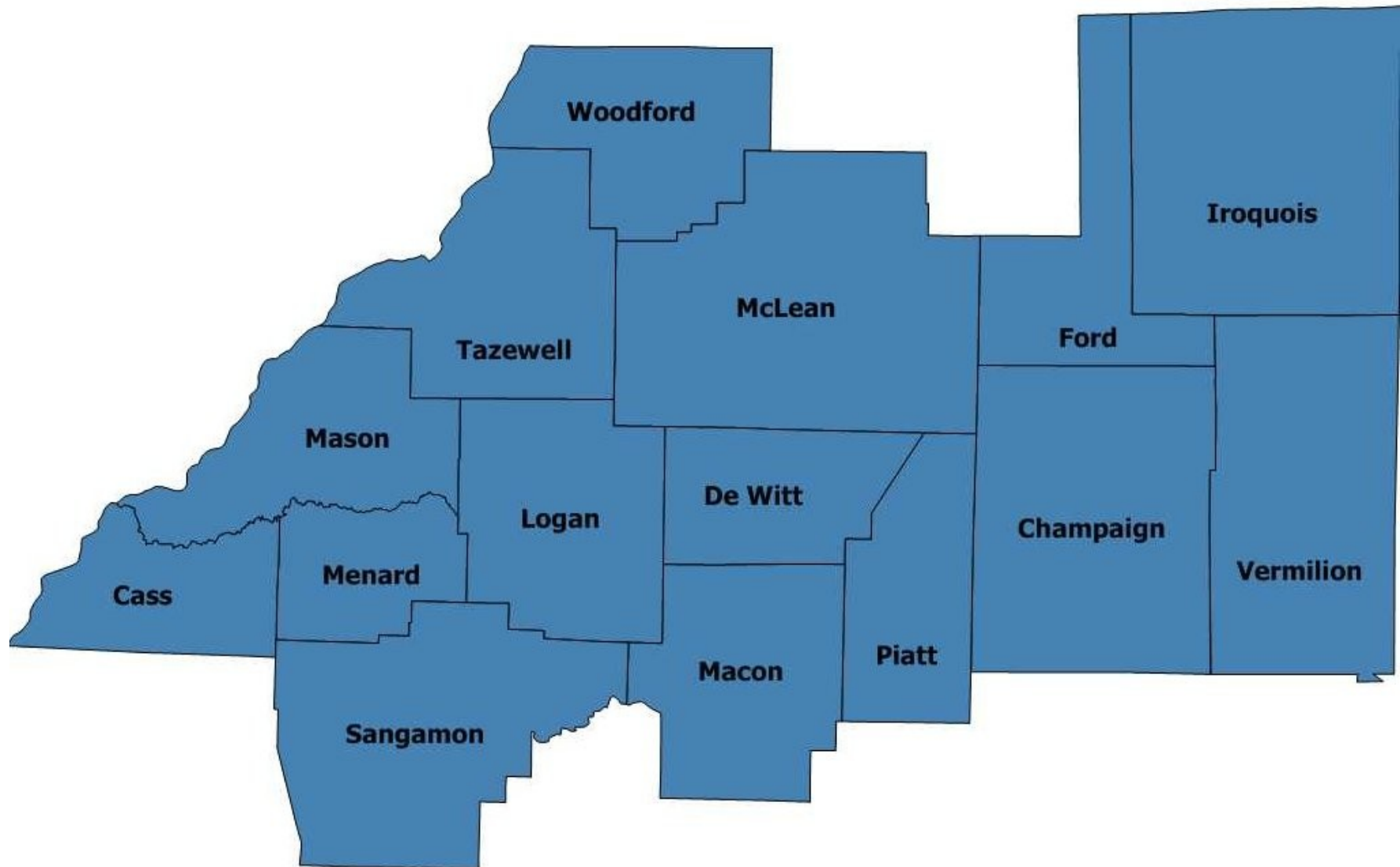


Water Demand Study to 2050 for 15-County East Central Illinois Region



Outline

- Study background
- Study areas
- Water demand sectors
- Method
- Water demand scenarios
- Historical data



Study Background

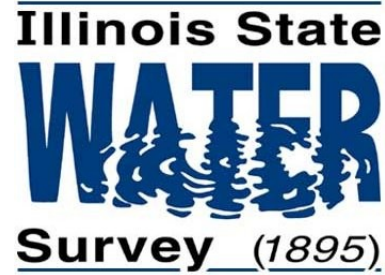
- Executive Order 2006-1
- 2 areas for priority planning
- Assessing demands and supplies through 2050
- Focus on regional cooperation and coordination



Source: Illinois State Water Survey



Office of Water
Resources



**East Central Regional Water Supply Planning
Committee**



WHPA and Dr. Ben Dziegielewski

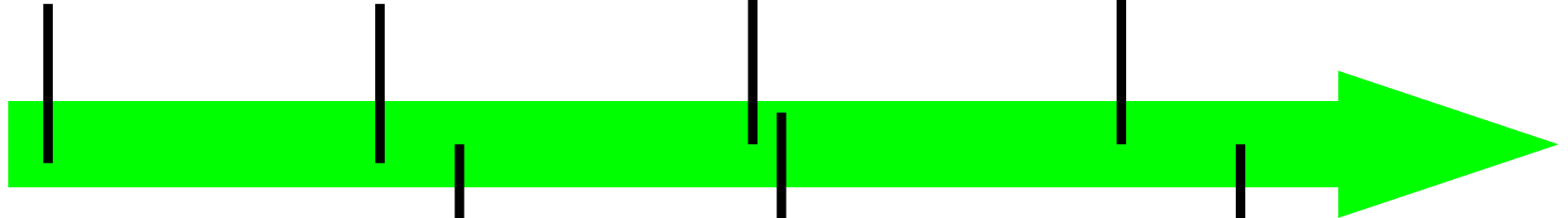


Water
Supply
Study
Begins
June,
2006

Water
Demand
Study
Begins
June,
2007

Water
Demand
Study Ends
May, 2008

Water
Supply
Study Ends
January,
2009



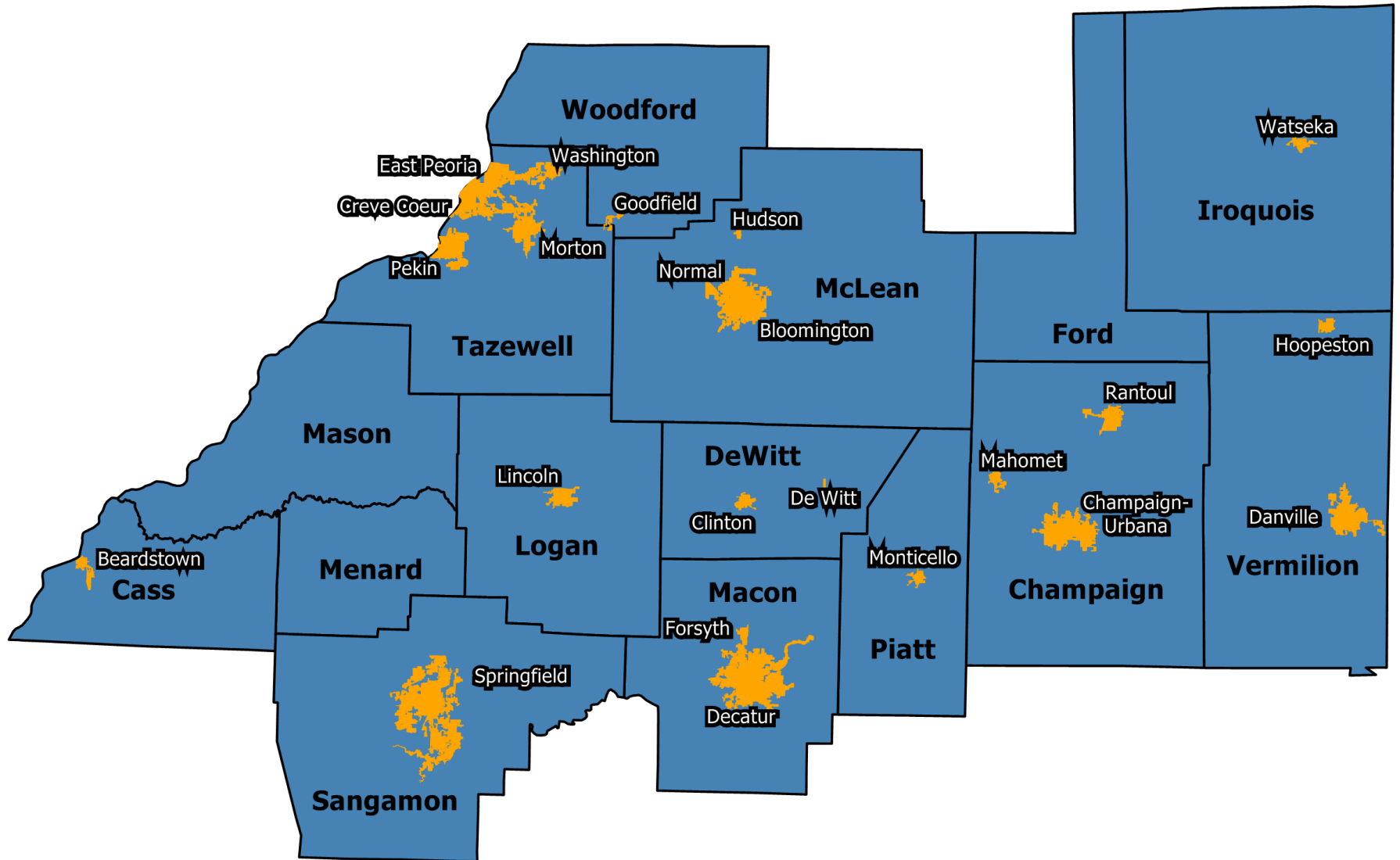
Outreach
Meetings
August-
September,
2007

Begin
Incorporating
Demand
Study
Results into
Supply Study
June, 2008

RWSPC Planning
and Management
Recommendations
due to IDNR
June, 2009



Study Areas



Water Demand Sectors

1. Public water supply



2. Self-supplied Commercial & Industrial

3. Self-supplied domestic

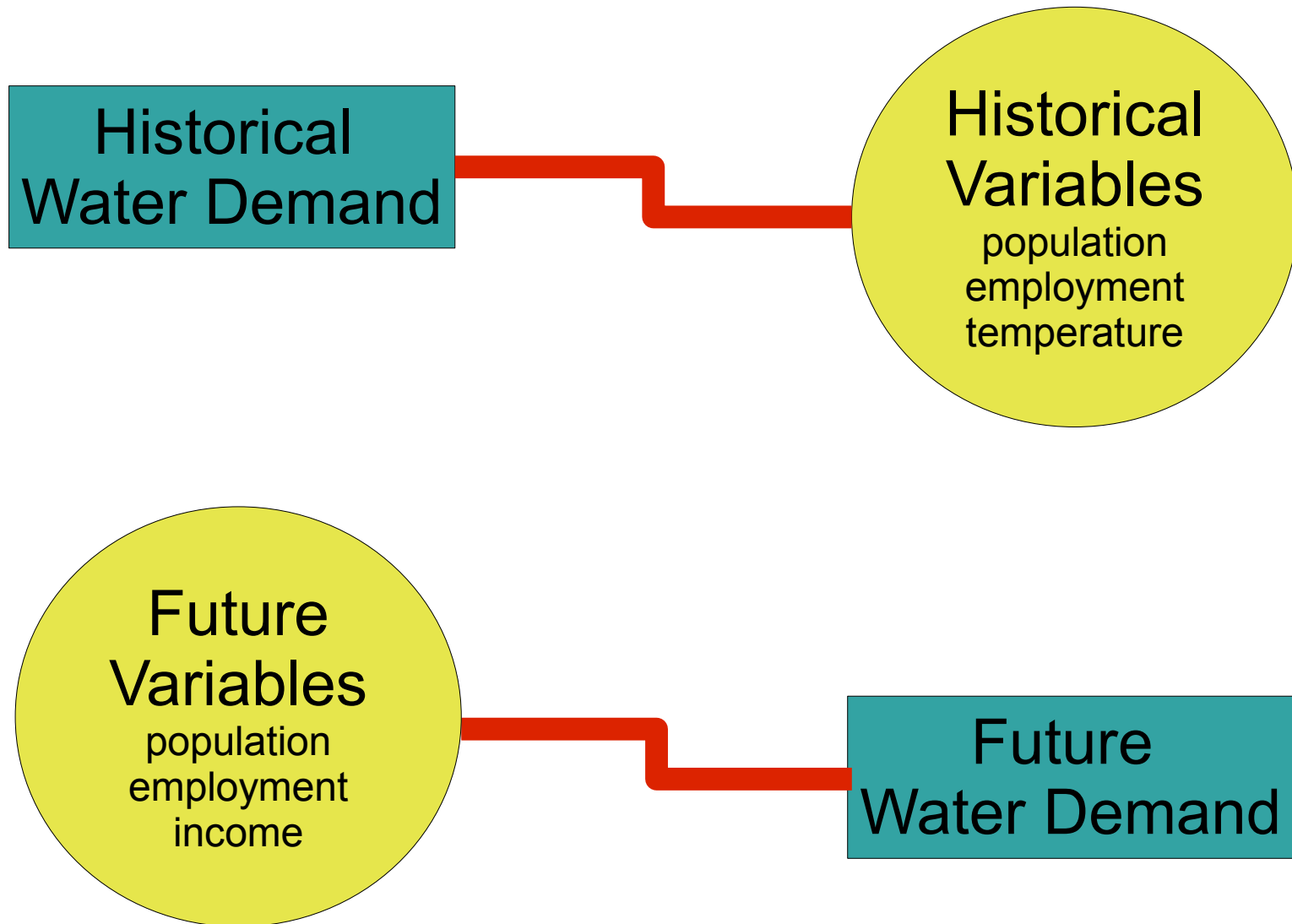


4. Irrigation & agriculture

5. Power generation



Method



Public Water Supply

- Approach - Multiple regression
- Historical Data - ISWS
- Driver - Population
- Explanatory Variables
 - Employment
 - Income
 - Single family housing
 - Price of water
 - Temperature & Precipitation



Self-supplied Commercial and Industrial



- Approach – Multiple regression
- Historical Data - ISWS
- Driver - Employment
- Variables
 - Temperature
 - Cooling degree days
 - Fraction of employment in high-demand sectors

Irrigation and Agriculture

- Approach – Demand per irrigated acre / demand per livestock unit
- Driver - Irrigated acres/number of livestock
- Variables
 - Biofuel capacity
 - Temperature
 - Precipitation
 - Drought index



Thermoelectric Power Generation

- Approach – Demand per unit of power generation
- Historical Data - ISWS
- Driver - Unit of power generation
- Variables
 - Type of generation
 - Type of cooling system
 - Temperature

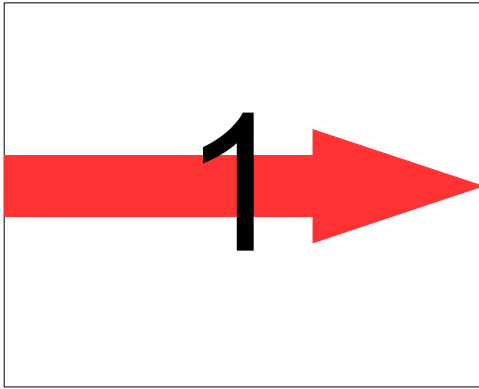


Self-supplied Domestic

- Approach – Per capita unit-demand
- Historical Data – USGS
- Driver – Unserved population
- Variables
 - Median income

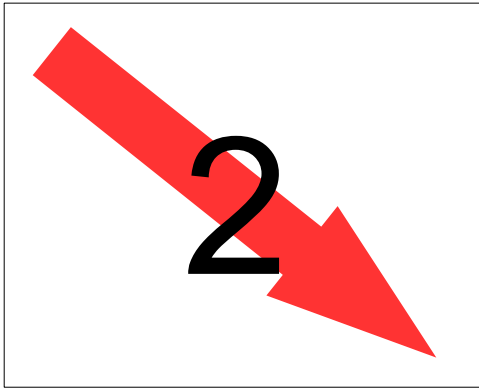


Water Demand Scenarios



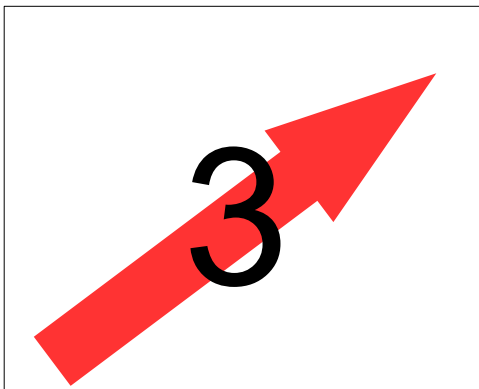
1) **Current trends / Baseline**

- recent **trends continue**
- includes known **proposed increases**



2) **Less resource intensive**

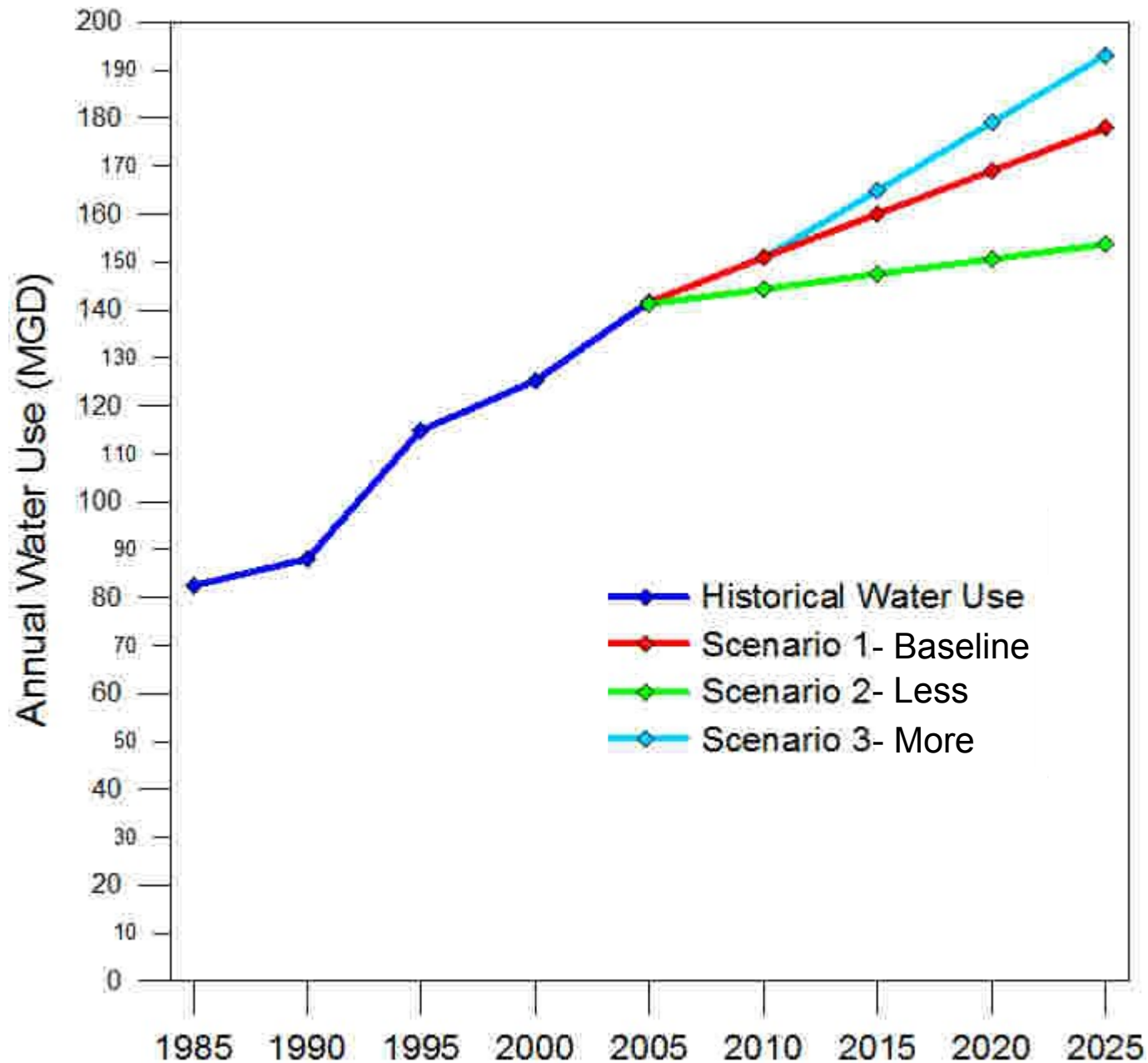
- **smart growth** occurs
- demand variables shift to **less water demand**
- more water **conservation**
- industrial water demand **decreases**



3) **More resource intensive**

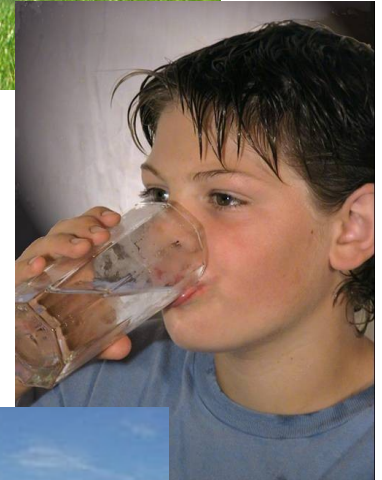
- add **ethanol plants**
- demand variables shift to **more water demand**
- **less** water conservation

Water Demand Scenarios



Water Demand Scenarios

- **Future water demand**
 - geographical area
 - water demand sector
 - water sources
- **Seasonality** – PWS peak day and peak season
- **Sensitivity analysis** – climate change



Discussion and Questions

Regional Water Supply Planning Committee

www.rwspc.org

Illinois State Water Survey

<http://www.sws.uiuc.edu/wsp/>

Mahomet Aquifer Consortium

www.mahometaquiferconsortium.org

