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WATER QUANTITY ISSUES FACING ILLINOIS

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1. Introduction

Much of the western United States has average annual precipitation of less than 15 inches, whereas Illinois has average annual precipitation of 38 inches and relatively abundant water resources. Why, then, for the past 80 years, have there been repeated calls for improved planning and management of water quantity statewide, and why has more progress not been made? This paper discusses the history and status of water-quantity planning and management in Illinois, legal issues, constraints and considerations to be addressed, and some guidelines for establishing a planning procedure and management framework.

2. History

In 1920, Illinois State Water Survey Chief Arthur M. Buswell proposed “a comprehensive survey of the volume of groundwater available in Illinois” (Hays, 1980, p. 122). Twelve years later, Buswell broadened his proposal to include all the state’s water resources and to estimate future demand (Hays, 1980, p. 145). “Although this project was included in the budget requests for several years, it was not funded by the legislature” (Hays, 1980, p. 203).” “In 1965, Illinois Governor Otto Kerner designated Water Survey Chief William C. Ackermann as director of a task force to formulate a comprehensive state plan for water resources” (Hays, 1980, p.171). An ambitious state water plan was released in 1967, but was not implemented due to budget constraints (Illinois Technical Advisory Committee, 1967).

Illinois Governor George H. Ryan has issued two Executive Orders related to water resources over the past two years. On 6 June 2000, Governor Ryan established the Governor’s Water Resources Advisory Committee to focus on water resources and their usage, including water usage by peaker power plants. The Committee met several times, but did not produce a report. However, in my view, the Committee did make substantial progress in identifying a number of consensus principles for water-resources planning and management.

On 22 April 2002, Governor Ryan required the Interagency Coordinating Committee on Groundwater (ICCG), chaired by the Illinois Environmental Protection Agency, to report each January

on progress in establishing a water-quantity planning procedure. Initially, an ICCG sub-committee chaired by the Illinois Department of Natural Resources (IDNR), is to produce an integrated water resources agenda (groundwater and surface water) and an assessment report.

Martin Jaffe has identified water supply management options for northeastern Illinois (Jaffe, 2001).

The Illinois State Water Survey and the Illinois Geological Survey also continue to make progress in providing a scientific basis for improved planning and management of water resources in Illinois. In November 2001, each Survey produced a report on the scientific needs for improving water-supply planning and management (Illinois State Water Survey, 2001; Illinois Geological Survey, 2001) in response to two May 2001 resolutions: Senate Resolution 0137 and House Resolution 0365. The IDNR Director also transmitted to the Governor's Office budget options for conducting relevant scientific studies. Given the need for fiscal constraint in the state budget, however, the FY03 budget contains no new funds for water planning studies.

3. Legal Issues

At the heart of legal issues relating to water supply in Illinois is the right of an individual to have reasonable use of water supplies unhampered by government regulation. This common water law is rooted in riparian rights. When water supplies are abundant and there is little competition among users, allocating water according to the principle of reasonable use works well. However, when water disputes and shortages arise, often as a result of competition and drought, the courts usually decide what constitutes reasonable and beneficial allocation of scarce water resources. In some cases, a court's decision has been described as unreasonable.

The West has lower rainfall and different water law. Private ownership of water is based on prior appropriations, and water rights can be traded. Some economists argue that having private water rights and being able to trade these rights provides a method for sound economic allocation of scarce resources.

Over the decades in Illinois, there has been a strong constituency voice representing those who want to preserve the reasonable use of water supplies without undue government regulation. This raises some important questions. Is there a real need for improved management of water resources statewide? If so, does improved management have to be equated with tighter government regulations? Or can communities band together voluntarily to protect water supplies for present and future generations, to allocate these supplies to meet diverse demands, and to handle increasing competition effectively? The Water Authorities Act (70 ILCS 3715/0.01 *et seq.*) already provides a mechanism for some such actions locally, and a some, mainly small, Water Authorities already exist. However, to provide a basis for regional water protection and management, the Water Authorities Act probably would have to be revised substantially. Another option would be to move towards the western system of private

ownership of water rights and to allow a market-trading system to allocate scarce resources efficiently. However, any attempt to appropriate water rights today probably would result in a political blood-bath.

In October 1996, a conference on “Illinois Water Law: Challenges and Opportunities” was held in Bloomington (Damon, undated). Mr. Paul Foran and Dr. Janice Beecher described the legal structures in Illinois that are causing people to rethink water management. They observed that the distinctions between riparian and appropriative schemes appear to be diminishing, and many eastern states are adopting water registration systems, permitting, and a targeted regulatory approach. Professor Joseph Dellapenna referred to these developments as a system of Regulated Riparian rights to manage water resources and reported that about one-half of the eastern states had adopted this system (Damon, undated). The State Water Plan Task Force identified the following five issues for further consideration: emergency powers and drought management, in-stream flow protection, codification of water quantity laws, future needs for public water supplies, and recreational stream access (IDNR Office of Water Resources).

4. Constraints and Considerations in Water Quantity Planning and Management

The following list of constraints and considerations need to be considered, if some form of statewide water-quantity planning and management is to become a reality.

i. A clearly articulated and compelling justification for comprehensive changes in water-quantity planning and management that is convincing enough to lead to consensus among diverse constituent groups statewide needs to be presented. Attempts to pass separate legislation addressing particular issues have failed. Although recent projections by the Northeastern Illinois Planning Commission show potential water shortages in 12 townships in the Chicago metropolitan area (www.nipc.cog.il.us), and the deep bedrock aquifer probably is being overpumped already, we do not know the extent to which supplies are likely to meet increasing demand statewide, because similar projections have not been made for other parts of the state and safe yields in other aquifers have not been determined. Quite often, problems are regional or local in nature.

ii. There is a tendency to propose controlling legislation before a vision and goals have been set, before appropriate analyses have been conducted (e.g., supply-demand projections), and before the details of policy and regulation have been specified.

iii. The status quo has great momentum. The reasonable-use doctrine has been in place for more than 150 years.

iv. There has been a lack of sustained political leadership and support for changes in planning and managing water resources in Illinois.

v. The U.S. Supreme Court restricts water diversion from Lake Michigan. Illinois can not

request the Supreme Court to increase the current allocation of 3,200 cubic feet per second until it has demonstrated that all other water supplies have been utilized and best available water- conservation and reuse practices have been adopted.

vi. Concentrations of natural chemicals, pollutants, and sediments in water (e.g., arsenic, nitrate, chloride, radium) can restrict the availability of water at reasonable cost.

vii. Management of water quantity is fragmentary and decentralized making comprehensive management virtually impossible.

viii. Aquifers and rivers are linked and should be considered jointly. Especially at low flow, most of the water in rivers is from groundwater.

ix. Aquifers and watersheds do not coincide geographically, and neither coincide with political units. I believe that natural resource boundaries (e.g., watersheds and aquifers), overlaid with appropriate political boundaries, should provide the basis for regional water planning.

x. Many major uses of water are not reported. In the absence of full reporting, planning and management cannot be comprehensive.

xi. Technical data and models needed for water-quantity planning and management often are outdated, inadequate, or nonexistent.

5. A Planning Procedure Leading to Water-Quantity Management

There are two inter-related steps to protecting and managing water resources: i) water planning, and ii) water management. Management provides the methods and means to achieve the ends evaluated in a planning process. Management without a plan can be chaotic, ineffective, and inefficient.

Under Governor's Executive Order Number 5, the ICCG is charged with developing "a water-quantity planning procedure for the State." An ICCG subcommittee is formulating a water quantity planning and management framework, with consideration of many of the factors mentioned above and the following common-sense approaches:

i) Planning and management should be science based.

a) Existing scientific data and information should be marshaled as a basis for statewide planning and management efforts.

b) Scientific research and monitoring that fill important data gaps are essential to provide an improved basis for planning and management.

ii) Planning and management should be iterative and adaptive, based on progress made, understanding gained, evolving priorities and science, and changing needs.

iii) There are roles for state, county, and local governments, with perhaps a need for regional water authorities based on aquifers and watersheds.

The subcommittee also should recommend who should prepare more detailed plans, what the powers and duties of planners should be, who is to review and approve the plans, and the human and financial resources needed to prepare and revise the plans. The traditional components of planning, e.g., identifying a mission, vision, goals, objectives, and strategies could provide a suitable framework for water planning and management. Topics to be addressed in water plans should include oversight of the planning process, political boundaries which overlapping natural resource boundaries, regional powers and duties, supply-demand projections, climate variability and change, surface-water- and groundwater-supply options, safe yields, water conservation and reuse options, scientific research and monitoring, water-use reporting, and decision support to identify and evaluate water management options. Topics to be addressed in water-management plans should include state oversight, regional powers and duties, overlapping resource boundaries, reasonable use, adverse impacts, competition among multiple water users, emergency and drought management, in-stream flow protection, conjunctive use of resources, organizational structure, conflict resolution, and management instruments (e.g., policies, laws, regulations, standards, guidelines, and cooperation).

6. Conclusion

Water planning and management are means to protect water supplies and to provide reliable supplies of clean water at reasonable cost for current and future generations of citizens, industry, and wildlife in the state. Illinois has yet another opportunity in the next few months to demonstrate that its interest and commitment to achieving these goals are sufficient to take appropriate action.

7. References

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