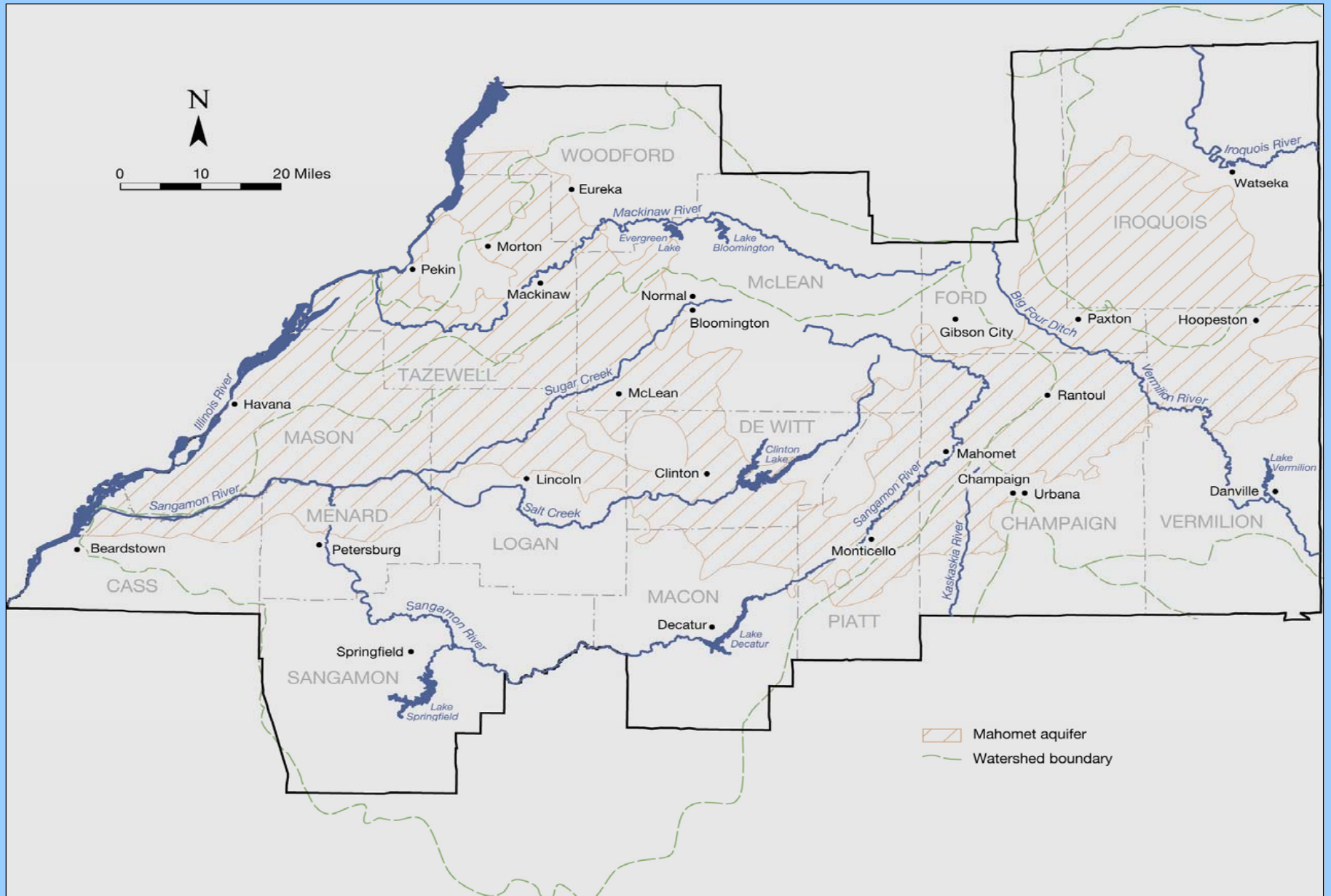
\*CMAP – Chicago Metropolitan Agency for Planning



East Central Illinois Regional Water Supply Planning Committee

# **THE REGION**

# EAST-CENTRAL ILLINOIS





East Central Illinois Regional Water Supply Planning Committee

# **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

## **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.

## **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
- December 2009 – Draft final report by the Illinois State 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?



East Central Illinois Regional Water Supply Planning Committee

## **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

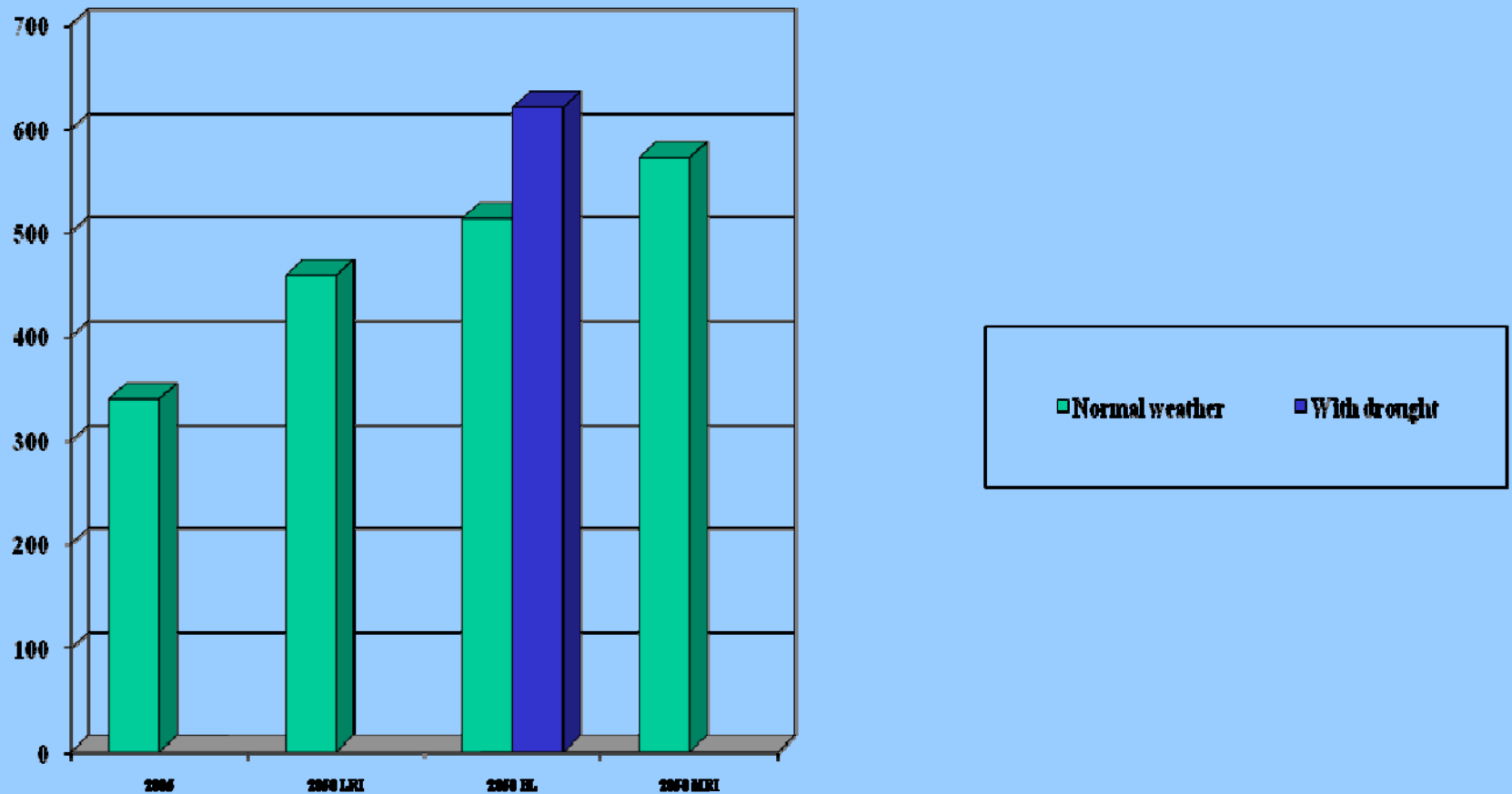
Land-use, transportation, and development  
planning.



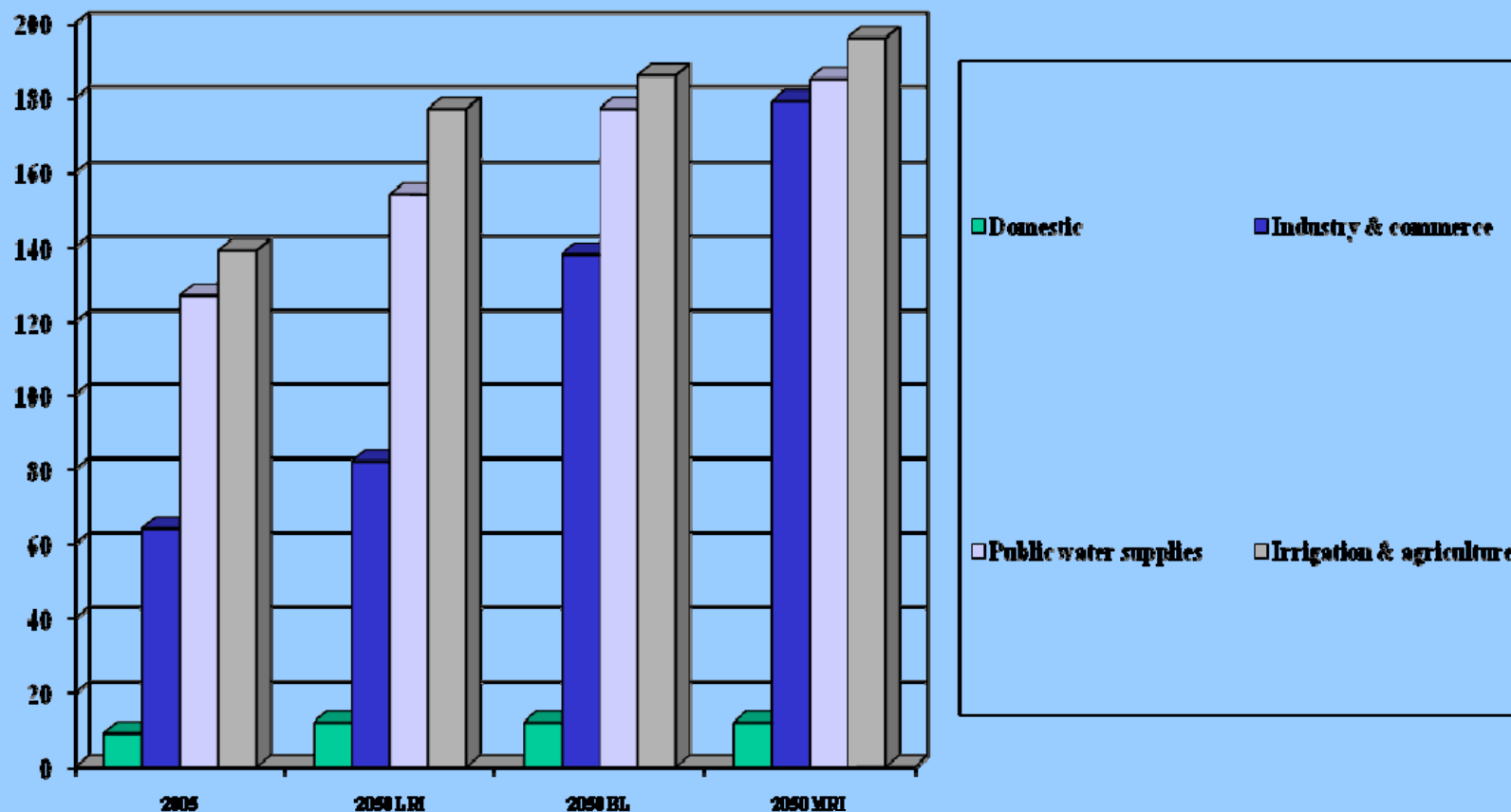
East Central Illinois Regional Water Supply Planning Committee

# **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
<b>TOTAL</b>	<b>341</b>	<b>464</b>	<b>514</b>	<b>572</b>

# CLIMATE

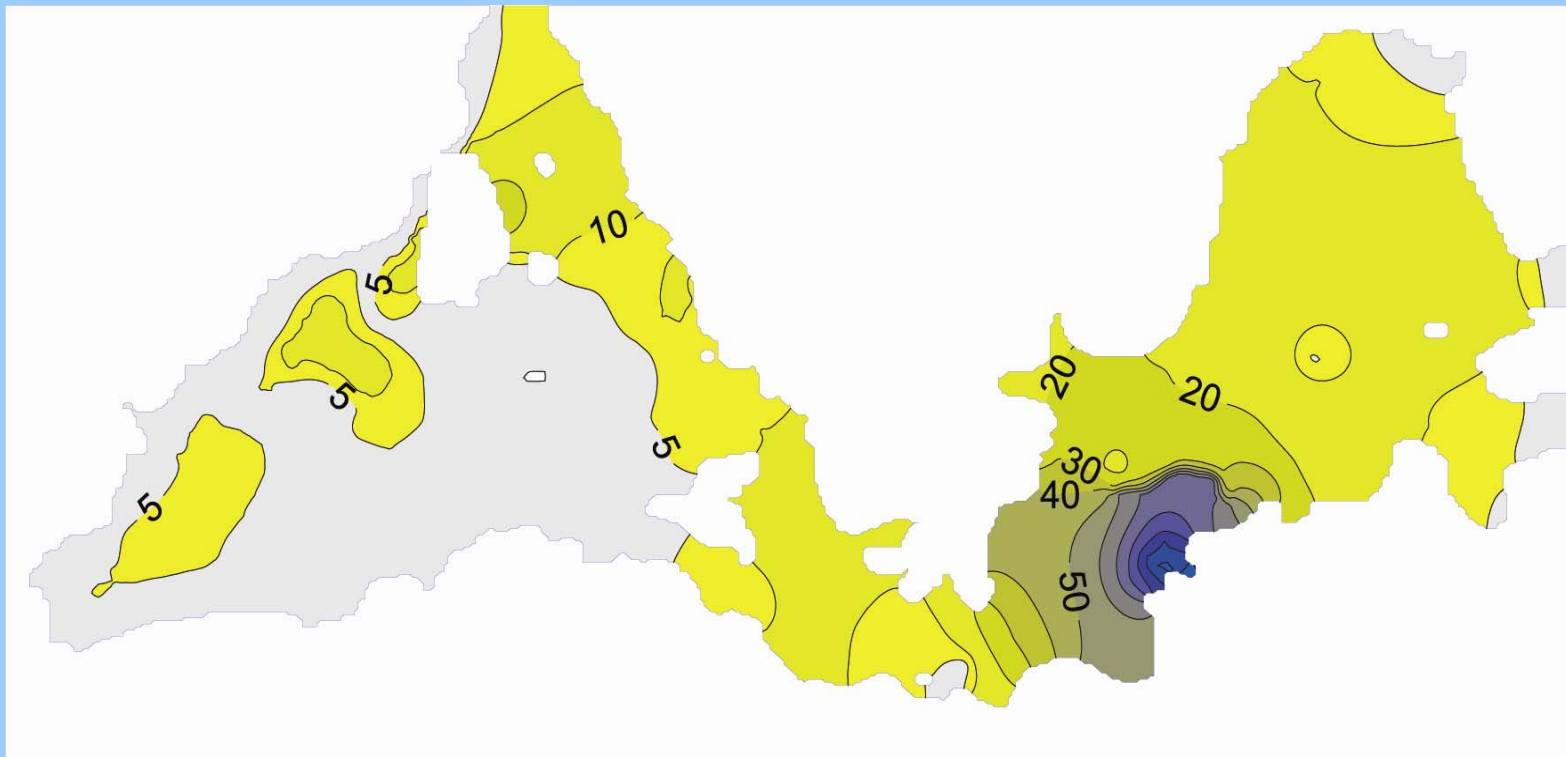
- Severe droughts may recur.
- Mean annual temperature could increase 0-6 deg F by 2050.
- Mean annual precipitation could increase, decrease or remain the same.
- Drought and temperature increase would increase demand and reduce water availability, especially to reservoirs.
- Drought preparedness also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

# GROUNDWATER

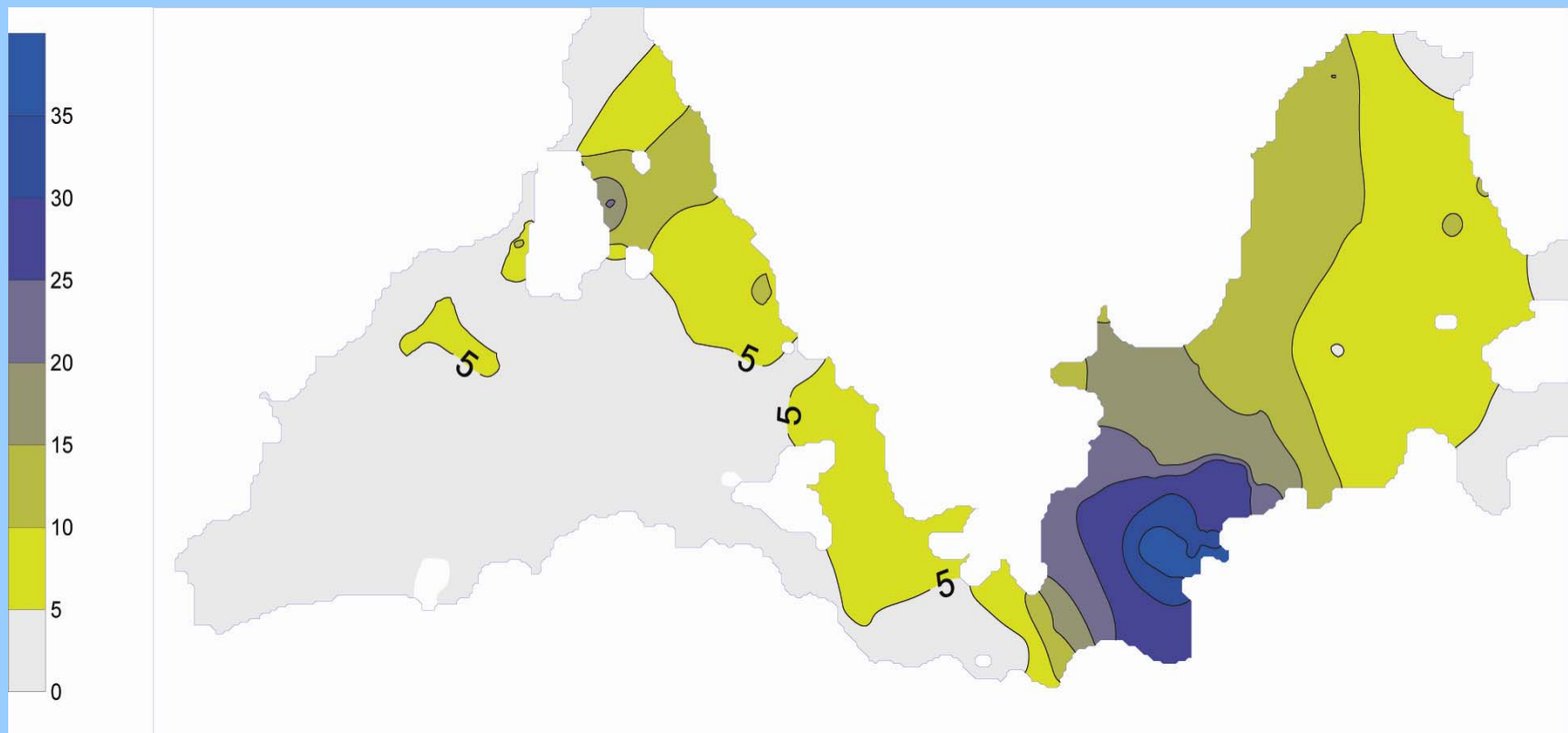
- Most water pumped in the Havana Lowlands.
- This part of the aquifer is unconfined and can support large withdrawals.
- The central and eastern parts of the aquifer are confined and recharge is slow.
- Head will continue to decline in the Champaign County area, but likely remain above the top of the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

East Central Illinois Regional Water Supply Planning Committee

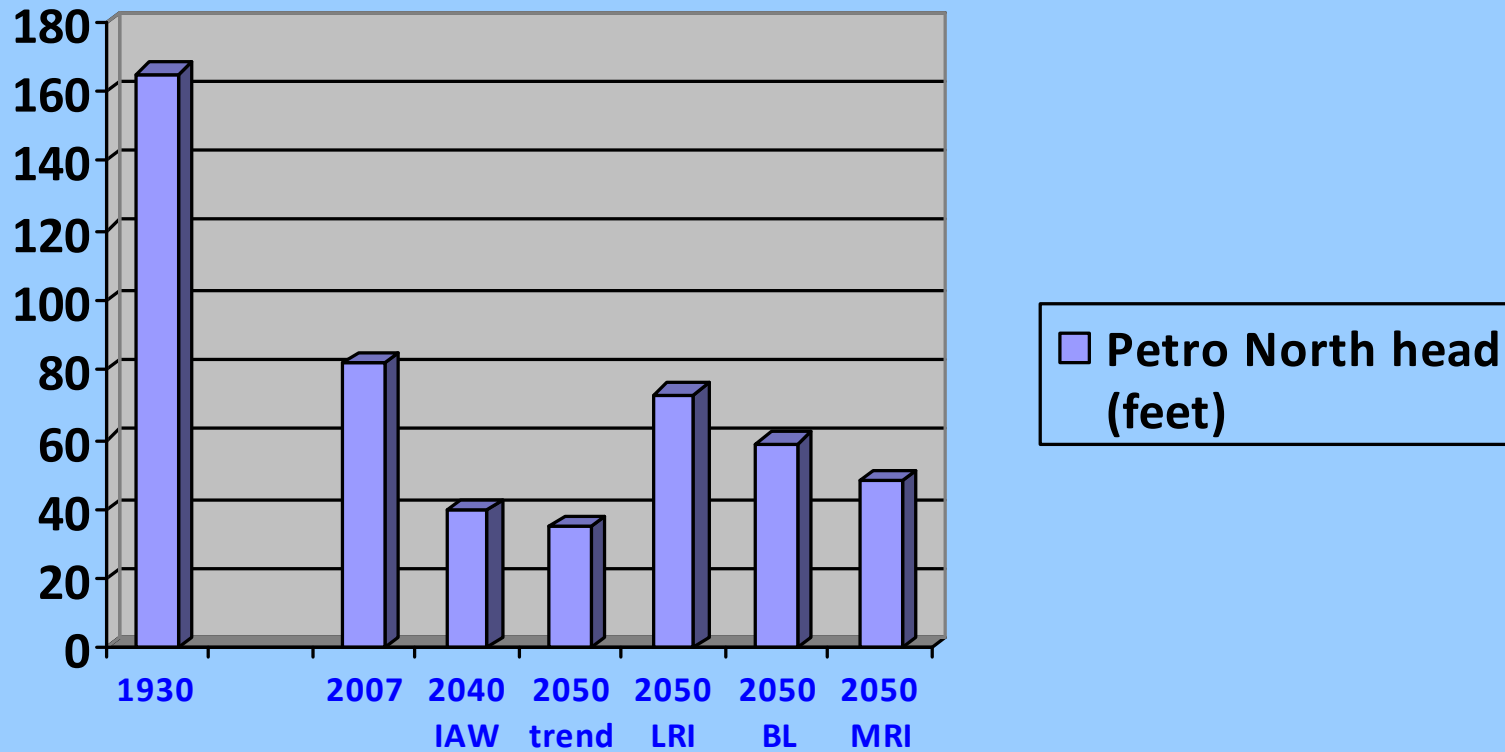
# Mahomet Aquifer: simulated drawdown (feet) 1930-2005 (ISWS)



# 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 – unless supply is increased and/or demand is reduced.



East Central Illinois Regional Water Supply Planning Committee

# **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



East Central Illinois Regional Water Supply Planning Committee

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

**UPDATE PLANS AT LEAST EVERY  
5 YEARS**



East Central Illinois Regional Water Supply Planning Committee

# **ENSURE SUSTAINABLE WATER SUPPLIES**

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



East Central Illinois Regional Water Supply Planning Committee

# 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**

- Authorities and responsibilities for operators do not change.
- Increased cooperation and collaboration.



East Central Illinois Regional Water Supply Planning Committee

**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**

- 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



East Central Illinois Regional Water Supply Planning Committee

**SELF-GOVERNANCE**

**REQUIRES**

**STAKEHOLDER PARTICIPATION**



East Central Illinois Regional Water Supply Planning Committee

FOR COPIES OF REPORTS  
AND FURTHER INFORMATION

[www.rwspc.org](http://www.rwspc.org)

[www.MahometAquiferConsortium.org](http://www.MahometAquiferConsortium.org)

[www.sws.uiuc.edu/wsp](http://www.sws.uiuc.edu/wsp)