Recent Water Quantity Planning Efforts and Updating the State Drought Plan

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Executive Order 2006-01

A comprehensive program for state and regional water supply planning

- three year planning initiative
- initially $5 million over three years
- $1.5 million for local planning grants
GOVERNOR’S EXECUTIVE ORDER  Jan 2006.
Calls on DNR OWR, in conjunction with Surveys, to:

1) A comprehensive program for state and regional water supply planning & implementation
2) Public review of a strategic plan for a water supply planning and management program
3) Establishing a scientific basis & an administrative framework for implementation of state and regional water supply planning and management
4) Encourages creation of locally-based regional water supply planning committees
5) By December 31, 2006 have regional water Quantity plans in progress in 2 priority planning areas
Strategic Planning

• Is an organization’s process of defining its strategy, or direction, and making decisions on allocating its resources to pursue this strategy, including capital and people.

• Methodology
  – Draw - > ideal image
  – See - > today’s situation
  – Think - > specific actions to close gap
  – Plan - > resources required
Draw -> Ideal Image

- Texas plan process
- Fully Funded IWIP
- Modeling capability
- PWS System Drought Response Plans
Texas Plan Process

• By Region: Basic Steps in Texas Water Planning
  • 50 year planning period
  • Projection of population
  • Projection of water demands
  • Determination of existing supplies
  • Determination of future surplus or needs
  • Evaluation and selection of water management strategies
Texas Plan Process

- Broad-based expansion of public knowledge and understanding of water resource issues
- Fosters direct link between water planning and implementation
- Enhanced cooperation and coordination between different interest groups and regions
- Improved relationships between environmental and development interests that have not had a history of working together
- Development and implementation of Water Management Strategies
IWIP - Illinois Water Use Inventory

- Never been adequately funded
- Now a mandate see SB 2184 – Amended the Water Use Act of 1983
Modeling Capability and Drought Planning

- Over 30 Years of Research, Data Collection, Assessment, Modeling
“See” – Today’s Situation

• Texas Water Planning Process - It works for Illinois – 2 Pilots are Truly Success Stories

• State - of - the art models and modeling capability - exist

• State-wide water supply planning studies covering all aspects of water supply planning issues – exist

• Funding – doesn’t yet exist as needed.
“Think” - > specific actions to close gap

- Fund and staff IWIP
- CMAP and MAC Plan Continuation
- Regional Model Maintenance and Application
- Kankakee River Model & Shallow GW Model for NE Illinois
- OWR New Staff Water Supply Planning Engineer
- Downstate Basins as the Next Planning Region
<table>
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<tr>
<th>Levels</th>
<th>Task/Initiative</th>
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**Pilot Basins:**
- CMAP – Northeastern Illinois
- MAC – Mahomet Aquifer Area

**Phase II**
- Kaskaskia Basin
- Big Muddy Basin/Rend Lake Area

**Phase III**
- Rock River Basin
- Spoon and La Moine Basins

**Phase IV**
- American Bottoms Aquifer System
- Wabash and Ohio River Tributaries

**Phase V**
- Middle Illinois River Basin
- Lower Illinois River Basin
Overall conclusions, first two pilots

Water can be the underpinning of much of our future economic competitiveness IF we provide information, planning and action to assure adequate supplies of good quality.

Both studies point out the need for resources to follow study with action, to protect and use the major water models developed by the project, and to expand this effort to other areas of the state.
Kaskaskia Water Supply Planning – We’re Getting Ready to GO!!

- **DCEO and DNR/OWR partnership** in November of 2008 for the initiation of water quantity planning study for the Kaskaskia Basin.

- **Water Quantity Demand Study** – This study is the first component needed in a comprehensive water quantity planning effort. In the Spring of 2009, ICCI approved SIU-C for the water supply demand study with ICCI funding $93,118 and SIU-C funding $23,409.

- **Water Quantity Supply Studies** – ICCI has contracted with the SWS for completion of the surface water and groundwater models that will be used to assess water availability in the Kaskaskia basin. The ICCI will fund $265,751 and SWS will fund $81,361. About 2/3 of these resources are for surface water, 1/3 for groundwater. Further funding needed for yr 2.

- **Formation of Regional Water Supply Planning Group (RWSPG)** – DNR sent out an RFP for the formation and conduct of the Regional Water Supply planning Group efforts on December 10th, 2009 and selected Southwestern Illinois Resource Conservation and Development, Inc. was selected as the local partner for formation and conduct of a “Regional Water Supply Planning Group.” The scope of work requires that the RWSPG be up and running in the fall of 2010 and complete its final draft report by June of 2012. DNR funding $94,000 plus $165,000 for GW Models and IWIP maintenance.
In June of 1983, the SWPTF prepared Special Report No. 3 - “Drought Contingency Planning” (State’s Drought Plan).

September, 2005 - SWPTF and Drought Response Task Force (DRTF) discuss the need for updating the State’s Drought Plan, stating the report to be a sound document but antiquated. The existing document deals mostly with drought response, outlining the framework, coordination and actions by the DRTF.

The consensus of the SWPTF and DRTF is that past and current drought response actions by the DRTF have been an effective and responsive means in providing agency coordination, information collection and transfer, and effecting appropriate response measures. Thus, the basic framework, process, duties, and responsibilities of the DRTF are to remain essentially the same.

The updated Drought Plan will be a work product of the SWPTF.

In updating the State’s Drought Plan, the SWPTF proposed to incorporate more on “drought preparedness” covering subjects such as risk assessment and risk management.
State of Illinois
Drought Preparedness and Response Plan

- Framework, Purpose and Significance
- Drought Preparedness
- Drought Response
- References, Links and Contacts
• **Website-Driven** — to provide accessibility and a drought plan that can remain current and contain the latest information.

• **Issues** — current policies, trends and issues will be included.

• **Updates** — status of existing state water planning activities and considerations for additional studies will be included.

• **Contacts** — State Agency Contacts and Drought Response Task Force members provided as a directory for coordination and assistance.

• **Links** — In consideration of the wealth of information and publications available, the drought plan will only briefly describe the key subject areas but furnish links to detailed subject reports.
Framework, Purpose and Significance

• Need for a Drought Preparedness and Response Plan

• Goal and Framework

• Defining Drought

• Understanding the Significance of Drought in Illinois
  – Drought in Illinois
  – Effects of Drought
  – Societal Importance, Attitude and Response to Drought

• Future Growth, Trends, and Climate Change
  – Increase in Demand from Population Growth
  – Conversion from Self-Supply to Public Supply
  – Climate Change Projections for Illinois
Drought Preparedness

- History of Water Supply Planning in Illinois
- Priority Planning Areas
- Current Water Supply Planning and Study Areas
- Evaluating the Economic Risks and Costs
- Conservation Measures (e.g., Leakage Control, Low Flow Devices, Water Reuse)
- State Agency Programs relating to Water Supply and Drought
- Evaluation of the Adequacy and Vulnerability of Surface Water Systems
- Public Education
- Withdrawals and Water Use Reporting
- Water Law
- Authorities and Need for Emergency Powers during Drought Conditions
- Instream Flow Protection
- Groundwater Management and Regulation
- Public Water Supply Regulations
- Illinois Lake Michigan Water Allocation Program
- Drought Preparedness Guidelines and Assessment
- Additional Studies and Research Needs
Drought Response

**Introduction** - Nature and Scope of Actions during a Drought

**State Actions**
- Existing State Agency Programs relating to Drought
- State Water Plan Task Force (SWPTF)
- Drought Response Task Force (DRTF), Activation, Reporting and Actions
- DRTF and ISWS Drought Activity Reports
- Governor’s Disaster Declaration and Emergency Powers

**Federal Actions**
- Federal Disaster Assistance

**Community Actions**
- Voluntary Conservation Measures
- Mandatory Conservation Measures
- Interconnections
- Emergency Actions
- Withdrawal Restrictions
- Media and Public Education on Drought Status, Issues and Conservation
Other Water Quantity Planning Efforts

- **Bathymetric Surveys by the IDNR and the ISWS**

  Priority list for reservoirs in need of capacity measurements – The following list contains reservoirs judged to be part of an inadequate or at-risk system, and which have either never been measured or not measured in the past 25 years. The reservoirs that are in the Kaskaskia planning region are marked with an asterisk.

  - Altamont Lake *
  - Blandinsville off-channel reservoirs
  - Lake Coulterville *
  - Farina off-channel reservoirs *
  - Greenfield Lake
  - La Harpe off-channel reservoir
  - Palmyra-Modesto Lake
  - Vermont Lake
Recent Water Quantity Planning Efforts and Updating the State Drought Plan

Thank You - Questions

Department of Natural Resources
Office of Water Resources

Uncertainties and Data Needs in Evaluating the Adequacy of Community Surface Water Supply Systems in Illinois (2007 ISWS)


State and Regional Water-Supply Planning in Illinois (2006 Brochure ISWS)


A Plan for Scientific Assessment of Water Supplies in Illinois (October 2001 ISWS)

Link to ISWS Water Supply Planning Reports http://www.isws.illinois.edu/wsp/

Integrated Water Quantity Planning and Management (link to access various reports) http://www.isws.illinois.edu/docs/iwqpm/
May 2000 (drought) - The ISWS was contacted by several communities who were concerned with the uncertainty of the volume capacity remaining in their water supply reservoirs. Bathymetric surveys of the reservoirs were needed in order to obtain a reliable estimate of remaining supply and to allow for proper planning and conservation measures. The OWR offered to provided assistance in this area, and conducted bathymetric surveys at the following lakes: Old Lake Mt. Olive, New Lake Mt. Olive, Lake Carlinville, Lake Carlinville Two, Staunton, Sorento, and Lake Pana. The OWR provided the SWS with $10,000 out of their Water Development Program Funds, to assist in surveying the shallow areas at Lake Pana, and to provide a survey of Lake Taylorville.

August 2010 - As time and staff allow, OWR will perform bathymetric surveys of the following reservoirs judged to be part of an inadequate or at-risk system, and which have either never been measured or not measured in the past 25 years: Altamont Lake, Blandinsville off-channel reservoirs, Lake Coulterville, Farina off-channel reservoirs, La Harpe off-channel reservoir, Palmyra-Modesto Lake, and Vermont Lake.