

Water Supply Planning for Illinois
January – March 2007 Progress Report

Illinois State Water Survey and Illinois State Geological Survey

The following is a summary of activities of the Scientific Surveys from January 1, 2007 through March 31, 2007 related to the Water Supply Planning Initiative.

Work continued on the development of an ISWS web site for water supply planning. The site was made available to members of the Northeastern Illinois RWSPG on February 27th, to members of the East Central RWSPG on March 9th, and to the general public on March 19th. The site, still under development, can be viewed on-line at: <http://www.sws.uiuc.edu/wsp>. This is part of the public education/outreach task.

Also a part of the public education/outreach task, an ISWS staff member is assisting CMAP, the Paul Simon Policy Institute at SIU, the City of Chicago, IDNR and the Metropolitan Planning Council with planning for a November, 2007 statewide water planning conference in Chicago.

Staff assisted IDNR in drafting a Charge document outlining the responsibilities of the various groups/organizations involved in the water supply planning initiative. The document is posted on the WSP Web-site.

Staff participated in, and made presentations at the monthly meetings of the Northeastern Illinois Regional Water Supply Planning Group, as they got organized and began to focus on their upcoming tasks.

Staff provided technical assistance to the Mahomet Aquifer Consortium with the formation of a Regional Water Supply Planning Group in East Central Illinois. This included assistance with planning; conducting a public forum in Clinton, Illinois; making a presentation and functioning as facilitators at a forum to select members of stakeholder interests; and making a presentation at the first East Central Illinois Regional Water Supply Planning Group meeting on March 9th and at the second meeting on March 30th.

Staff further developed proposed water supply planning initiative enhancements for Federal funding and provided them to IDNR.

The 2006 ISWS Illinois Water Inventory Program (IWIP) questionnaire was mailed out. The questionnaire was modified to capture data for unaccounted-for community water system delivered flows, and to capture better industrial/commercial process, recycle water information. Explanatory information for survey respondents has been prepared for presentation on the IWIP Web-site.

Three staff scientists were appointed to work on climate-related aspects. The core objective is to estimate future drought probabilities by examining past historical events and by analyzing future projections of global and regional climate models. Data for

Illinois were extracted from more than 140 simulations of the evolution of the global climate of the 21st Century. Draft graphical representations of these projections were prepared and reviewed and further development of these representations is ongoing. Quality control of 19th Century precipitation and temperature data was undertaken for 44 stations that may be suitable for extending the record of droughts back into the 19th Century.

Additional progress has been made in the development of a watershed model for the Sangamon River Basin, with initial model calibration being completed for the upper portion of the basin. Work has also been initiated on the development of a similar watershed model for the Fox River Basin. These models will be used to analyze potential impacts of climate change on water resources availability in the Central Illinois and Northeastern Illinois planning regions, respectively.

Staff has begun the database programming tasks needed for developing the surface water accounting tool for the Fox River Basin. The accounting model is a hydrologic planning tool that will be used to: 1) analyze various scenarios of future water use on water supply availability of the Fox River, and 2) account for the effects of the region's continuing growth on streamflow characteristics.

Significant progress has been made on the regional groundwater flow model for northeast Illinois. Model calibration under transient pumping conditions is nearly complete. Upon completion of the calibration runs, simulations of future pumping scenarios based on regional breakdowns of pumpage as described by Scott Meyer at the Pontiac meeting can be performed (i.e., based on the work of Dziegielewski et al., 2005).

Modeling of the shallow aquifers within Kane County is progressing satisfactorily. Final calibration runs are waiting until calibration of the regional model is complete because the regional model provides boundary conditions for the shallow model.

No significant progress has been made on the Mahomet Aquifer system groundwater model this quarter. Modification of the model will be conducted after new field data has been collected that justify updating the model. Field data collection is slated for this spring and the coming year, primarily through external funds provided by the Illinois-American Water Company.

A hydrogeologist was hired in early January to characterize the hydrogeology of the bedrock aquifer and non-aquifer units. This person has subsequently taken another position, within the ISGS, to participate on the CO2 Sequestration project. The search has been reactivated and we already have contacted one potential candidate.

Three Quaternary geologists and three hydrogeologists have been appointed to assist characterizing the sand and gravel aquifers within the Fox River watershed and the sand and gravel aquifers within the Mahomet aquifer system. These staff have begun compiling and evaluating existing data and publications regarding the distribution and characteristics of aquifers within both planning regions.

Meetings:

5 MAC Executive Board meetings, Champaign
2 MAC general membership meetings, Champaign
3 conference calls, Pontiac Group (Coordination between OWR, MAC, CMAP, ISWS and ISGS)
Quarterly meeting with Kane County staff, Champaign
Barrington Area Council of Governments (BACOG), Champaign
State Water Plan Task Force meeting, Springfield
3 Northeastern Illinois RWSPG meetings, CMAP, Chicago
MAC Public Forum, Clinton, IL
MAC Stakeholder Selection Forum, Urbana
East Central RWSPG kickoff meeting, Monticello
Meeting with representatives for FutureGen
Meeting at Northwest Indiana Planning Commission, Portage, IN
Meeting with OWR staff and contractor re: supply allocations for Lake Michigan Service Area
2 Community Advisory Panel meetings at LaSalle and Dow Chemical

Presentations (In addition to those made at meetings listed above):

Illinois Section AWWA Annual Conference: 2 presentations.
Illinois Groundwater Association
Southern Illinois University, Carbondale
Illinois Storm Water and Floodplain Management Assoc. Annual Conference
6 presentations to the general public

Hiring:

Hydrologist at ISWS, started on January 2, 2007
Hydrogeologist at ISGS, started on January 5, 2007 but transferred to another ISGS section in March, 2007. Search has been reactivated.
Database Programmer at ISWS, started on March 19, 2007