

630.7

I26b

no.741

cop.8



UNIVERSITY OF
ILLINOIS LIBRARY
AT URBANA-CHAMPAIGN
AGRICULTURE

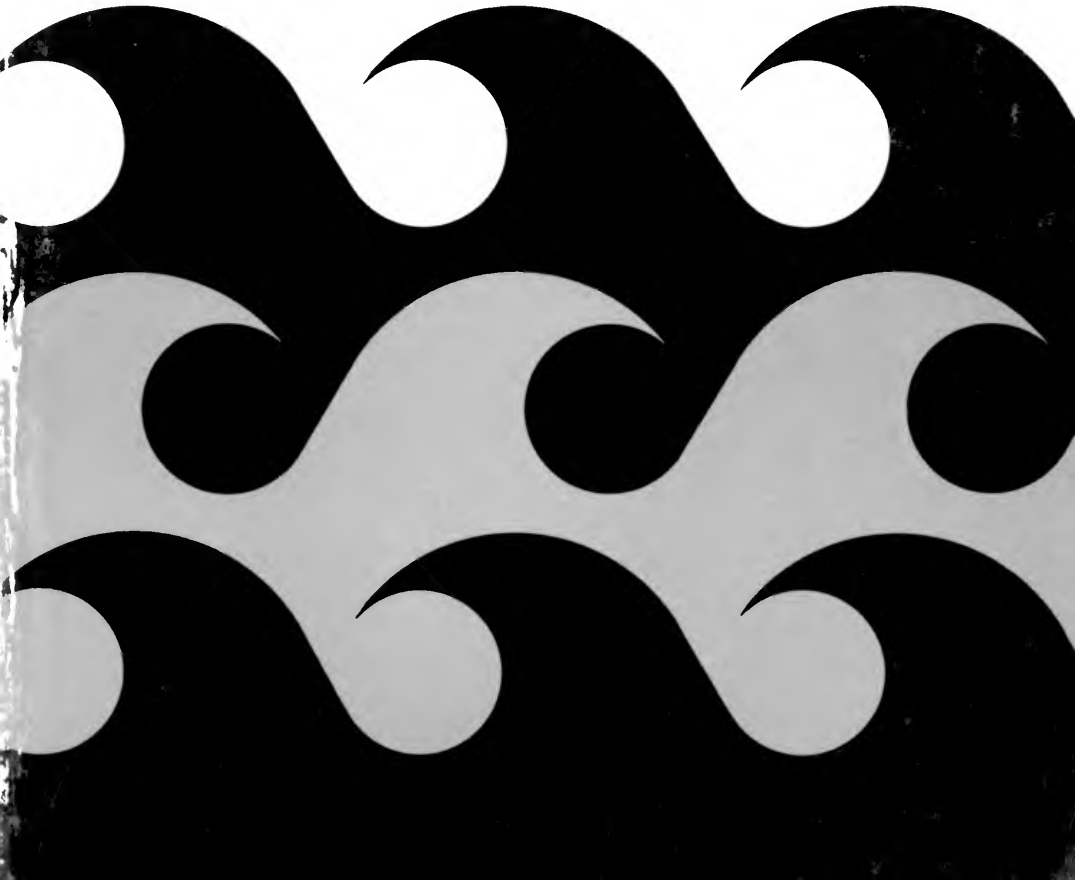


Intergovernmental Arrangements for Water Use Regulation in Illinois

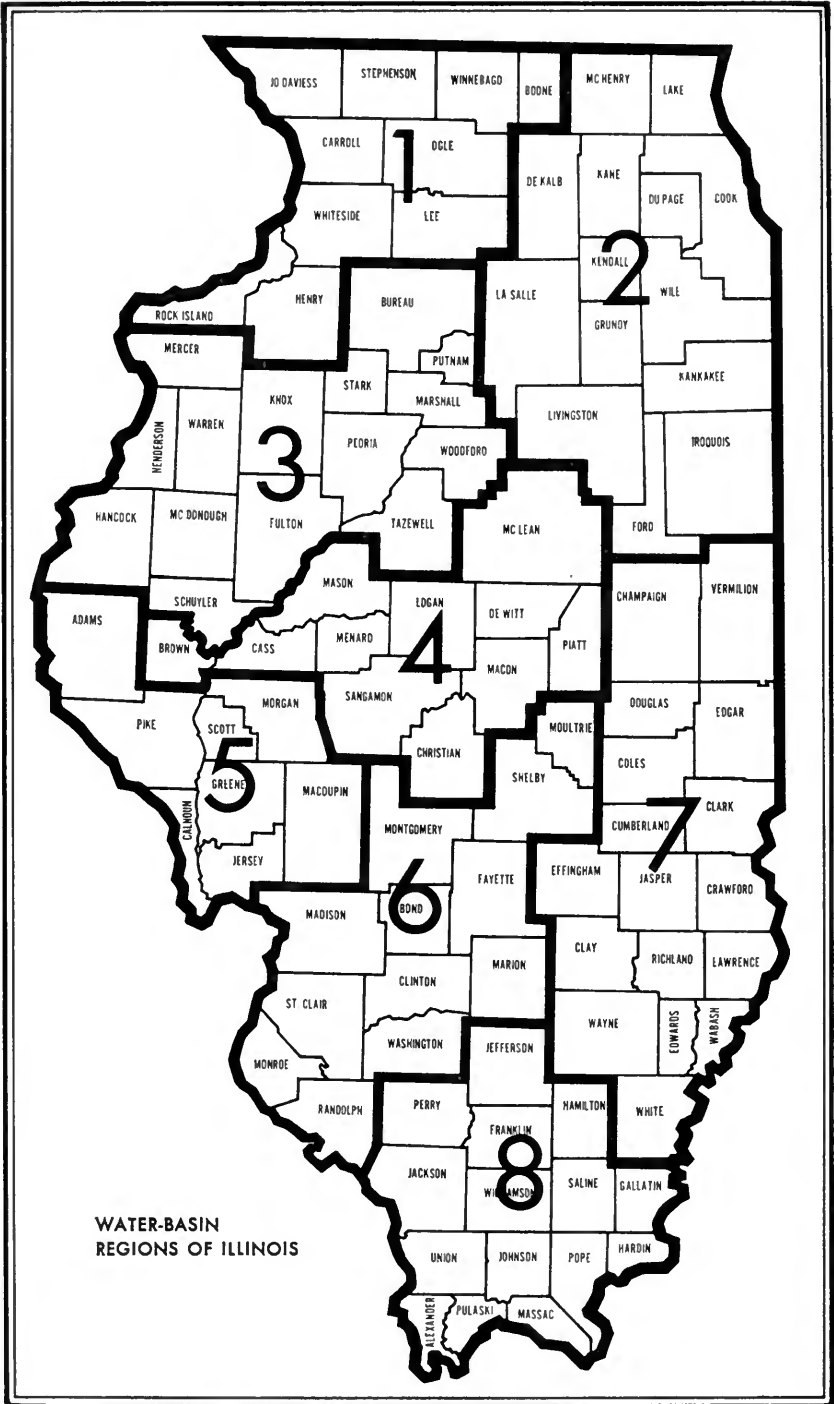
CIRCULATING COPY
AGRICULTURE LIBRARY

By N. G. P. Krausz
Bulletin 741

University of Illinois at Urbana-Champaign
College of Agriculture
Agricultural Experiment Station



Intergovernmental Arrangements for Water Use Regulation in Illinois



**WATER-BASIN
REGIONS OF ILLINOIS**

Il 66
no. 741
cop. 8

**INTERGOVERNMENTAL ARRANGEMENTS
FOR WATER USE REGULATION
IN ILLINOIS**

**By N. G. P. Krausz
Professor of Agricultural Law**



This publication is based upon research funded jointly by North Central Regional Research Project NC-57, North Central Land Economics Research Committee, and the Agricultural Experiment Station of the University of Illinois at Urbana-Champaign.

July, 1972

The author wishes to acknowledge the excellent services of Wayne D. Crawford, Larry G. Gutteridge, and Stanley L. Tucker, research assistants in Agricultural Law, who processed the data, prepared tables, and contributed to the text.

Abstract

The remedial approach for water-supply problems exists in Illinois, with substantial reliance on local units for solutions. Local agencies perceive their role as water suppliers but not usually as regulators. Nor is the state in a position to control water use. The state has no full-fledged agency to tackle a supply-allocation problem, and has little authority to coordinate water supply with pollution, conservation, land use, flood control, and drainage activities.

There is an obvious need for a suitable legal and administrative framework for land and water management. Piecemeal curative decisions by various state agencies and by an abundant and loose collection of uni-functional operational units are wasteful and obsolete. The time is ripe to place this fragmented scheme in order with a Water Use Code and an organizational structure that allows for planning and regulation of the total water system.

The basic law of riparian rights will have to yield to more precise regulation, at least in water-shortage areas. Ownership of water use rights is a durable concept, but this concept must fade in the public interest when a life-sustaining resource is threatened, or when its use for production results in substantial waste or damage in the absence of a legal or marketing mechanism for establishing and enforcing priorities.

Almost no intergovernmental relationships are provided in Illinois statutory law that relate to water use regulation. In legal requirements as well as in practice, communication and contractual arrangements are minimal. Data-collection responsibility is divided among several agencies, and there is no central data bank. Local officials report that technical and financial assistance is minor. Facility and personnel sharing is almost non-existent.

With this bleak picture, the following report concludes that a governmental restructuring is necessary, using strong regional administrative agencies with boundaries following watersheds or river basins, and with multifunctional authority to encompass all natural resources as they relate to water management. Line responsibility would be vertical, leading from a state Department of Natural Resources to local natural-resource management districts. This authority would provide a systematic pattern, with considerable delegation to local units for flexibility, but with planning and coordination on a state and regional basis, and with vigorous participation in interstate and federal planning.

CONTENTS

GOALS OF A WATER USE SYSTEM	4
Functional Goals	4
Administrative Goals	5
OBJECTIVES OF INTERGOVERNMENTAL ARRANGEMENTS IN WATER USE REGULATION	7
Vertical Responsibility Structure	7
Horizontal and Vertical Communication, Coordination, and Cooperation	8
Contractual Relations for Joint Contributions and Multipurpose Functions	8
Allocation of Financial Resources on Non-political Criteria	8
More Efficient Agency Operations	9
LAW AND GOVERNMENTAL STRUCTURE FOR REGULATING WATER USE	9
Illinois Water Use Law	9
Legal Authority and Relationships — An Overview	14
Survey of Individual Agencies With Water Use Authority	24
Supplemental Survey of Agency Relationships and Problems	51
Major Problems of Current Law and Practice	53
RECOMMENDATIONS FOR ILLINOIS	57
Legal Alterations	57
Organization Changes	60
Administrative Changes	62
Changes in Intergovernmental Arrangements	63

THE PRIMARY OBJECTIVE OF THIS PUBLICATION is to evaluate intergovernmental arrangements of agencies that relate to the use of water resources in Illinois. This evaluation is based on a study of (1) functional authority and geographical jurisdiction; (2) organization and operation of water-related units; and (3) the administrative procedures used.

Data were obtained from statutory law, judicial decisions of Illinois, two questionnaires distributed to the agencies and units being studied, and earlier studies concerned with water use regulation and control. The data and analysis were divided into several parts: goals of a water use system; objectives of intergovernmental arrangements; the statutory and common law that regulates the rights of parties to use water; a description of the organization and procedures of the various governmental agencies with the power to affect water use within the state; and consideration of changes for a system to regulate water use.

Three water use classifications are commonly used. The first classification considers the effect that a use will have upon water quantity; the second considers its effects upon quality; and the third is based upon the functional uses to which water is put.

The quantity classification relates to the effect on water available for other uses. These uses can be consumptive or non-consumptive. Quality classification relates to water pollution from commercial, utility, and industrial uses. Most recreational uses have little or no effect on water quality.

The third water use classification is based upon function, such as domestic, industrial, agricultural, recreational, and sanitary uses. Domestic uses include such activities as drinking, household cleaning, and cooking. Industrial uses include manufacturing, mining, processing, and construction. Major agricultural uses include irrigation and watering of livestock. Recreational uses include boating, swimming, and skating. Sanitary purposes include using water for diluting, transporting, or absorbing wastes.

Governmental regulatory agencies are primarily concerned with those uses that are either consumptive or adversely affect the quality of the water supply or deplete ground waters. Their regulations, therefore, often affect each of these functional uses.

Water use regulation involves the authority of an agency to control, direct, or limit the ultimate use of water. Regulation can be classified as primary or secondary. Primary regulation is defined as the exercise of authority over water in "the public domain." Limitations on authority may be either geographical or water-use related. Secondary regulation is by

authority exercised over water that is not in the public domain (for example, water supplied by water corporations). Usually, there is no control over captured water, but there may be authority to regulate the source of supply or to prevent waste. This project is limited to investigating the types of primary regulatory authority exercised within Illinois by governmental entities.

Unit authority refers to the types of activities or water uses that a governmental entity is empowered to regulate. Regulations may cover rate of flow in water bodies, water pollution, withdrawal facilities, disposal of wastes into water bodies, waste-treatment standards, and the amount of water that may be withdrawn. Frequently, however, a regulatory unit may exercise only one of these interrelated powers. Duplication of authority exists when more than one governmental unit within a given geographical area can exercise similar powers.

Goals of a Water Use System

Intergovernmental activities should meet broad water-use-system goals. These goals can be divided into two types: functional goals that establish what a system should do, and administrative goals that deal with how it is to be done.

Functional Goals

To evaluate the effectiveness of a water use system, criteria must be established against which the performance of that system can be measured. These criteria should take into account the functional objectives of the system.

A primary goal of a water use system is to supply normal daily needs. In one sense, this is the only goal. To meet daily demands fully, a system must be capable of adjusting to variations in user need and of accommodating variations in supply. Predictable variations in water use demand, such as those caused by seasonal irrigation and recreation, should be provided for in a water use plan. In addition, a system should plan for extraordinary demands, such as fire control or abnormal requirements caused by drouth conditions.

Supply is also subject to extremes that may range from conditions of flooding to prolonged drouths. A functional goal of a water use system should be to accommodate these variations at the daily, seasonal, and emergency levels. Storage facilities such as tanks, reservoirs, and aquifers

can be used, and arrangements can be made for using sources outside the normal supply network.

Protecting a water supply may require activity ranging from controlling pollution of storage areas to acquiring long-term water use rights or planning for reuse facilities. Numerous factors must be considered — financing restraints, technological and physical obsolescence, potential alternative sources, and the effect of other water uses that compete for the same water supply.

Much water can be reused, but reuse may require new facilities for upgrading the quality of used water. Plans might provide for successive uses that require less pure water. For example, water from a sewage-treatment facility may be used in a secondary water system for industrial or irrigation uses.

Coexistent with the need for an adequate supply of water is the need for a delivery system capable of transporting the water. It must not only satisfy daily domestic and industrial needs but also abnormal seasonal and emergency demands. Flexibility to alter both capacity and point of delivery is necessary. In some places, a system may be required to carry water of two different qualities.

The planned development of water use systems can have a substantial effect on economic development — where people and industry locate. Supply and delivery systems should be planned so that they are attractive to desired industry and have sufficient capacities to meet demands from technological advancements and industrial growth.

A public water system is not a business in the usual sense; human needs cannot always be measured in monetary terms. Nonetheless, economic costs should be considered. Some method must be devised to balance intangible benefits against economic costs. Because of the unique role of a water use system, the “more economical means” rule should not be disregarded in its cost analysis. To maximize net benefits, the system generally will require a multipurpose, environment-oriented structure. A water use system must comply with all laws and standards pertaining to its physical operation, planning, policies, and proposals.

Administrative Goals

A water use system must also formulate definite administrative goals. Functional objectives are oriented toward what a water system does; administrative objectives are meant to promote rational and efficient achievement of these system goals.

In developing an administrative structure, consideration should be given to the kind of area to be served, available and potential revenue, and the powers of the controlling governmental entity. Consideration should also be given to quantity and quality of available human and technological resources (for example, programmers and computer banks).

Efficient management of a water use system may be restricted by the single-purpose authority of units. Consolidation of existing agencies and coordination of the activities of those remaining is often recommended as a solution. In any case, sufficient flexibility should be incorporated into the structure for new programs and techniques.

Among subordinate and controlling agencies, communication is of primary importance. Only through cooperative effort can information and special abilities be utilized. Equally important to the water use system is horizontal cooperation among those agencies that deal with similar problems. This cooperation is particularly important when related efforts are involved (for example, when several agencies have similar responsibilities or problems within the same geographic area).

There are numerous methods such as taxing or imposing service charges by which the costs of a public service can be allocated. The primary problem in water-use-cost allocation is establishing criteria by which costs and benefits can be related, since tangible and intangible costs and benefits may have little relation. Therefore, an administrative system must have capabilities and procedures to quantify both tangible and intangible costs and benefits and make reasonable allocations. These allocations would allow better determinations of where to place a reservoir, the level of tax and water rates, purity standards, etc.

Effective enforcement of water use regulations requires adequate legal authority and personnel to carry out regulatory functions ranging from the collection of monthly charges to instituting pollution injunction suits. Each system should have an administrative plan to handle a water-shortage contingency. This plan should minimize shortage effects by providing that supplies to least critical uses be systematically decreased. To effectuate the plan, an agency must have the power to control usage of the water that the agency delivers and authority to protect its source of supply from non-priority uses.

Although the purpose of a water use system is to harness water resources for man's use, consideration must be given to the effect that the system will have upon the environment. Agencies must have sophisticated analytical tools at their command for measuring this environmental impact. Agencies should also have sufficient authority to order the system so as to act upon the conclusions they reach through this analysis.

Objectives of Intergovernmental Arrangements in Water Use Regulation

The previous section outlined goals for a water use system. To meet these goals, numerous inputs must be coordinated. Most important is the manner in which relations among the numerous agencies are ordered. To maximize the contribution of each agency, relationships should be arranged to meet several objectives.

Vertical Responsibility Structure

Factors external to water resources often control the establishment of local and special water agencies, making it impossible to structure units more naturally, such as by river basin or watershed area. These limitations increase the need to place responsibility and direction at higher levels.

Most states have widely varying industrial, agricultural, domestic, and recreational water demands, and either have a water-supply crisis or are approaching one in some areas. These various demands and regional shortages can be dealt with best through higher level allocation of available water resources. With water use priorities, industry, government agencies, and individuals have an opportunity to minimize waste and maximize water use benefits. Intergovernmental consideration of potential shortage and pollution problems also encourages efforts to prevent their occurrence.

Poor planning often occurs when local agencies have inexperienced and untrained staffs, narrow perspectives, and inadequate experience with the overall water-problem areas. Planning assistance should be provided by higher level government units.

Because of smallness in size and insufficient funds, many local water-supply units have inadequately trained, part-time officials. If small units are retained, skilled technicians assigned to a higher regional agency could provide improved services by supplementing part-time personnel.

Inadequate enforcement of laws, ordinances, and regulations is perhaps one of the most pervasive water-agency shortcomings. This problem could be overcome in part by codifying local ordinances based upon state law with provision for local variation. This codification would reduce duplication of investigation and promote enforcement assistance from county, region, or state.

Many local agencies are highly oriented politically, and those in control are not trained to deal with water problems. Agencies oriented toward water problems would be more desirable, although provision should be made for inputs from the full political spectrum. Planning should have a broad and independent perspective, and the system should be designed to be responsive to those it serves.

Horizontal and Vertical Communication, Coordination, and Cooperation

With large number of agencies involved in water use problems, it is imperative that efforts be made to share information on planning, experimentation, new techniques, etc. Many local agencies perform the same function as their counterparts in other cities, counties, and districts. There should be an exchange of research data and innovative procedures, probably with the state serving as a distribution center.

A water-data bank is needed, with all governmental entities concerned with water use control sending relevant information to central depositories in each region and to the state. These data can then be consolidated and made available to all water agencies.¹

The control agency should also be charged with coordinating and disseminating general information and ideas. Through the use of pamphlets, newsletters, and informational meetings, the control agency could assist in developing interagency cooperation.

Inefficiencies in many local water-agency operations might be solved by sharing personnel and facilities with other agencies that perform similar functions. This sharing would allow an optimization of resource use, while maintaining the political, administrative, and financial integrity of the local agency.

Contractual Relations for Joint Contributions and Multipurpose Functions

Many water-control units are not large enough to finance efficient operations. This problem may be overcome through agreements whereby cooperative operation of facilities is undertaken. There is a need to consider a total water system that deals with multipurpose projects. A total water system requires agreement by many units, both horizontally and vertically related. Formal agreements defining responsibilities and functions of several agencies may achieve goals without the complications involved in political and administrative unifications.

Allocation of Financial Resources on Non-Political Criteria

Financial allocations for Illinois waterway improvements, for example, are largely political decisions. Each reservoir and stream improvement has usually required approval by the General Assembly. Financial allocations at all levels should be made on a technical basis, reserving to the political process major budgetary priorities.

¹ A Natural Resource Information System has been developed by the Center for Advanced Computation at the University of Illinois at Urbana-Champaign.

More Efficient Agency Operations

Water use agencies should be efficient in their use of personnel, money, and technology. Their boundaries should be drawn so as to increase their size to a point where efficient use of these resources could be made. Inter-governmental arrangements should facilitate this development.

Agencies performing related functions might combine to form a single multipurpose agency. This merging would be particularly helpful where administrative and operational coordination are important, and could shift an agency's focus from achieving a particular functional objective to attacking broader water use problems.

Law and Governmental Structure for Regulating Water Use

Illinois Water Use Law

Water use rights are still controlled by common law principles established in the last century. Any study related to water use necessarily must include the law as it exists.

The use of water in natural watercourses is regulated in Illinois by the doctrine of riparian rights. The substance of this doctrine is that all persons who own land adjoining natural watercourses have equal rights to the use of the water in these bodies. A riparian owner may use the water in any manner he chooses so long as his use does not deny his fellow riparian owners of their rights nor infringe upon the easement of navigation held by the public in navigable streams or rivers.

Natural watercourses include rivers, streams and lakes, and ponds that are not enclosed entirely by one owner's land.² The Illinois Supreme Court has also indicated that a flow of water originating from a spring on one person's land that is sufficient to supply the natural wants of that person and still leave a flow of water that will pass onto the next lower land may be considered a natural watercourse.³

In considering a similar problem, an Illinois court of appeals held that an artificial ditch that has been used for several years or has been constructed to replace or improve a natural watercourse may be treated as a natural watercourse.⁴ However, the Illinois Supreme Court held that

² Illinois has no case holding that the doctrine of riparian rights is applicable to underground watercourses. However, in *Edwards v. Haeger*, 180 Ill. 99, 54 N.E. 176, 178 (1899), the Illinois Supreme Court cited with approval the laws of other states that so provide. To be considered an underground watercourse, the channels must apparently be known and defined; otherwise, the water will be classified as percolating ground water.

³ *Evans v. Merriweather*, 4 Ill. 492, 495 (1842).

⁴ *People v. Cache River Drainage District*, 251 Ill. App. 397 (1929).

a depression that carries water only during rainy seasons is not considered a natural watercourse to which riparian rights attach.⁵

It appears that a body of water within defined boundaries and with a regular flow most of the time will be considered a natural watercourse. A riparian owner has the right to use water from a natural watercourse adjoining his property. Illinois courts have not yet decided whether a riparian owner may also use the water on other land he owns that does not abut the body of water.⁶ Other states have considered the issue, however, and it has been generally held that the rights are limited to the smallest contiguous tract that has been held under one chain of title up to the present owner.

The kinds and amounts of use by a riparian owner was treated in an early Illinois case.⁷ The Supreme Court distinguished between natural and artificial uses. In those situations in which riparian owners are found to be using the water for natural purposes, the court suggested that they may, if necessary, use all of the water in the stream without liability to lower proprietors. When the uses are artificial, however, the court imposed a reasonable use test that appears to prohibit unreasonable diminutions or alterations of the flow that will injure other riparian owners.⁸

There have been few cases considering which uses are artificial and which are natural. However, the general opinion seems to be that only those uses such as drinking water and household uses will be considered natural. Such activities as manufacturing, mining, and irrigation apparently are considered artificial.

Peripheral uses include such activities as watering of livestock. Providing water for enough animals to supply family wants might be considered natural, while supplying a commercial herd might be considered artificial or commercial. Although one might challenge the validity of this distinction between artificial and natural in today's complex industrialized society, it nonetheless appears that no Illinois court has rejected its use.

Riparian rights are protected property rights. They guarantee no property right in the water itself, however, but a usufruct in the water as it passes. This usufruct has been defined by the Illinois Supreme Court as a "right of enjoying a thing, the property of which is vested in another, and to draw from the same all the profit, utility and advantage which it may produce, provided it be without altering the substance of the thing."⁹ However, riparian rights cannot be taken without due process of law.

⁵ *Pinkstaff v. Steffy*, 216 Ill. 406, 414 (1905).

⁶ *Batavia Manufacturing Co. v. Newton Wagon Co.*, 91 Ill. 230 (1878).

⁷ *Evans v. Merriweather*, 4 Ill. 492, 495 (1842).

⁸ *Druley v. Adam*, 102 Ill. 177, 191 (1882).

⁹ *Clark v. Lindsay Light Co.*, 405 Ill. 139, 89 N.E. 2d 900 (1950).

Only those governmental entities having the power of eminent domain could condemn the property, and then only after paying just compensation for it.¹⁰

Since riparian rights are recognized property rights, they can be sold or leased without selling or leasing the land. Whether riparian owners other than the lessor or grantor would be bound to recognize the transfer has not been decided, although some decisions appear to indicate that even these third parties would be bound by the conveyance. In any event, it would seem that a riparian owner might transfer his riparian rights to another so long as the transfer did not interfere with the rights of other owners.¹¹

Riparian rights, like other interests in property, can be acquired by prescription.¹² If an unreasonable upstream detention has been carried on openly, adversely, and continuously for twenty years, with no action brought by affected riparian owners, a right to legally continue the detention may be acquired. Presumably, the effect of a loss of riparian rights would be substantially the same as a sale of the rights.

Generally, the doctrine of riparian rights controls the rights and duties of persons using the water in a natural watercourse. In the case of navigable bodies of water, however, these rights are subject to a public easement of navigation.¹³ In those cases of navigable bodies whose flow is either international or interstate, the federal government possesses a paramount right to control and regulate their use. This federal jurisdiction, although nominally limited to control for purposes of commerce, may comprehend almost complete control of a navigable body. Furthermore, federal jurisdiction is not weakened by previous inaction nor by the fact that a state might have exercised control.

Water is classified as diffused surface water from the time it falls upon the surface of the earth until it is absorbed into the ground or flows into a body of water to which riparian rights attach. Diffused surface water is governed by a separate set of rules.

Historically, Illinois landowners have been less concerned with their rights to use surface water than with getting rid of surface water. For

¹⁰ *City of Kewanee v. Otley*, 204 Ill. 402, 68 N.E. 388 (1903).

¹¹ *Batavia Mfg. Co. v. Newton Wagon Co.*, 91 Ill. 230 (1878); see also *Howell Co. v. Pope Glucose Co.*, 171 Ill. 350, 49 N.E. 497 (1898); *Moline Water Power Co. v. Waters*, 10 Ill. App. 159 (1881); *Adams v. Slater*, 8 Ill. App. 72 (1880).

¹² *Indian Refining Co. v. Ambraw River Drainage Dist.*, 1 Fed. Supp. 937, 938 (1933); *Wills v. Babb*, 222 Ill. 95, 78 N.E. 424 (1906); *Plumleigh v. Dawson*, 6 Ill. 544 (1844).

¹³ *Kessinger v. Standard Oil Co.*, 245 Ill. App. 376, 381 (1925); *People v. Economy Power Co.*, 241 Ill. 290, 318, 89 N.E. 760 (1909).

this reason, there have been few Illinois cases dealing with these rights. However, rules concerning rights to use surface water have been formulated by referring to the laws of other states whose general water laws are similar to those of Illinois.

Surface water includes both precipitation and overflow waters from natural sources. These waters are classified as surface water until they become part of the percolating ground water or of a body of water to which riparian rights attach.¹⁴ If a flow of water exists only when there have been recent rains, the water will be treated as surface water.

There is no right in a lower landowner to have surface water flow from his upper neighbor. The upper or dominant owner has no duty to allow surface water to flow unobstructed and unimpeded. If the upper owner chooses not to capture surface water, however, he must discharge it upon the lower land in the same way that it would be discharged naturally. If he retains the water upon his own land, he may do so without incurring any liability to his lower neighbor. This point has not been definitely decided in Illinois, but several American courts have adopted this view.¹⁵

A landowner does not have absolute ownership of the surface water on his property until he takes possession of it by storing or impounding it in cisterns, ponds, lakes, or reservoirs. As long as he has surface water in his possession, he is its absolute owner. He may use it for consumptive or nonconsumptive purposes or allow it to drain naturally from his property. He may not, however, discharge it from the impounding device in unnatural quantities or change the drainage of his land so as to seriously impair the use of the lower owner's land.

In the interest of good husbandry, an upper owner may artificially drain a pond fed only by surface water into the normal outlet or natural drain, even though the flow over a lower owner's land is thereby increased.¹⁶ If this act would seriously damage or destroy the property of the lower owner, however, the latter may be able to recover damages.

It appears that the rules concerning pollution of percolating ground water and water in natural watercourses also apply to surface water. If that is the case, a landowner may not pollute surface water as it passes over his property to such an extent that it will create a nuisance to lower owners. If a nuisance is created, the wrongdoer may be enjoined and required to pay damages.

A landowner may, by contract or easement, give permission to another to come upon his land and impound surface water. This grant might pro-

¹⁴ *Dickerson v. Goodrich*, 190 Ill. App. 505 (1914); *Pinkstaff v. Steffy*, 216 Ill. 406, 413, 75 N.E. 163 (1905).

¹⁵ See Farnham, *The Law of Water and Water Rights*, § 883 (1904); 56 Am. Jur., Waters, § 66.

¹⁶ *Peck v. Herrington*, 109 Ill. 611 (1884).

vide exclusive rights to one or more persons or could give these rights concurrent with those of the landowner. An individual may also acquire a prescriptive right to come upon the land of another to impound surface water for his own use. It is unlikely, however, that an individual may acquire a prescriptive right to have surface water flow from another person's land into an impounding device. Since a lower owner has no right to have surface water flow onto his property, there would be no basis for any prescriptive right.

Early court decisions based water rights on the source of supply and treated percolating ground water differently from water in watercourses. Water development provides a basis for the difference.

Until recent years, most wells were shallow, and pumping systems could not draw large volumes of water. As a result, there were few conflicts among competing users. Furthermore, the movement of ground water could not be seen or followed. Unlike a riparian proprietor, who would know if he had interfered with the flow of stream water to such an extent that it would affect a lower riparian proprietor, a user of ground water often did not know who would be affected by his use.

As the use of ground water for consumptive purposes by municipalities, industry, and agriculture has increased with the development of more efficient pumping methods, the courts and legislatures have begun to define the rights of different uses and users. In Illinois, however, there has been little litigation on the problem, and many areas of the law pertaining to ground water uses are left unsettled or entirely untouched.

Illinois has adopted the English common law regarding percolating ground water. The basic rule is that the owner of land owns all the water underlying his land that results from natural and ordinary percolation through the soil. Subject to certain exceptions, this water belongs absolutely to the owner of the land, and he may use it as he chooses, even though his use interferes with the supply on adjoining land.¹⁷

A landowner may not use ground water if his sole purpose in doing so is to interfere maliciously with its use by surrounding landowners. The general policy of the law is to allow a person who is injured by malicious interference to recover from the wrongdoer to the extent of his injuries.

A further restraint imposed upon a landowner is that he may not use his ground water in such a way as to render unfit the well or spring of another.¹⁸ If an injury has been suffered, damages may be recovered. Furthermore, pollution of the ground-water supply by one landowner may be enjoined if it would result in irreparable injury to another's health or trade or permanently damage his property.¹⁹

¹⁷ *Edwards v. Haeger*, 180 Ill. 99, 54 N.E. 176, 178 (1899).

¹⁸ *Wahle v. Reinbach*, 76 Ill. 322 (1875).

¹⁹ *Edwards v. Haeger*, 180 Ill. 99, 54 N.E. 176, 178 (1899).

A landowner may grant to another person the right to make exclusive use of his percolating ground water. However, conveyances that merely grant or reserve the privilege of taking water from springs or wells confer no right to the percolating ground water. In these cases, the owner of the land may sink wells and make use of the water collected by them.²⁰

In some situations, the rights to percolating ground water can be obtained by prescription. A subsequent purchaser of the land might be bound by this prescriptive right if the burden is open and visible.²¹ If a well system that pipes water to another's land is located on purchased land, the purchaser may be bound by any rights that have arisen by prescriptive use.

Watercourses that flow in well-defined channels below the surface of the ground are called "underground watercourses." Illinois courts have cited with approval the laws of states that treat underground watercourses flowing in well-defined channels in the same way as surface watercourses.²² The channels of such streams must be known and defined (i.e., capable of being proved in court); otherwise, underground water is considered as percolating ground water.

Legal Authority and Relationships — An Overview²³

Numerous agencies are empowered to deal with certain aspects of water control. Some of these agencies are concerned primarily with the regulation and protection of water quality, others with water quantity, and still others with the distribution process. A few have powers relating to all aspects of water control. Tables 1 through 4 (pages 16-22) summarize the existing statutory framework, including the types of regulatory powers delegated to various water-control agencies; the administrative powers of these agencies; the extent to which they are obligated to coordinate their activities; and the required priority and supervisory relationships.

There are three major types of water-control powers delegated to state and local agencies: (1) the power to control or prevent pollution; (2) the power to regulate consumptive uses; and (3) the power to regulate water use facilities. Various administrative procedures include the power

²⁰ *Edwards v. Haeger*, 180 Ill. 99, 54 N.E. 176, 178 (1899).

²¹ *Ingals v. Plamondon*, 75 Ill. 118 (1873), as referred to in *Edwards v. Haeger*, 180 Ill. 99, 54 N.E. 176 (1899), with respect to implied easements. Prescriptive rights were not expressly considered.

²² *Edwards v. Haeger*, 180 Ill. 99, 54 N.E. 176, 178 (1899).

²³ See also *Intergovernmental Relationships in the Administration of Water Resources*, Water Resources Center, University of Illinois at Urbana-Champaign, September, 1968.

to establish standards and enforce rules and regulations, and the authority to require construction and operation permits for facilities. These delegated responsibilities and grants of administrative authority often overlap or conflict. Interagency coordination is rarely required, and no pattern of vertical responsibility has been established to direct agencies in their activities.

The primary concern of most federal, state, and local agencies is to protect water quality. Of the 12 state and local agencies, ten have some form of general pollution-control authority (Table 1). Most have been delegated the power to promulgate regulations and ordinances and establish penalties for violations (Table 2). Some state agencies such as the Pollution Control Board are further empowered to hold hearings to consider alleged violations of their regulations and to impose fines. This adjudicatory power is not, however, available to local agencies, and they must institute proceedings within the normal judiciary channels.

Pollution control is one of the few water-related areas in which there is an interagency priority pattern. The new pollution control agencies have some in-line authority over local water-supply systems and waste-treatment facilities. This authority is not limited solely to pollution control, and can restrict local agency autonomy in water-facility construction and operation.

Despite the fact that the Pollution Control Board and the state Environmental Protection Agency have been granted broad powers to regulate, most of their work is directed toward water-quality regulation. Illinois laws contain few requirements for horizontal cooperation, and there are no general provisions for coordination at regional levels. One special exception at the state level is a coordination requirement relating to the preservation of Lake Michigan; another special exception relates to conservation lakes established by the Department of Conservation. In addition, a few potential conflicts are avoided by provisions allowing some special-purpose districts to exercise their primary authority without interference from horizontal agencies having secondary authority for the same function. These provisions are not common, however, and when conflicts arise there is no established mechanism for resolving them.

The few grants of authority to maintain adequate supplies of water have been vested almost exclusively in local agencies, and such powers as water-flow control are limited and usually secondary to some other objective such as quality control. Only a few local agencies can take action to regulate consumptive uses for preventing depletion of their water resources. The Pollution Control Board is the only state authority with substantial power to regulate water use facilities.

^a Jurisdiction of river conservancy districts to prevent pollution of sources of municipal water supply exists outside the district up to 15 miles from the source.

^b Jurisdiction of rural sanitary districts to prevent pollution of sources of water supply within the district extends outside the district up to 15 miles from the source.

^c The power of a water authority district to prevent pollution applies to the district supply, and extends up to five miles upstream from any district reservoir. Under certain circumstances, this power might extend outside the district.

^d The power of a municipal sanitary district to control pollution extends outside the district up to 15 miles from any municipal water source. A municipal sanitary district must provide means for preventing pollution originating within the district before it can compel any change in methods of sewage disposal.

^e General municipal jurisdiction over water extends three miles outside the corporate limits. The power of a municipality to prevent pollution may extend as far as 20 miles outside the corporate limits.

^f Powers to prevent pollution relate to pollution from gas and oil wells.

^g Jurisdiction of the Environmental Protection Agency over pollution extends to any tributary that may be contributing to the pollution of interstate or navigable waters. Federal authority is not exclusive. State and interstate action to abate pollution of interstate or navigable water shall be encouraged and not displaced by federal enforcement actions.

^h The Corps of Engineers has the power to prevent discharge of any pollutant from ships, etc. This power extends to navigable waters of the United States and their tributaries.

ⁱ Authority to control water flow exists for counties with a county department of public works.

^j The power of a rural sanitary district to regulate water flow exists only if the district has a sewage disposal plant. If the district has a sewage disposal plant, the power extends up to three miles outside the district.

^k The power of a municipal sanitary district to regulate water flow exists only if the district has a sewage disposal plant.

^l In regulating water use, municipalities have authority to regulate wells, pumps, cisterns, reservoirs, hydrants, drains, and cesspools.

^m The power extends to all supplies for ten or more persons.

Table 2. — Administrative Powers of Various Agencies

Powers	Local agencies						State agencies				Interstate agency		Federal agencies		
	Co.	PD	RCD	RSD	WA	MSD	Mun.	DT	DC	DMM	DPH	PC	ORSANCO	EPA	CE
<i>To regulate</i>															
Require permits		X ^a			X ^b			X		X		X ^o			X ^d
Require registration of facilities					X							X			
Require submission of plans										X		X ^o			
<i>To gather data</i>															
Conduct research					X								X		
Inspect facilities												X			
Investigate					X ^h			X ^f	X			X			X ^e
Require information								X ⁱ				X			X ^e
<i>To recommend legislation</i>													X ^j		
<i>To take necessary measures</i>									X						
<i>To act through ordinances and regulations</i>															
Promulgate ordinances and regulations		X	X	X	X	X	X			X ^k	X	X	X ^l		X ^m
Provide penalties for ordinance violation		X	X	X	X	X	X				X				
Establish a police force		X	X	X ^a	X	X ^o	X								
Enforce statutory standards						X				X	X	X	X		
<i>To take appropriate legal action</i>															
Obtain injunctions					X ^p					X		X	X ^q		X ^r
Hold hearings								X ^o		X ^t	X ^u	X ^v	X ^q		X ^w
Issue orders								X		X	X	X	X ^k		X ^w
Arrest for violations		X	X	X	X	X	X								X
Fine for violations		X	X	X	X	X	X	X		X ^y		X			X

See Table 1 for key to abbreviations.

^a A port district's power to require permits pertains to its power to prevent fills.

^b A water authority district has the power to require permits for construction of additional wells or withdrawal facilities, or for deepening, extending, or enlarging existing facilities.

^c The power to require permits pertains to water-supply facilities, discharge of sewage, and other wastes, etc. Permits are issued by the Illinois Environmental Protection Agency.

^d The Corps has power to require permits to deposit any matter off ships, etc. into any navigable waters or tributary of any natural waters.

^e The Illinois Environmental Protection Agency has power to require submission and approval of plans for sewage works.

^f The Department of Transportation has the power to inquire into encroachments upon, wrongful invasion of, and private use of every body of water in which the state has an interest.

^g In connection with any hearing, the Administrator can require persons to file reports. The Administrator is also authorized to investigate conditions of interstate waters.

^h The power to require information applies to information and data regarding the supply, withdrawal, and use of water.

ⁱ The Department of Transportation shall obtain all possible data and information with reference to all of the waters of the state that will tend to disclose or establish the rights of the people of the state with reference to each body of water.

^j The Commission may draft and recommend to signatory states uniform legislation dealing with pollution problems of the district.

^k The Mining Board of the Department of Mines and Minerals may promulgate rules and regulations only after a public hearing, unless there is an emergency. In case of an emergency, a public hearing is not required.

^l The Commission is authorized to prescribe regulations enforcing treatment standards for sewage as stated in the Compact.

^m If a state fails to adopt water-quality criteria, the Administrator is empowered to adopt criteria that will be the water-quality standards for the interstate waters of that state.

ⁿ A rural sanitary district is empowered to appoint a police force to exercise police powers for the purpose of preventing pollution of the waters of the district and of preventing any interference with district property.

^o A municipal sanitary district is empowered to appoint a police force to exercise police powers for the purpose of preventing pollution of the waters of the district and of preventing any interference with district property.

^p The board of trustees of a water authority district has the power to bring an action to restrain any violation or threatened violation of an ordinance.

^q The Commission, the attorney general of a member state, or any other law-enforcing official shall have the power to institute action for the enforcement of an order of the Commission, in federal or state court, by mandamus, injunction, specific performance, or other remedy.

^r When the attorney general sues for abatement of pollution that reduces the water quality below established standards, the court has jurisdiction to enter judgment and orders enforcing such judgment as the public interest may require. Presumably, an order could include an injunction.

^s The Department of Transportation shall receive complaints from any citizen as to any invasion of any rights of the state, or of any citizen of the state, with reference to any public body of water in the state. Upon being requested to do so, the Department, in its discretion, may hold a public hearing and enter an order defining the rights, interests, and duties of the parties.

^t Any interested persons shall have the right to have the Mining Board call a hearing for the purpose of taking action with respect to any matter within its jurisdiction.

^u The power of the Department of Public Health to hold public hearings is in connection with any proposed rules and regulations necessary to effectuate the policy of the Water Well Construction Code.

^v The power of the Pollution Control Board to hold public hearings is in connection with regulatory violations or violations of orders issued by the Board.

^w If adequate remedial action by a state has not been taken to abate pollution that violates water-quality standards, the Administrator shall hold a public hearing to make factual findings as to the occurrence and abatement of this pollution. Subsequent to such a hearing, the Administrator, if so recommended by the hearing board, can issue a notice specifying a time for abatement.

^x The Commission may issue orders upon any municipality, corporation, or person requiring treatment, modifications, or a discontinuance of any discharge.

^y Any person, corporation, city, etc. discharging or disposing of materials into Lake Michigan without a permit or in violation of a permit shall be fined not less than \$1,000 nor more than \$10,000 for each day of violation or imprisoned up to one year, or both. Any person who fails to obey any lawful order of the Department of Mines and Minerals shall be liable to a fine of \$100 to \$1,000.

Table 3. — Coordination Requirements of Various Agencies

Requirements	Local agencies							State agencies			Interstate agency— ORSANCO		Federal agencies			
	Co.	PD	RCD	RSD	WA	MSD	Mun.	DT	DC	DMM	DPH	PC	EPA	CE		
Advise local and state agencies about water pollution															X	
Coordinate plans of political subdivisions within their territories							X									
Coordinate pollution control activities with fed. EPA											X					
Coordinate pollution research											X					
Encourage cooperation and compacts between states																X
Cooperate with other government agencies on an operational basis				X ^a					X ^b	X ^c						X
Cooperate with other agencies for sewage disposal							X									
Mutual operation of sewer system with municipalities														X ^d		

See Table 1 for key to abbreviations.

^a Counties with departments of transportation may cooperate with any agency or subdivision of government in carrying out the work of the department.

^b The Department of Transportation cooperates with the Pollution Control Board in maintaining the proper preservation and utilization of the waters of Lake Michigan.

^c The Department of Conservation may work in conjunction with other departments to prevent stream and water pollution.

^d The sanitary district and a municipality, the major portion of which is in the sanitary district, may mutually construct or operate any sanitary sewer system.

Table 4. — Relationships Between Various Agencies

Relationships	Local agencies				State agencies				Interstate agency		Federal agencies					
	Co.	PD	RCD	RSD	WA	MSD	Mun.	DT	DC	DMM	DPH	PC	OR	SANCO	EPA	CE
<i>Report requirements</i>																
Report to governors of signatory states																X
Directors report annually to governor								X	X	X	X	X				
<i>Limitations in authority</i>																
Shall not supersede authority of DT								X								
Shall not supersede authority of Ill. Pollution Control Board																
Shall not affect authority of any sanitary district																
Supervisory authority over municipal water-supply system																X
Shall not exceed authority of DMM																X ^a
State action not to be displaced																
Secondary authority to exercise powers																X ^b

See Table 1 for key to abbreviations.

^a Shall not limit or supersede the authority of the Department of Mines and Minerals in the area of supervising mining operations.

^b State and interstate action to abate pollution of interstate or navigable waters shall not be displaced by federal enforcement action.

^c Counties with departments of transportation may exercise their additional powers only in areas that do not have available similar services provided by other governmental units.

(Table 4 is continued on page 22.)

Table 4. — continued

Relationships	Local agencies					State agencies				Interstate agency— ORSANCO	Federal agencies			
	Co.	PD	RCD	RSD	WA	MSD	Mun.	DT	DC		DMM	DPH	PC	EPA	CE
<i>Plans subject to approval</i>														
Approval by Illinois EPA and DT	X			X										
Water-supply facilities subject to approval by Ill. EPA					X									
Governor must approve permit for fills									X					
<i>Direction</i>														
State officers to make information and personnel available														X
Construct sewage works according to order of Ill. EPA														
May require sewer-system construction according to district standards													X	
Treat sewage according to order of Ill. EPA													X ^d	
Water-quality standards to be no less than those of Ill. Pollution Control Board													X	

See Table 1 for key to abbreviations.

^d May require tributary sewer or treatment plan constructed within three miles of the district to be in accordance with district standards.

The lack of specific authority to deal with water-quantity problems is complicated by the inadequacy of available administrative tools. For example, the state Environmental Protection Agency can issue permits for water use facility construction (Table 2), but the effect of this permit system on a regional basis is nominal, since the agency must issue a permit whenever the supply is adequate for the particular applicant's needs. Local districts have no authority to issue permits to regulate consumption and usually cannot prevent depletion of their water resources.²⁴

A complete data file is becoming increasingly important in water-supply control and planning. Water authorities are the only local agencies with power to gather data (Table 2). Several state agencies have this power — the state pollution control agencies, the Departments of Business and Economic Development, Conservation, Transportation, and Public Health, and the Water Survey, Natural History Survey, and Geological Survey. Water authorities are the only local units with the power to inspect facilities and to require information (Table 2). This unusual grant of power to a local agency may be because water authorities, the most recent type of special districts, were established at a time when water-supply problems were receiving more serious attention.

This distribution of responsibility results in an anomalous situation. Local agencies are delegated performance duties, while state agencies are charged with the collection of data upon which regulatory decisions should be based. If the collection of data continues at a state level, a central data bank should be established, and data must be made available on a systematic basis to local agencies.

There is a general lack of comprehensive coordination requirements between the various agencies (Table 3). At the local level, counties are empowered to coordinate the plans of the agencies within their area. However, this authority does not permit county governments to actually control the activities of these other agencies. In fact, there is only one instance in which a local agency can direct the actions of another agency — a sanitary district may require that sanitary installations within three miles of its boundaries conform to its standards. Although there have been some steps toward a regional orientation in water quality, there has been almost no movement toward this orientation in quantity control.

The federal government has authority to encourage states to enter into compacts for the protection and use of boundary waters. When used, these compacts allow regional control, usually with river-basin boundaries.

An intergovernmental problem common to the regulation of both water quality and quantity is extraterritorial jurisdiction. Municipalities have extraterritorial jurisdiction up to 20 miles, while other units are only

²⁴ But see discussion of water authorities on pages 48-50.

allowed to control smaller areas. This variation in jurisdiction may lead to conflicts, duplication, and waste.

In general, there are too many agencies charged with essentially the same responsibilities (Table 4). This situation may cause jurisdiction problems, parochial approaches to problems, and a sacrifice of any benefits of economics of scale. The problems of this overabundance of agencies are compounded by the scarcity of laws requiring coordination of planning and performance. Furthermore, there is no system to insure that data collected by one agency becomes available to others dealing in the same geographical area or with the same kinds of problems. The statutory structure also suggests that attention is being given to the problems of water quality, while little or no attention is given to the maintenance of adequate quantities.

Survey of Individual Agencies With Water Use Authority

U.S. ARMY CORPS OF ENGINEERS (FEDERAL)

The U.S. Army Corps of Engineers has authority to regulate water use indirectly by preventing pollution of the navigable waters of the United States. It is unlawful to deposit or discharge any refuse matter of any kind from any ship or barge, or from the shore, into any navigable water of the United States or into any tributary of any navigable water.²⁵

Refuse matter flowing from streets and sewers in a liquid state is expressly exempted from the prohibition. However, the United States Supreme Court has held that the discharge of solid industrial wastes through sewers does not come within the exemption.²⁶ Thus, any discharge containing solid waste could probably be prohibited, giving the Corps substantial pollution-prevention powers.

The Corps also has authority to regulate withdrawal of water from navigable waters of the United States, particularly when a withdrawal would be so large as to affect navigability.²⁷ The authority of the Corps extends to the navigable waters of the United States and their tributaries.

Regulation is achieved by requiring permits for any construction or discharge into navigable waters. Violators are guilty of a misdemeanor, and on conviction may be punished by a fine of \$500 to \$2,500 or by imprisonment for 30 days to one year. The Department of Justice is responsible for enforcement.

The Corps has not actively regulated quantitative water withdrawal or consumption, and until recently was not interested in administering

²⁵ 33 U.S.C. 407.

²⁶ *U.S. v. Republic Steel Corp.*, 362 U.S. 482 (1960).

²⁷ *Sanitary District of Chicago v. U.S.*, 266 U.S. 465 (1925).

a permit system for depositing or dumping materials in navigable waters. When the Corps receives a request for a permit, it is referred to the federal Environmental Protection Agency for a recommendation. The Corps also becomes involved when oil spills occur, but legal action is usually the responsibility of the Department of Justice.

ENVIRONMENTAL PROTECTION AGENCY (FEDERAL)²⁸

Pollution of interstate or navigable waters or their tributaries is subject to abatement when it endangers the health or welfare of any persons or reduces water quality below established standards. Cooperative regulation by the states, as well as compacts between states, is encouraged for the prevention and control of water pollution. The Congress has consented to having two or more states negotiate and enter into agreements or compacts for (1) cooperative effort and mutual assistance for the prevention and control of water pollution; and (2) the establishment of such agencies as they may deem desirable for making effective these agreements and compacts. However, no such agreement or compact is binding until it has been approved by the Congress.

The Environmental Protection Agency is to cooperate with other public authorities and agencies in the conduct of research, investigations, experiments, etc. relating to the causes, control, and prevention of water pollution. The Agency has jurisdiction over all interstate and navigable waters in or adjacent to any state, including any tributary that may be contributing to the pollution of interstate or navigable waters.

The Agency is to prepare programs for eliminating or reducing the pollution of interstate waters and their tributaries. Due regard must be given to improvements that are necessary to conserve waters for public water supplies, propagation of fish and aquatic life and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses. Joint investigations are authorized with any federal, state, or local agencies on the condition of any waters in any state, and of the discharges of any sewage, industrial wastes, or substances that may adversely affect these waters.

Upon request of any interstate agency or state water-pollution control agency, the Environmental Protection Agency may conduct investigations, research or surveys concerning any specific problem of water pollution confronting any state, interstate agency, community, municipality, or industrial plant, with a view to recommending a solution to the problem.

²⁸ Under Presidential Reorganization Plan No. 3 of 1970, functions of the Secretary of Interior, administered by the Water Quality Administration (33 U.S.C. 466), were transferred to the Administrator of the Environmental Protection Agency.

States are allowed to adopt their own water-quality criteria applicable to interstate waters within their state, and to develop a plan of implementation and enforcement subject to approval by the Environmental Protection Agency. If the states fail to adopt water-quality standards, the Agency may call a conference of appropriate state, interstate, and federal agencies and promulgate standards applicable to the interstate waters of any state in default.

Any direct or indirect discharge reducing the quality of interstate waters below the standards is subject to abatement. The Agency may request the Attorney General of the United States to bring suit on behalf of the United States when the discharge endangers the health and welfare of persons in a state other than the state in which the discharge originates. When the discharge is causing pollution affecting only persons within the state in which the discharge originates, the consent of the governor of the state is required prior to initiating a suit.

A court must give due consideration to the practicability and the physical and economic feasibility of complying with the standards. A court has jurisdiction to enter judgment or any orders enforcing such judgment as the public interest and the equities of the case require.

In addition to the above enforcement powers, the Environmental Protection Agency may initiate suit at the request of the governor of a state or a state agency. When pollution is endangering the health or welfare of persons within a state, then the governor of the state, a state pollution control agency, or the governing body of any municipality may request a conference. This conference may include agencies and interstate agencies of the states adversely affected by the pollution. When the request refers to pollution of interstate or navigable waters that affects only the requesting state, the Agency may refuse to call a conference if the effect of the pollution is not of sufficient significance on the legitimate uses of water to warrant the exercise of federal jurisdiction.

If, at the conclusion of a conference, the Agency determines that effective progress toward abatement is not being made, and that the health or welfare of any persons is being endangered, the Agency must recommend to the state water-pollution control agency that it take immediate remedial action. If the state does not take satisfactory remedial action, a public hearing is called by the Agency. A hearing board is appointed to determine whether pollution is occurring and whether abatement progress is being made, and to make recommendations concerning measures that should be taken for abatement.

If action reasonably calculated to secure abatement of the pollution is not taken, the Agency may request the Attorney General to bring suit. The court may receive a transcript of the Hearing Board's recommenda-

tions in evidence, along with a transcript of the proceedings of the conference and the standards promulgated by the Agency. The court has jurisdiction to enter judgment and to order enforcement of the judgment as the public interest and the equities of the case require.

POLLUTION CONTROL AGENCIES (STATE)²⁹

The primary function of the state pollution control agencies is to control and abate existing pollution in Illinois waters, and to prevent future pollution. The Pollution Control Board has adopted rules and regulations on plans for sewage works, the quality of streams, the filling or sealing of abandoned water wells and holes, the discharge of mercury, and others. It has broad authority to adopt reasonable rules and regulations as may be necessary.

A permit is required for the following: (1) the installation or operation of any sewage works; (2) the increase in volume or strength of any wastes into the waters of the states; (3) the construction or operation of any equipment or facility that would contribute to water pollution; and (4) the construction or use of any new outlet for the discharge of any wastes directly into the waters of the state.

The state Environmental Protection Agency may investigate any alleged act of pollution. When it appears that there has been a violation, the Agency may file a complaint before the Pollution Control Board.

Before any work of any county relating to water supply, sewage, or pollution may be undertaken, the plans must be approved by the Department of Transportation and by the state Environmental Protection Agency.³⁰ Any municipality or sanitary district receiving an order from the Pollution Control Board to abate its discharge of untreated or inadequately treated sewage must take steps to construct a sewage works or alter an existing sewage works to comply with the order. Any water authority's plans for constructing any facility for providing additional water supply must be submitted to and approved by the Board.³¹

The authority of the Pollution Control Board does not limit the power of the Department of Transportation to prevent the intrusion of water into oil, gas, or coal strata and the pollution of freshwater supplies by oil, gas, or salt water. However, water-quality standards adopted by the Board apply to the Department.

²⁹ Ill. Rev. Stat. Ch. 111½, sec. 1001 (1971). The three agencies created by the Environmental Protection Act are the Environmental Protection Agency (EPA), the Pollution Control Board (PCB), and the Institute for Environmental Quality (IEQ). The EPA monitors, investigates, and presents evidence in hearings before the Pollution Control Board. The PCB serves as rule-maker and adjudicator. The IEQ is responsible for long-range research and planning.

³⁰ Ill. Rev. Stat. Ch. 34, sec. 3114 (1971).

³¹ Ill. Rev. Stat. Ch. 111½, sec. 228 (1971).

The pollution control agencies have jurisdiction throughout the entire state. These agencies have a wide range of administrative techniques that are effective and versatile. The state Environmental Protection Agency may make such investigations of discharges or pollution problems as it may deem necessary, and may request discontinuance or modification of a discharge causing pollution. If these orders are not obeyed, the Agency can initiate complaint proceedings to compel compliance with water-quality standards adopted by the Pollution Control Board.

In addition to its enforcement techniques, the Agency administers a permit system for discharge of sewage, industrial wastes, and other wastes. Permits may be revoked or modified to prevent or abate pollution.

Upon request, the attorney general of Illinois is required to bring an action against any person failing to comply with any order of the Pollution Control Board. Violations are punishable by a fine up to \$10,000, plus a fine not exceeding \$1,000 per day during the time in which the violation continues. In addition, if pollution destroys fish, an action may include a claim for the value of the fish destroyed.

To prevent and eliminate water pollution in Illinois, the state Environmental Protection Agency utilizes about 600 sampling stations to monitor water quality in rivers and streams and to ascertain when pollution violations occur. The sampling procedure involves 15 to 20 determinations of pollution parameters. Regional offices are maintained that are responsible for several thousand investigations per year.

The permit system is reasonably effective in controlling the discharge of wastes into the waters of Illinois. Approximately 1,200 permits are issued per year. Regulations of the Pollution Control Board are being enforced, and more fines are being assessed than in previous years.

The Public Water Supply Control Law is administered by the state Environmental Protection Agency and Pollution Control Board, including a permit system for regulating construction of improvements and inspection for compliance with requirements.³² Notification of pollution violations comes from Environmental Protection Agency investigations, citizens, local governments, companies, and legislators.

DEPARTMENT OF CONSERVATION (STATE)³³

The Department of Conservation has the power to take such measures as are necessary to prevent pollution and create sanitary conditions in rivers, lakes, streams, and other waters in the state. The Department's objectives include the promotion and protection of flora, fauna, and fish.

The Department may acquire an interest in real property to preserve,

³² Ill. Rev. Stat. Ch. 111½, sec. 121a (1971).

³³ Ill. Rev. Stat. Ch. 127, sec. 63a (1971)

through limitation of future use, areas of great natural scenic beauty or areas whose natural conditions or present state of use would maintain or enhance the conservation of natural or scenic resources. This acquisition power includes water resources.

The Department is authorized to cooperate with the pollution control agencies in making pollution investigations.³⁴ The directors of various state departments are empowered to devise a practical working basis for cooperation and coordination of work to eliminate duplication and overlapping of functions. The Department is to work in conjunction with any other department to prevent stream and water pollution.

An advisory board to the Department of Conservation recommends long-range policies for the Department in the protection and conservation of renewable resources of the state. The board also may extend cooperative support to other agencies of the state in the prevention of pollution of streams and lakes within the state.

There is no specific mention of any power to make rules, regulations, or orders concerning the Department's responsibility to prevent water pollution. The Department's approach is to deal with pollution affecting fish, game, or recreation only after pollution has occurred, usually relying on the state Environmental Protection Agency for assistance. The Department is not active in controlling types of water uses such as withdrawal, consumption, water supply, or flood control.

DEPARTMENT OF PUBLIC HEALTH (STATE)³⁵

The Department of Public Health still has some residual authority to prepare and enforce rules and regulations relative to the installation and operation of water works so that water supplies will be of satisfactory sanitary and mineral quality for drinking and general domestic use. However, public water-supply scrutiny now comes under the wing of the pollution control agencies. This also appears to be the case in the administration of the Water Well Construction Code, although the Code applies to any water well used or intended for supplying water for human consumption that is not otherwise subject to regulation under the laws of the state.³⁶ There appear to be no significant coordination requirements with other agencies in regulating water use, except as may be implicit in sharing some responsibility for water supplies.

The Department may make such sanitary investigations as it may from time to time deem necessary for the preservation and improvement of public health.³⁷ It adopts rules and regulations reasonably necessary to

³⁴ Ill. Rev. Stat. Ch. 61, sec. 137 (1971).

³⁵ Ill. Rev. Stat. Ch. 127, sec. 55.01 (1971).

³⁶ Ill. Rev. Stat. Ch. 111½, sec. 116.114 (1971).

³⁷ Ill. Rev. Stat. Ch. 127, sec. 55.07 (1971).

effectuate the policy of the Water Well Construction Code as it applies to wells furnishing water to fewer than ten properties. These rules and regulations provide criteria for the proper location and construction of any water well.³⁸ The Department conducts public hearings in connection with proposed rules and regulations. Upon determination that the Code or any rule or regulation has been violated, the Director may hold a hearing before the Department of Registration and Education and take testimony on any matter pertinent to the law or any rule or regulation.

Any person convicted of violating or refusing to obey any rule or regulation of the Department is guilty of a misdemeanor and subject to a fine of up to \$200 or imprisonment in the county jail for up to six months, or both. The Director of the Department of Public Health may institute proceedings when violations occur, and the state's attorney of each county must prosecute all persons in his county charged with violating or refusing to obey the rules and regulations of the Department of Public Health.³⁹

Although the Department does not have direct authority to regulate water use, quantitative or otherwise, it still exercises some power over the quality of water that may be used. There may be some confusion in authority between the Department of Public Health and the Pollution Control Board regarding water supplies.

DEPARTMENT OF TRANSPORTATION (STATE)⁴⁰

The authority of the Department of Transportation includes general supervision of every body of water within the state in which the state or people of Illinois have any rights. It is the duty of the Department to see that none of the bodies of water is wrongfully encroached upon, seized, or used by any private interest in any way, except as may be provided by law.

It is unlawful to make any fill or deposit of rock, earth, sand, or other material or any refuse matter of any kind in the public bodies of water in the state without first submitting the plans to the Department of Transportation and receiving a permit. When a permit is sought for a fill or deposit in a slip, the Department requires a signed statement approving such action by all riparian owners whose access to public waters will be directly affected. This power is limited for Lake Michigan by the special requirement that the Department may permit the deposit of dredged material only when it determines that the deposit will not cause pollution. The De-

³⁸ Ill. Rev. Stat. Ch. 111½, sec. 116.111; Ch. 111½, sec. 1001 (1971).

³⁹ Ill. Rev. Stat. Ch. 111½, sec. 24 (1971).

⁴⁰ Ill. Rev. Stat. Ch. 19, sec. 52 (1971). General authority over waterways was transferred from the Department of Public Works and Buildings to a newly created Department of Transportation effective January 1, 1972.

partment has authority to grant a permit to any person, firm, or corporation that is not a riparian owner to use the water from any public body of water for industrial manufacturing or public-utility purposes.

It is the express intention of the legislature that cooperation be continuous between the pollution control agencies and the Department of Transportation, and that every resource of state government be applied to the proper preservation and utilization of the waters of Lake Michigan.⁴¹

Before any work is begun under the provisions of the River Conservancy Districts Act, the plans must be submitted to and approved by the Department of Transportation.⁴² Before any acts of the counties relating to water supply, sewage, and pollution can be undertaken, the plans must be approved by the Department and the state Environmental Protection Agency.⁴³

The Department of Transportation has jurisdiction over every public body of water in the state, subject only to the paramount authority of the United States Government with reference to the navigation of such streams and the laws of Illinois.

The Department has a duty to obtain all possible data and information pertaining to all of the waters of the state that will tend to disclose or establish the rights of the people of the state. It has the power to inquire into encroachments upon, wrongful invasion of, and private use of every body of water in which the state has an interest and to make and enforce such orders as will secure these bodies of water against wrongful use.

The Department may receive complaints from any citizen concerning invasion of any rights of the state. Upon request, the Department, in its discretion, may hold a public hearing and enter an order defining the rights, interests, and duties of the parties. If the Department believes that a public body of water has been encroached upon, the Department must bring an action to recover damages or to recover the use of the body of water. Any fill or deposit made in any of the public bodies of water in the state, in violation of this section, may be abated at the expense of the person, corporation, city, or other entity responsible.

Any person, corporation, city, or entity discharging or disposing of any such materials into Lake Michigan without a permit or in violation of a permit can be fined not less than \$1,000 nor more than \$10,000 for each day the violation occurs or be imprisoned up to one year, or both. Any person who fails to obey any lawful order of the Department may be liable to a fine of \$100 to \$1,000.

⁴¹ Ill. Rev. Stat. Ch. 19, sec. 61a (1971).

⁴² Ill. Rev. Stat. Ch. 42, sec. 408 (1971).

⁴³ Ill. Rev. Stat. Ch. 34, sec. 3114 (1971).

Although the Department of Transportation appears to have authority to regulate any encroachment, seizure, or use of any body of water in which the people of the State of Illinois have any interest, regulation is actually limited to administering a permit system for construction of physical facilities in these waters. The Department does not directly regulate quantitative use or withdrawal of public waters.

The Department makes regular inspections of public waters to review authorized work and to discover encroachment. When violations occur, the parties are notified and requested to correct the problem. The Department may hold a public hearing when a problem occurs, and several public hearings are held each year.

DEPARTMENT OF MINES AND MINERALS (STATE)⁴⁴

One function relating to water use is to prevent damage to the underground fresh water supply. Any well drilled for water that is abandoned must be plugged. Notification of intent to drill any water well must be filed with the Mining Board and, in the case of wells drilled for water that penetrate the subsurface below the glacial drift, a permit must be obtained.

The State Mining Board also regulates the disposal of salt or sulfur-bearing water and any oil-field waste produced in the operation of oil and gas wells, and has authority to adopt proper rules and regulations. There are no coordination requirements or specific relationships with other agencies in the regulation of water use.

The Mining Board has jurisdiction and authority over all persons and property necessary to carry out its duties effectively. Presumably, this jurisdiction and authority would include the entire state.

By making a request in writing, any interested person has the right to have the Mining Board call a hearing for the purpose of taking action on any matter within its jurisdiction. The Mining Board must call a hearing, and take such action as it deems appropriate within 30 days of the conclusion of the hearing.

No rule, regulation, or order shall, in the absence of an emergency, be made by the Mining Board except after a public hearing upon at least ten days' notice. Whenever it appears that the Mining Board cannot effectively prevent further violation or threat of violation, it must bring suit in the circuit court of the county where any part of the land that is the subject matter of such action is situated. To restrain persons from continuing a violation or threat of violation, the Board may obtain prohibitory and mandatory injunctions, including temporary restraining orders and temporary injunctions, as the facts warrant.

⁴⁴ Ill. Rev. Stat. Ch. 104, sec. 62 (1971).

A person who violates any provision of the mining law or any valid rule, regulation or order of the Mining Board is subject to a fine of not more than \$100 per day.

A permit is required in Illinois for a salt pit. Salt pits are inspected annually by about 25 field inspectors who work with the Department. An inspector can serve immediate notice of a violation, but notices are also sent by certified mail to oil well operators or pumpers. About 500 to 600 pollution violations involving oil wells occur each year, and 95 percent of these are corrected without any action other than the notice violation. The local state's attorney takes action on the other 5 percent.

The permit for drilling water wells that penetrate the glacial drift requires information to develop subsurface maps, and is not used to regulate water withdrawal or quantitative consumption.

OHIO RIVER VALLEY SANITATION COMMISSION (INTERSTATE AGENCY)⁴⁵

The purpose of the Ohio River Valley Sanitation Commission is to abate existing pollution and control future pollution of the Ohio River Basin. The Commission is given authority and all powers necessary to carry out the Ohio River Valley Sanitation Compact. The Commission may require any person or entity to discontinue, modify, or treat any discharge into the waters of the basin.

The broad powers given the Commission to control and abate pollution in its area of jurisdiction apparently supersede similar powers in local and state agencies. The Commission is required to consult with and advise states, communities, municipalities, corporations, persons, or other entities regarding water-pollution problems.

All officers of the State of Illinois are specifically directed to cooperate in carrying out the goals of the Compact. In addition, all officers, bureaus, departments, and persons in the government of the State of Illinois are directed to furnish any information and data possessed by them to the Commission and to loan personnel or to use other means to aid and assist the members of the Commission. The Commission is required to report its activities annually to the governors of the signatory states.

The Commission is authorized to abate and control pollution within the Ohio River Valley Sanitation District. The District basin embraces parts of Illinois, Indiana, Kentucky, New York, Ohio, Pennsylvania, Tennessee, and West Virginia. The Commission utilizes surveys and studies on pollution problems of the District, and drafts and recommends uniform legislation to the signatory states dealing with pollution problems.

⁴⁵ Only one of the several interstate agencies was included. ORSANCO was selected because it has broader authority and appears to be more successful than similar agencies. Ill. Rev. Stat. Ch. 111½, sec. 117 (1971).

The Commission is authorized to adopt, prescribe, and promulgate rules, regulations, and standards for administering and enforcing the provisions of the Compact. The Compact provides that all sewage from municipalities or other political subdivisions, public or private institutions, or corporations flowing into the Ohio River or its tributaries must be treated to remove substantially all settleable solids, and not less than 45 percent of suspended soils, as well as any higher degree of treatment considered necessary by the Commission. To protect public health and preserve the waters for legitimate purposes, all industrial wastes discharged or permitted to flow into the waters must be modified or treated to the degree determined necessary by the Commission.

The Commission may issue orders to any municipality, corporation, person, or other entity discharging sewage or industrial waste into the Ohio River. These orders may prescribe the date on which the discharge shall be wholly or partially discontinued, modified, treated, or otherwise disposed of. It is the duty of the subject of the order to comply. The Commission, the attorney general of the state, or any other law-enforcing official has the power to institute action for carrying out the order. The federal district courts, the circuit courts of the state, or any court of general jurisdiction has authority by mandamus, injunction, specific performance, or other form of remedy to enforce such orders.

COUNTIES (LOCAL)⁴⁶

Counties and municipalities are units of general local government that may become involved in water use regulation. The others, such as port districts and river conservancy districts, are special-purpose units created for a particular function in a limited geographical area.

Counties have limited power to control water supply and sewage collection. This power is generally exercised by requiring the inclusion of specifications in map and plats.

If a county has a county department of public works (adopted by a two-thirds vote of the county board), there is additional power to supervise and control the flow of water over dams on any river, stream, or watercourse within the county.⁴⁷ These counties also have power to prevent pollution of any body of water within their boundaries.

County planning commissions are organized to encourage coordination of plans by all political subdivisions. Counties with a department of public works are specifically authorized to cooperate with any proper

⁴⁶ Ill. Rev. Stat. Ch. 34, sec. 414 (1971).

⁴⁷ Ill. Rev. Stat. Ch. 34, sec. 3107 (1971).

agency or subdivision of government in formulating plans and carrying out the work of the department. However, these counties are not allowed to exercise their additional powers in areas that have similar services available from other governmental units unless requested to do so by a resolution adopted by the governing bodies of these units. The primary regulatory authority of counties seems limited to the boundaries of the county.

Water supply and sewage collection and treatment in the county may be regulated to some extent by county ordinances applying to land outside municipalities. Clearly, counties with departments of public works have authority to pass ordinances prohibiting pollution, and to arrest and fine for violations. This authority is not as clear with respect to water supply.

Apparently, a county is limited to a \$500 fine for violation of these ordinances. A warrant may be issued by a court for any person accused of violating any county ordinance upon the affidavit of any person stating that an accused has violated an ordinance, and that the person making the complaint has reasonable grounds to believe that the party charged is guilty. These powers apply to all counties, regardless of whether they adopt the Water Supply, Drainage and Flood Control Act.⁴⁸

About one-fifth of the counties surveyed indicated that water supply and pollution were major problems, but only 5.3 percent have ordinances on water use, and only 15.8 percent have ordinances on water pollution (Table 5, page 41). Most of these ordinances appear to relate to the county's authority to regulate inclusion of water-supply facilities and sewage-disposal facilities in maps and plats submitted for filing.

Several counties reported that limitations were placed on water use within the three-year period (1969-1971). Use was restricted for periods of two days to two weeks. All of the counties reported that when they requested action by the Sanitary Water Board (now the Illinois Environmental Protection Agency) the Board took the requested action. Only 15.8 percent of the counties took legal action against a polluter (two times each year) during the three-year period.

Although counties appear to engage in some regulation of water-supply facilities in new subdivisions, they are much more active in regulating sewage treatment facilities for new subdivisions.

Septic tanks for homes are usually necessary in rural areas, and 84.2 percent of the counties indicated that septic tanks are allowed. There appears to be a minimum of conflict between city and county water or sewage regulation, with only 15.8 percent of the counties indicating that any conflict ever occurs.

⁴⁸ Ill. Rev. Stat. Ch. 34, sec. 3101 (1971).

Specific Regulatory Authority (Counties)	19 respondents		
	Yes	No	No resp.
		(percent)	
Do you regulate water-supply facilities for new subdivisions?	31.6	68.4	...
Do you regulate sewage treatment facilities for new subdivisions?	68.4	31.6	...
Are there county requirements for sewage collections?	42.1	47.4	10.5
Are septic tanks allowed?	84.2	10.5	5.3
Do any of the above requirements ever conflict with city or village requirements when the subdivision is in the fringe area next to a city or village?	15.8	84.2	...
Do you supervise or control the following:			
Flow of water over any dams in the county? . . . . .	...	100	...
Disposal of sewage in the county?	42.1	57.9	...
Disposal of garbage in the county?	36.8	63.2	...
Does your county have a county department of public works (established by a two-thirds vote of the county board)?	10.5	89.5	...

The flow of water over dams was not regulated by any county, and less than one-half of the counties regulated sewage and garbage disposal within the county. Thus, the major county activity dealing with water use is pollution control, and this activity relates more to sewage disposal and garbage at the "point of origin" than to prevention, control, or abatement of pollution at the "point of pollution" in the water resource. Although counties with departments of public works have authority to prevent pollution of any body of water within the county, only two of the nineteen counties surveyed had departments of public works. Counties reported no activity in regulating water withdrawal or consumption or other non-sanitary uses.

PORT DISTRICTS (LOCAL)⁴⁹

The only regulatory authority that port districts may exercise over water is to prevent pollution of the waters of the district by controlling the depositing of rock, earth, sand, or other material or any refuse matter within those waters. If the terms "material" and "refuse" are broad enough to include liquid or semisolid matter, the authority of a port district to prevent pollution may be substantial.

There are no specific coordination requirements imposed on the authority of a port district over fills and dumping, and no specific relationships between agencies are designated. Authority is limited to the waters of the district. Fills of earth, rock, sand, or refuse are regulated by requiring permits from the port district prior to any such development.

⁴⁹ Ill. Rev. Stat. Ch. 19 (1971).

Water pollution is a major problem in port districts in Illinois. There is little problem with water shortage. Two of the districts surveyed have ordinances regulating water use (presumably for transport purposes), and four have ordinances controlling pollution (Table 5).

Pollution ordinances are enacted pursuant to the authority of port districts to require permits for any deposits of material in the district. Although port districts have authority to arrest persons for ordinance violations, and five of the six districts surveyed acknowledged that they have this authority, no district surveyed has ever imposed a fine or made an arrest for violation of a water use or pollution ordinance or regulation. Similarly, all districts have authority to maintain a police force to enforce water use or pollution regulations, but none of the districts surveyed has a police force. In addition, no district surveyed has taken legal action against a polluter in the last three years nor requested the Sanitary Water Board (now the state Environmental Protection Agency) to take any action.

Regulation of non-sanitary uses is limited to commercial use such as navigation or recreation. Port districts do not regulate quantitative withdrawals. One-half of the districts reported no financial difficulty in meeting their obligations.

In response to more specific questions, one-half of the port districts reported that they regulate deposits in the waters of the district, require permit for fills, and charge to use the port facilities. None is concerned with a water supply for any city or village.

<i>Specific Regulatory Authority (Port Districts)</i>	<i>6 respondents</i>		
	<i>Yes</i>	<i>No</i>	<i>No resp.</i>
		<i>(percent)</i>	
Do you regulate the depositing of material or refuse in the waters in the district?.....	50	33.3	16.7
Do these regulations include discharges from boats?.....	16.7	66.6	16.7
Do you have a permit system for fills?.....	50	33.3	16.7
Is there a charge for the use of your port facilities?.....	50	33.3	16.7
Do you regulate water supply for a city or village in any way?.....	...	100	...

RIVER CONSERVANCY DISTRICTS (LOCAL)⁵⁰

Jurisdiction of a river conservancy district over water use embraces three separate areas: pollution prevention, regulation of water flow, and protection of water-supply sources. The board of trustees has the power and duty to regulate and control the flow of water over and through any dams and obstructions on any river, stream, or watercourse, to prevent the pollution of any water from which a water supply is obtained by any municipality, and to prevent the pollution of any stream or body of water.

⁵⁰ Ill. Rev. Stat. Ch. 42, sec. 392a (1971).

The board also has general authority to adopt and enforce ordinances for the protection of water sources.

The board of trustees may cooperate and enter into agreements with the United States Government, municipal corporations of Illinois, political subdivisions, and persons and associations. These agreements may pertain to planning, the construction of improvements, and the conservation, regulation, development, and utilization of water resources.

Whenever a river conservancy police force is required to act within any municipality, action must be in aid of and under the direction of the municipal police. The river conservancy district police force should not, however, be hindered from executing the orders of the board.

It is specifically stated that a river conservancy district's authority to prevent pollution may not supersede the authority of the state Environmental Protection Agency. In addition, improvement plans by a district must be approved by the Department of Transportation and the state EPA before work can be started.

The jurisdiction of a river conservancy district is generally limited to the geographical confines of the district. A possible exception is that the board of trustees of a district has authority to prevent the pollution of "any waters from which a source of supply may be obtained by any city, incorporated town, individual, or village within said district. . . ." Even though authority seems limited to the protection of waters within its boundaries, the district apparently can prevent pollution to sources of water outside its boundaries.

The board may utilize a police force in the territory of the district and "over the territory outside of said district included within a radius of fifteen miles from the intake of any such water supply in any such waters, for the purpose of preventing pollution. . . ." This grant of authority supports an interpretation of jurisdiction over waters outside the area of the district.

In exercising pollution-prevention powers, the law requires the board of trustees to diligently cause any and all parties, persons, firms, and corporations to cease pollution of waters of the district. The board is given full power to pass all necessary ordinances, rules, and regulations for carrying these objectives into effect.

The board has no direct authority, however, to bring any kind of legal action to accomplish its purposes. The statute does not contain injunctive powers or authority even to sue to enforce or prevent violation of any district regulations or ordinances. Perhaps this authority can be implied in the imposition of a duty to diligently cause any and all parties to cease pollution of waters of the district. If no authority exists, then the

broad responsibilities of the river conservancy district may be difficult to carry out.

Of the four river conservancy districts surveyed, three reported that domestic water supply was short, and all four stated that water pollution was a major problem. Two of the districts indicated that they had authority to pass ordinances on water use, and three had authority to pass ordinances on water pollution, but none had such ordinances (Table 5).

Two of the districts had water use restricted within their area in the last three years, one for as long as 90 days. Restrictions must have been imposed by an outside authority, since all districts reported that they had no ordinances on water use. None of the districts have taken court action against a polluter, but fines were reported in two cases, apparently by action of the Sanitary Water Board.

In response to the special questionnaire, only one of the districts reported maintaining a dam or reservoir (apparently for purposes other than water supply), but there is some cooperation between river conservancy and water-supply districts. Although river conservancy districts have broad powers, it appears from the survey that they do not engage extensively, if at all, in any water use regulation, including the prevention, control, or elimination of water pollution.

<i>Specific Regulatory Authority (River Conservancy Districts)</i>	<i>4 respondents</i>		
	<i>Yes</i>	<i>No</i>	<i>No resp.</i>
		<i>(percent)</i>	
<i>Do you maintain any dams?</i>	25	50	25
<i>Do you maintain any reservoirs for water supply?</i>	..	75	25
<i>Do you regulate or limit water use or consumption in any way?</i>.....	..	75	25
<i>Do you have agreements to cooperate with any other water districts?</i>	50	25	25

River conservancy districts appear to have been created to solve special local problems in a limited area. The reason for the grant of broad power to the districts is not apparent.

SANITARY DISTRICTS (LOCAL)⁵¹

The primary responsibility of sanitary districts is to provide facilities for the treatment of sewage. But these districts have authority to prevent pollution and limited authority in controlling water flow. The board of trustees of a sanitary district may prevent the pollution of waters used for a water supply by any municipality within the district.

After the construction of a sewage disposal plant, the board of trustees of a municipal sanitary district may prevent the discharge of inadmissible

⁵¹ Ill. Rev. Stat. Ch. 42, sec. 306 (1971).

wastes or toxic substances within the district. The board of a rural sanitary district does not have this power.

If a board has a sewage disposal plant and decides that a dam or structure will promote the public health, it may build dams or other structures in any river or stream to control the flow of water. A district that operates a sewage system and has fewer than 500,000 people may contract with any industrial establishment to treat their industrial wastes in such a way as to abate or reduce pollution.

The Illinois Environmental Protection Agency may require a sanitary district to fulfill its obligation for facilities and sewage treatment. Failure of a district to meet its obligation adequately is a misdemeanor, and it is the duty of the Agency to file a complaint for any violation of this obligation. It is the duty of the attorney general or state's attorney of the county to prosecute violators.

A district has the right to require that any sewer system or sewage-treatment works that is tributary to and within three miles of the limits of the district be constructed in accordance with the standards and specifications of the district.

The power to prevent pollution of any waters from which a water supply may be obtained by any city, town, or village within the district extends jurisdiction beyond the district boundaries. The district can employ a police force to enforce this power up to 15 miles from the intake of any source of water supply for any city, town, or village within the district. Dams may be constructed within the district or within three miles outside the district. All other powers of a district must be exercised within the boundaries of the district.

The district board has power to pass all necessary ordinances, rules, and regulations to meet the objectives for which the sanitary district was formed. The board has special power to prevent specific discharges subsequent to the construction of a sewage treatment facility, including inadmissible wastes or substances toxic to biological waste-water-treatment processes. Inadmissible wastes include wastes that create a fire or explosion hazard in the sewer or treatment works; those impairing the hydraulic capacity of the sewer system; and those that in any quantity create a hazard to people, sewer systems, treatment processes, or receiving waters.

Sanitary district ordinances are enforced through an action to impose a fine for violation of these ordinances. Actions are brought in the name of the district as plaintiff, and a warrant may issue on execution of an affidavit by any person setting forth reasonable grounds for believing that a violation has occurred. Fines are to be established by ordinance or resolution.

Table 5. — Water and Pollution Powers and Problems of Local Units

	Co.		PD		RCD		RSD		Mun.						
	(19 respondents)		(6 respondents)		(4 respondents)		(23 respondents)		(125 respondents)						
	Yes	No resp.	Yes	No resp.	Yes	No resp.	Yes	No resp.	Yes	No resp.					
Domestic water supply short.....	15.7	79	5.2	16.7	83.3	...	75	25	26.1	73.9	...	10.4	88	1.6	
Authority to pass ordinance on use.....	36.8	57.8	5.3	33.3	66.7	...	50	50	26.1	69.6	4.3	4	90.4	5.6	
Have ordinances on use.....	5.3	89.5	5.3	33.3	66.7	...	...	100	30.4	69.6	...	12.8	84.8	2.4
Use restricted ^a	10.5	84.2	5.3	33.3	66.7	...	50	50	21.7	78.3	...	8	89.6	2.4	
Imposed fine for water-use-limitation violation.....	...	84.2	15.8	...	100	100	...	91.3	8.7	...	8	93.6	5.6
Employees to enforce supply regulations of units.....	26.3	63.2	10.5	...	100	...	...	100	17.4	78.3	4.3	32	63.2	4.8
Water pollution a major problem.....	21.1	78.9	...	50	33.3	16.7	100	...	26.1	73.9	...	9.6	88.8	2.4	
Authority to pass ordinances on pollution.....	63.1	26.3	10.5	66.7	33.3	...	75	25	60.8	39.1	...	5.6	88	6.4	
Have ordinances on pollution.....	15.8	78.9	5.3	33.3	66.7	...	...	100	69.6	30.4	...	37.6	57.6	4.8
Initiated legal action against polluter ^b	15.8	78.9	5.3	...	100	...	...	100	4.3	95.7	...	1.6	97.6	...
Authority to arrest and fine for ordinance violations.....	68.4	15.8	15.8	83.3	...	16.7	25	50	60.8	39.2	...	56.8	31.2	12	
Imposed fine for pollution violation.....	10.5	68.4	21.1	...	100	...	50	50	13.1	86.9	...	1.6	91.2	7.2	
Authority to employ police for ordinance enforcement.....	68.4	15.8	15.8	100	...	...	25	75	39.1	60.9	...	...	...	...
Employees to enforce pollution regulations of units.....	31.6	47.4	21	...	100	...	...	100	21.7	73.9	4.4	26.4	66.4	7.2
Requested action by Sanitary Water Board (now the Ill. EPA).....	26.3	63.2	10.5	...	100	...	25	75	13.1	86.9	...	3.2	95.2	1.6	
Received action pursuant to request.....	26.3	...	73.7	...	100	100	25	...	13.1	...	86.9	3.2	...	96.8	
Financial difficulties in water responsibilities	21.1	68.4	10.5	16.7	50	33.3	50	50	34.8	56.5	8.7	27.2	69.6	3.2	

See Table 1 for key to abbreviations.

^a Number of days use was restricted during three-year period: counties (2 respondents) — 14, 2; port districts (2 respondents) — 90, 1; river conservancy districts (2 respondents) — 90, 42; rural sanitary districts (5 respondents) — 90, 90, 90, 60, 7; municipalities (10 respondents) — 730, 90, 90, 90, 35, 6, 5, 2, 1, 1.

^b Number of times legal action was taken against polluters during three-year period: counties (3 respondents) — 2, 2, 2; rural sanitary districts (1 respondent) — 36; municipalities (2 respondents) — 1, 1. Port districts and river conservancy districts did not report any legal action against polluters.

Water-supply shortages and water pollution do not appear to be serious problems in many of the sanitary districts surveyed — only 26 percent indicated that these were major problems (Table 5). More districts have ordinances on water pollution than on general water use.

Although 60.8 percent of the districts indicated that they have the power to arrest or fine for ordinance violations, only 13.1 percent had ever imposed any penalties. Except for the Chicago district, which had 36 actions in three years (1969-1971), these districts have initiated few enforcement actions.

Water use has been restricted at some time during the three-year period in 21.7 percent of the districts (Table 5). The average time for a use restriction was 61.6 days. It is not clear what unit imposed the restriction. The districts responding have faced few pollution problems. Only 13.1 percent requested the Sanitary Water Board (now the Illinois Environmental Protection Agency) to take action.

In a separate questionnaire, it was found that one-fourth of the districts have agreements with industry regarding their waste disposal, but less than one-fifth make a surcharge for taking industrial wastes. However, nearly half (47.8 percent) have ordinances prohibiting the discharge of water considered inadmissible.

<i>Specific Regulatory Authority (Sanitary Districts)</i>	<i>23 respondents</i>		
	<i>Yes</i>	<i>No</i>	<i>No resp.</i>
		<i>(percent)</i>	
<i>Is there a municipality within your district?</i>	91.3	8.7	...
<i>Do you control the flow of water in any river or stream?</i>	13.1	82.7	4.3
<i>Do you have any agreements with industry regarding their waste disposal?</i>	26.1	73.9	...
<i>Is a surcharge made for taking industrial wastes?</i>	17.4	78.3	4.3
<i>Do you have ordinances prohibiting discharge of wastes considered inadmissible within your district?</i>	47.8	43.4	8.7
<i>Does your district concern itself in any way with the quality of the water supply for your city or village?</i>	34.8	65.2	...

Obviously, the major function of sanitary districts is to provide sewage treatment facilities within the district. Powers to regulate water use are evidently considered ancillary to this major purpose.

MUNICIPALITIES (LOCAL)⁵²

Municipalities have primary regulatory authority in several functional areas. The corporate authorities of a city or village may prevent the unnecessary waste of water and the pollution of water. In addition, they may provide for a supply of water by constructing wells and by regulation of

⁵² Ill. Rev. Stat. Ch. 24, sec. 11-125 (1971).

wells, pumps, cisterns, or reservoirs.⁵³ Authority also extends to regulation of the use of cesspools, hydrants, pumps, and drains.⁵⁴ There is general jurisdiction over water within or bordering on the municipality.⁵⁵

Cities and villages have jurisdiction for 20 miles beyond their corporate limits to prevent pollution or punish polluters of streams, sources of water, or waterworks.⁵⁶

The general jurisdiction of municipalities over waters within or bordering upon the municipality extends three miles beyond the corporate limits but not beyond the limits of the state. All other powers appear to be limited to the territory of the municipality.

There are no statutory requirements that municipalities coordinate their activities with other governmental units in the regulation of water use. Corporate authorities of a municipality may pass all ordinances necessary to carry their powers into effect. Ordinances may include fines up to \$500 and imprisonment up to six months for violations.

An examination of the survey results indicates that municipalities usually do little regulating of water use. Only 9.6 percent of the cities surveyed indicated that water pollution was a major problem, and only 10.4 percent stated that the domestic water supply was short (Table 5).

⁵³ Ill. Rev. Stat. Ch. 24, sec. 11-125 (1971). It may be questionable whether this grant of power may be construed as including authority to regulate private uses of water. Sec. 11-125-1 seems to be directed at granting authority to borrow money for specified purposes. However, the language of the section does not compel such a limited construction. The grant is to "provide for a supply of water" by construction of city wells "or regulation of wells, pumps, cisterns, reservoirs or waterworks" and to "borrow money therefore. . . ." There is no implication required that the power to regulate includes only city facilities. No case provides any judicial authority for the broader construction. However, the *West Frankfort* case provides a convincing, somewhat analogous holding that may support the broader view. See footnote 56.

⁵⁴ Ill. Rev. Stat. Ch. 24, sec. 11-20-10.

⁵⁵ Ill. Rev. Stat. Ch. 24, sec. 7-4-4.

⁵⁶ Ill. Rev. Stat. Ch. 24, sec. 11-125-2 (1971). See also sec. 11-126-3, which limits such jurisdiction to ten miles when the waterworks are jointly owned by two municipal units. This power to prevent pollution has been held to be available to cities, even though they are not using the authority of eminent domain granted in the same section (*City of West Frankfort v. Fullop*, 6 Ill. 2d 609, 129 N.E. 2d 682 (1955)). The condemnation authority is granted to enable cities to construct waterworks. It is not clear whether the extended jurisdiction to prevent pollution is dependent on waterworks having been constructed. In the *West Frankfort* case, at page 612, the court stated that the fact that "these jurisdictional grants by the legislature appear in eminent domain waterworks statutes does not limit the exercise of jurisdiction to cases in which the city is condemning. . . ." Merely because the extended authority to prevent pollution appears in a statute providing for eminent domain to acquire land for the construction of waterworks does not necessarily mean that the extraterritorial authority is available only where a waterworks' supply of water is being polluted. Thus, it could be argued that this extraterritorial jurisdiction is generally available to prevent pollution.

Only 5.6 percent of the municipalities reported that they have authority to pass ordinances regulating pollution of waters other than city-owned or controlled waters. Only 12.8 percent have ordinances regulating quantitative use within the city (7.2 percent regulate types of water use).

Although 8 percent of the municipalities have restricted water use, with an average of 106.1 days per restriction period, only 0.8 percent have ever fined anyone for a water-use-limitation violation. A slightly higher proportion (1.6 percent) have imposed a fine for pollution violation. Regional results (Table 6) show a remarkable consistency. However, officials in southern Illinois state that there are severe shortages of water in their area, and that they are having financial difficulties in providing water supplies.

In responding to a special questionnaire, cities and villages reported being quite active in regulating public water facilities required for new subdivisions, and in controlling the price of water sold for both commercial and domestic use.

Few municipalities, however, regulate the use of water quantitatively, either from a priority standpoint or to prevent waste. Only 8 percent of the cities regulate the withdrawal of water from private reservoirs; 14.4 percent have regulations on the wasteful use of water, and 20 percent regulate the withdrawal of water from wells and cisterns.

Cities and villages in Illinois have broad authority to prevent and control pollution, to regulate the use of water to some extent, and to prevent wasteful use. With these broad grants of authority, it is interesting to note that municipalities seem so unconcerned about regulating water use.

There may be good reasons. In city government, there is no single division or department directly responsible for pollution control or the regulation of water obtained from private sources. These matters often fall within the general administrative purview of the executive, and enforcement lies with the city attorney. Both of these offices have other major responsibilities, and until water problems become serious or chronic, they are ignored.

No clear-cut conclusions can be drawn from regional variations (Table 7).

Specific Regulatory Authority (Municipalities)	125 respondents		
	Yes	No	No resp.
	(percent)		
Do you require public water-supply facilities for new subdivisions?	64	28.8	7.2
Do you have regulations on the following:			
Withdrawal of water from wells or cisterns? . . .	20	77.6	2.4
Wasteful use of water?	14.4	82.9	3.2
Withdrawal of water from private reservoirs? . . .	8	86.4	5.6
Price charged for domestic use of water?	87.2	10.4	2.4
Price charged for commercial use of water? . . .	83.2	11.2	5.6

Table 6. — Water and Pollution Authority and Problems of Municipalities by Regions

	Region 1 ^a (10 respondents)		Region 2 (40 respondents)		Region 3 (16 respondents)		Region 4 (12 respondents)	
	Yes	No resp.	Yes	No resp.	Yes	No resp.	Yes	No resp.
Domestic water supply short	10	90	5	95	6.25	87.50	8.3	91.7
Authority to pass ordinances on use	100	..	5	85	6.25	81.25	100	..
Have ordinances on use	10	90	15	85	6.25	87.50	8.3	83.3
Use restricted	10	90	15	82.5	2.5	93.75	16.7	83.3
Imposed fine for water-use-limitation violation	100	..	92.5	7.5	93.75	6.25	91.7	8.3
Employees to enforce unit's supply regulations	50	50	32.5	62.5	25.00	62.50	25	75
Water pollution major problem	100	..	12.5	85	12.50	81.25	16.7	83.3
Authority to pass ordinances on pollution	100	..	7.5	85	68.75	31.25	100	..
Have ordinances on pollution	60	40	50	47.5	12.50	62.50	33.3	66.7
Initiated legal action against polluter	10	90	2.5	97.5	93.75	6.25	100	..
Authority to arrest and fine for ordinance violations	70	20	62.5	25	43.75	37.50	50	41.7
Imposed fine for pollution violation	90	10	2.5	90	87.50	12.50	91.7	8.3
Employees to enforce unit's pollution regulations Requested action by Sanitary Water Board (now the Ill. EPA)	50	50	22.5	72.5	18.75	68.75	25	66.7
Received action pursuant to request	100	..	100	..	6.25	87.50	100	..
Financial difficulties in water responsibilities	60	40	27.5	72.5	6.25	37.50	56.25	41.7
Financial difficulties in water responsibilities	20	80	22.5	77.5	25.00	68.75	16.7	75

^a For location of regions, see frontispiece.

Table 6. — continued

	Region 5 ^a (8 respondents)		Region 6 (17 respondents)		Region 7 (13 respondents)		Region 8 (9 respondents)	
	Yes	No resp.	Yes	No resp.	Yes	No resp.	Yes	No resp.
Domestic water supply short.....	25	75	11.8	88.2	15.4	76.9	22.2	77.8
Authority to pass ordinances on use.....	12.5	87.5	100	.....	7.7	84.6	100	.....
Have ordinances on use.....	12.5	87.5	5.9	88.2	30.8	69.2	11.1	88.9
Use restricted.....	100	.....	5.9	94.1	100	.....	11.1	88.9
Imposed fine for water-use-limitation violation..	87.5	12.5	5.9	82.4	100	.....	100	.....
Employees to enforce unit's supply regulations..	37.5	62.5	23.5	70.6	30.8	69.2	33.3	66.7
Water pollution major problem.....	12.5	87.5	.....	94.1	7.7	92.3	11.1	88.9
Authority to pass ordinances on pollution.....	12.5	75	5.9	94.1	15.4	84.6	100	.....
Have ordinances on pollution.....	50	50	23.5	70.6	30.8	69.2	33.3	66.7
Initiated legal action against polluter.....	100	.....	.....	100	.....	100	.....	100
Authority to arrest and fine for ordinance viola- tions.....	75	25	58.8	29.4	23.1	53.8	77.8	22.2
Imposed fine for pollution violation.....	12.5	87.5	.....	94.1	7.7	84.6	100	.....
Employees to enforce unit's pollution regulations	50	50	29.4	58.9	15.4	76.9	11.1	77.8
Requested action by Sanitary Water Board (now the Ill. EPA).....	100	.....	.....	94.1	15.4	84.6	11.1	88.9
Received action pursuant to request.....	37.5	62.5	.....	17.6	15.4	30.8	11.1	33.3
Financial difficulties in water responsibilities.....	37.5	62.5	35.3	52.9	38.5	61.5	44.4	55.6

^a For location of regions, see frontispiece.

Table 7. — Special Water Survey of Municipalities by Regions

	Region 1 ^a (10 respondents)			Region 2 (40 respondents)			Region 3 (16 respondents)			Region 4 (12 respondents)		
	Yes	No	No resp.	Yes	No	No resp.	Yes	No	No resp.	Yes	No	No resp.
Require supply facilities for new subdivisions...	60	40	..	72.5	25	2.5	68.75	25.00	6.25	66.7	33.3	...
Have regulations on the following:												
Withdrawal from wells or cisterns.....	..	100	..	32.5	65	2.5	6.25	87.50	6.25	33.3	66.7	...
Wasteful use.....	..	100	..	20	77.5	2.5	6.25	87.50	6.25	25	66.7	8.3
Withdrawal from private reservoirs.....	..	100	..	10	85	5	..	87.50	12.50	16.7	75	8.3
Price charged for domestic use.....	100	..	..	85	15	..	81.25	12.50	6.25	100	..	..
Price charged for commercial use.....	100	..	..	82.5	15	2.5	68.75	18.75	12.50	100	..	..
	Region 5 (8 respondents)			Region 6 (17 respondents)			Region 7 (13 respondents)			Region 8 (9 respondents)		
	Yes	No	No resp.	Yes	No	No resp.	Yes	No	No resp.	Yes	No	No resp.
Require supply facilities for new subdivisions...	62.5	12.5	25	35.3	41.2	23.5	69.2	23.1	7.7	55.6	33.3	11.1
Have regulations on the following:												
Withdrawal from wells or cisterns.....	12.5	87.5	..	17.6	76.5	5.9	15.4	84.6	..	11.1	88.9	..
Wasteful use.....	12.5	87.5	..	5.9	88.2	5.9	23.1	76.9	..	11.1	88.9	..
Withdrawal from private reservoirs.....	..	100	..	5.9	82.3	11.8	15.4	84.6	..	11.1	88.9	..
Price charged for domestic use.....	87.5	12.5	..	76.5	17.6	5.9	92.3	..	7.7	88.9	11.1	..
Price charged for commercial use.....	87.5	12.5	..	70.6	17.6	11.8	84.6	..	15.4	88.9	11.1	..

^a For location of regions, see frontispiece.

WATER AUTHORITIES (LOCAL)⁵⁷

Water authorities have extensive authority in general water use and pollution control regulation. They can regulate the use of water and establish limits and priorities on use during an actual or threatened shortage.

The board of trustees of a water authority district also has powers over wells and withdrawal facilities. These powers include requiring registration of existing facilities; issuing permits for additional facilities or for the deepening and extension of existing facilities; enforcing the plugging of abandoned wells or withdrawal facilities to prevent loss or contamination of water; making inspections; and gathering information and data concerning the supply, withdrawal, or use of water from wells or withdrawal facilities. In addition, a water authority district has power to protect the public health, welfare, and safety, and to prevent the pollution of the district water supply.

In issuing any regulation establishing a limitation or priority on water use, the board of trustees must seek to promote the common welfare by considering certain factors. These include the public interest, the average amount of present withdrawals, relative benefits or importance of use, economy or efficiency of use, and any other reasonable differentiation. Consideration must also be given to any user who has previously reduced his consumption of ground water, or to a user who has satisfied his increased requirements by installing equipment and facilities permitting the use of surface water.

The power of a water authority is limited by the continuing right of an entity to use water where the diversion or use of water existed at the time the authority was established. This right seems to be limited to consumptive uses, however, and apparently has no application to uses involving discharges or pollution.

A water authority is further limited by the exemption of certain uses. Uses for agricultural purposes and farm irrigation are specifically exempted from regulation by a water authority. Similarly, a water authority's power does not apply to water used for domestic purposes when four families or fewer are supplied from the same well or other immediate source. There are no statutory provisions specifically requiring water authorities to coordinate their activities with any other governmental agencies.

A water authority district may prevent the pollution of any waters outside the limits of the district that run into its reservoirs for a distance of five miles upstream from the headwaters of its reservoir, and may abate

⁵⁷ Ill. Rev. Stat. Ch. 111½, sec. 226 (1971). There is only one water authority in Illinois.

any such cause of pollution as a nuisance. An authority may acquire a water supply by purchase of reservoirs outside the geographical limits of the authority. All other powers are limited to the geographical confines of the district.

Wells and withdrawal facilities are regulated through inspection and registration, and by requiring permits for additional wells and withdrawal facilities or for deepening, extending, or enlarging existing facilities. Information and data regarding supply, withdrawal, and use of water may also be required. Plugging or repair of wells or withdrawal facilities may be required to prevent loss of water or contamination. The use of water is regulated by establishing limitations or priorities on water use by ordinance or regulation.

The board of trustees may pass all ordinances necessary for carrying out the purposes for which a water authority is established or for the exercise of their powers. These powers include authority to provide that the violation of any rule, regulation, or ordinance of the water authority shall be a misdemeanor subject to a fine of \$50, and that each act and each day of violation shall constitute a separate offense. A warrant may be issued upon the affidavit of any person. This affidavit need only state that an ordinance has been violated, and that the affiant has reasonable grounds to believe that the party charged is guilty of the violation. The board of trustees may also bring an action to restrain any violation or threatened violation of an ordinance.

The water authority can exercise police power within the area of the authority and employ and commission policemen. Upon authority of the trustees, these policemen may enforce ordinances; arrest persons found breaking the peace or violating any criminal laws of Illinois; serve and execute within the limits of the water authority all warrants issued for violation of ordinances of the authority or of the state criminal laws; and commit arrested persons for examination without unnecessary delay.

Water authority districts have extremely broad powers to regulate water use and prevent pollution. These powers are more extensive than those of any other special-purpose water-related districts in Illinois. The unique powers of a water authority include the power to establish limits and priorities on the use of water during actual or threatened shortage, to protect the public health and welfare, and to consider factors relevant to the public interest in any regulation or limitation.

The pollution prevention and water use regulation powers are backed up by strong administrative methods, including the power to pass ordinances and regulations, to fine and arrest for ordinance violations, to bring an action for injunction to restrain any pollution-causing activity

or prohibit violation of an ordinance, and to maintain a police force.

A water authority must allow the continuation of any right of an entity to use water when the diversion existed at the time of the establishment of the water authority. This is strikingly similar to the doctrine of prior appropriation applied at the time of the creation of the district.

GENERAL COMMENTS ON LOCAL AGENCIES

Units from most parts of the state indicated an adequate supply of water to meet current needs (Table 5). There was concern expressed, however, about future needs for increased population and more industry. As future user needs begin to place a greater burden upon supplies, it can be anticipated that more ordinances will be enacted, and that units will seek regulatory powers.

Although there is some authority to restrict water use, only a small percentage of the units reporting have restricted use during the three-year period (1969-1971). It appears that there is either general user conformity with these restrictions or that enforcement is lax, since only one person was fined for a violation during this period.

A higher percentage of units reported water pollution as a problem than water shortage. Greater concern for pollution problems was expressed by counties and by port, river conservancy, and sanitary districts than by municipalities (Table 5). Most of the municipalities obtained their water from wells that are less subject to pollution problems than open bodies such as lakes and streams.

Many units indicated that water pollution is not a major problem. Although there is general authority to pass pollution control ordinances, most of these units have not exercised this authority (Table 5). Furthermore, there seems to be no serious effort to enforce ordinances that have been passed. Although a shortage of personnel may be a factor, there are few reported instances in which legal action was instituted against polluters or where fines were imposed for violation of pollution ordinances.

Counties and sanitary districts are the only local units that commonly request assistance from the Illinois Environmental Protection Agency (or formerly requested assistance from its predecessor, the Sanitary Water Board). The fact that all of these requests were acted upon, however, indicates the concern of the state agency, as well as its ability to deal with problems. The future concern in this area may be the capacity of the state Environmental Protection Agency to handle increased case loads.

One of the surprising discoveries of the survey is the adequacy of financial resources reported by most local agencies. Those units indicating

insufficient funds included only 16 to 35 percent of those reporting. This fact may mean either that the units have adequate tax revenues or otherwise generate sufficient operating income or that they are not pursuing water-quality and water-quantity control programs vigorously.

Supplemental Survey of Agency Relationships and Problems

To learn more about intergovernmental arrangements, a separate questionnaire was sent to officials of various agencies requesting an evaluation of current relationships. These officials were asked about financial assistance to local agencies, whether the authority exercised by state and federal agencies is at an appropriate level, the geographical basis for local units, and the need for regional planning and for control beyond present boundaries.

Most local agencies believe that state agencies do not provide adequate assistance, but a significant number are satisfied with the aid they are receiving. There appears to be a correlation between the views expressed by local officials and their economic and political independence from the state and federal governments—a majority of county board chairmen and a substantial percentage of municipal officials believe that existing state aid is sufficient, but river conservancy districts and port districts are almost unanimous in their view that existing state assistance is inadequate. It was somewhat surprising that one-half of the state agency officials surveyed saw no need for additional aid to local agencies.

	<i>Assistance from state agencies</i>			
	<i>Too much</i>	<i>Enough</i>	<i>Not enough</i>	<i>No resp.</i>
	<i>(percent)</i>			
River conservancy districts . . . . .	...	....	100	....
Port districts . . . . .	...	20	80	....
Sanitary districts . . . . .	...	34.4	53.1	12.5
Municipalities	3.1	36.4	51.9	8.6
County board chairmen	6.3	50	43.7	...
State department heads . . . . .	...	50	43.7	6.3
Corps of Engineers . . . . .	...	20	20	60

There is a substantial difference of opinion among officials with respect to federal financial assistance. Most officials stated that federal aid is adequate or excessive. But from one-third to one-half of the officials believe that more aid is desirable. One-fifth of the officials of the Corps of Engineers stated that federal agencies are already providing too much assistance to local agencies.

<i>Assistance from federal agencies</i>				
	<i>Too much</i>	<i>Enough</i>	<i>Not enough</i>	<i>No resp.</i>
	<i>(percent)</i>			
River conservancy districts . . . . .	.....	.....	100	.....
Port districts . . . . .	.....	40	40	20
Sanitary districts	3.1	53.1	31.3	12.5
Municipalities	9.3	28.6	45.1	17
County board chairmen	18.8	43.8	31.1	6.3
State department heads . . . . .	.....	62.5	37.5	.....
Corps of Engineers	20	20	.....	60

Many local officials apparently do not want additional state or federal assistance because this assistance may be accompanied by additional control. With the exception of river conservancy district officials, most officials believe that state agencies already have adequate or excessive authority. The same attitude is evident concerning the need for additional authority in federal agencies.

<i>Authority of state agencies</i>				
	<i>Too much</i>	<i>Enough</i>	<i>Not enough</i>	<i>No resp.</i>
	<i>(percent)</i>			
River conservancy districts . . . . .	.....	.....	100	.....
Port districts . . . . .	.....	40	40	20
Sanitary districts	3.1	65.6	21.9	9.4
Municipalities	14.7	59.6	16.3	9.4
County board chairmen	18.8	62.4	18.8	.....
State department heads	6.3	62.4	25	6.3
Corps of Engineers . . . . .	.....	40	.....	60

<i>Authority of federal agencies</i>				
	<i>Too much</i>	<i>Enough</i>	<i>Not enough</i>	<i>No resp.</i>
	<i>(percent)</i>			
River conservancy districts . . . . .	.....	.....	100	.....
Port districts . . . . .	.....	60	.....	40
Sanitary districts	25	59.4	3.1	12.5
Municipalities	19.4	60.5	7.8	12.3
County board chairmen	31.3	62.5	6.2	.....
State department heads	6.3	87.4	.....	6.3
Corps of Engineers . . . . .	.....	40	.....	60

It is often suggested that water use control and regulation could be performed more effectively for a watershed or river basin. Officials were asked what geographic orientation they thought would be best for the function they currently perform. Most of the officials believe that the existing geographical basis is adequate. Of those that favor a different geographical basis, there is some support for watershed areas smaller than county size, but most officials responded that their water-related activity would be better accomplished by using larger areas such as watersheds of more than county size or river basin areas larger than two counties.

Desired geographical basis

	<i>Existing basis</i>	<i>Desired geographical basis</i>				<i>No resp.</i>
		<i>Watershed less than a county</i>	<i>County lines</i>	<i>Watershed more than a county</i>	<i>River basin larger than a county</i>	
		(percent)				
River conservancy districts . . . .	....	....	....	....	100	....
Port districts	80	....	....	....	....	20
Sanitary districts	43.7	15.6	9.4	18.7	6.3	6.3
Municipalities	33.3	..	6.2	17.6	16.6	26.3
County board chairmen	12.5	6.3	43.6	18.8	12.5	6.3
State department heads	43.8	....	....	25	12.5	18.5
Corps of Engineers	40	....	....	....	40	20

Another tool suggested for controlling water use more effectively is regional planning. Officials were asked about the extent of current regional efforts and whether they believe that a need exists for coordinated activity (Table 8). Most officials stated that regional planning is not common, but more than one-half also indicated that there is interaction among agencies with similar problems.

Multifunction bodies such as municipal and county governments appear to coordinate their planning activities with other units more often than special-purpose entities such as river conservancy districts and port districts. However, it is difficult to draw meaningful conclusions from this response, since there are numerous factors such as unit size, degree of specialization, and economic and political considerations that bear upon the extent to which agencies coordinate their planning activities.

Most respondents concluded that more regional planning is not imperative but would be useful. River conservancy and port districts are the only entities in which a high percentage of the officials believe that region-wide planning is needed. Some respondents predicted that there would be resistance by most units to the implementation of regional planning for water use control, but most officials had no opinion on the question.

Major Problems of Current Law and Practice

The adequacy of current law and practices dealing with intergovernmental arrangements can be measured by contrasting them with the objectives set out on pages 7-9. Almost without exception, the pattern of relationships among agencies within Illinois fails to meet these objectives.

Interagency relationships can be most productive if they revolve around a vertical responsibility structure. A defined chain of authority can promote regional and state involvement in water use allocation and planning. But Illinois law, including the new Constitution, is oriented toward local autonomy in these areas. The only noteworthy exception is in the case of counties that are permitted to coordinate the planning of

Table 8. — Regional Planning for Water-Related Units

	Yes	No	No resp.
	(percent)		
<i>Region-wide planning is common</i>			
River conservancy districts.....	100	....	....
Port districts.....	20	60	20
Sanitary districts.....	28.1	56.3	15.6
Municipalities.....	27.1	57.4	15.5
County board chairmen.....	43.8	43.8	12.4
State department heads.....	56.3	31.3	12.4
Corps of Engineers.....	40	20	40
<i>Region-wide planning is performed only between units with similar problems</i>			
River conservancy districts.....	50	50	....
Port districts.....	40	20	40
Sanitary districts.....	59.4	18.8	21.8
Municipalities.....	60.5	18.6	20.9
County board chairmen.....	75	12.5	12.5
State department heads.....	56.3	25	18.7
Corps of Engineers.....	40	20	40
<i>Additional region-wide planning is imperative</i>			
River conservancy districts.....	100	....	....
Port districts.....	60	20	20
Sanitary districts.....	18.8	28.1	53.1
Municipalities.....	27.1	31.8	41.1
County board chairmen.....	31.3	31.3	37.4
State department heads.....	25	31.2	43.8
Corps of Engineers.....	20	....	80
<i>Additional region-wide planning would be useful</i>			
River conservancy districts.....	50	....	50
Port districts.....	60	....	40
Sanitary districts.....	81.3	6.2	12.5
Municipalities.....	71.3	8.5	20.2
County board chairmen.....	81.3	6.2	12.5
State department heads.....	81.2	....	18.8
Corps of Engineers.....	60	....	40
<i>Additional region-wide planning would be resisted by most units</i>			
River conservancy districts.....	50	....	50
Port districts.....	....	20	80
Sanitary districts.....	21.8	18.8	59.4
Municipalities.....	16.3	35.2	48.5
County board chairmen.....	6.2	37.5	56.3
State department heads.....	12.5	31.3	56.2
Corps of Engineers.....	....	20	80

agencies within their boundaries, and this authority is limited to coordination. Counties cannot force their plans on unwilling agencies. There are no intermediate agencies between local and state units involved in planning and allocation decisions.

No agencies at the state level have responsibilities for water use regulation. The Illinois Environmental Protection Agency administers a permit system for the construction of water use facilities; however, the Agency must issue a permit to any applicant if the local supply is adequate to meet the particular applicant's needs. For this reason, the permit system cannot be used by the state Environmental Protection Agency as a tool for planning wide-area use allocations.

A state agency active in water-related matters is the Department of Conservation. But its jurisdiction is limited to preventing pollution and creating sanitary conditions in rivers, lakes, streams, and other waters within the state. Furthermore, even when the Department does act, it cannot demand affirmative action of local agencies. Its power is limited in practice to prohibiting activities by noncomplying units.

Other state agencies with significant water-related powers are the Departments of Public Health, Transportation, and Mines and Minerals. None of these agencies, however, can exercise authority in water use planning and allocation.

Almost the only area in which a measure of uniform control has been achieved is water quality, but even in this area it is not accurate to say that local regulations are uniform. The Illinois Environmental Protection Agency has promulgated standards applicable throughout the state, and the Agency also enforces these standards.

A simmering problem in some areas of the state is the development of water use priorities. A few local agencies reported that they had formulated a system of priorities. However, with no history of serious long-term shortages within the state, competing agencies have been able to resolve their claims. It can be anticipated that these conflicts will grow in both intensity and number in the future.

Coordination among water use agencies is desirable, but there is no general statutory scheme in Illinois for assuring this coordination. The authority of counties to coordinate planning by agencies within their boundaries does not permit a regulatory role. Furthermore, there are few reported instances in which counties have taken advantage of this authorization. There are no interagency reporting requirements nor mechanisms established through which routine agency actions can be coordinated.

A related problem is the fact that statutes establishing new governmental agencies or expanding the authority of old ones rarely define the

legal relationships of these agencies with other bodies facing similar problems. With the exception of state and federal pollution control bodies, this lack of defined relationships and responsibilities among agencies is common to water-regulation units.

A large amount of highly technical information is necessary to make intelligent water use decisions. Currently, several state agencies collect and compile information relevant to their individual functions. There is no requirement (nor does it seem to be the practice) that this information is regularly made available to other agencies. There is no central bank to receive and distribute these data. It would appear, therefore, that agencies at all levels of government may be poorly informed about the discoveries and activities of their sister entities.

A major objective of governmental relationships is to promote efficient operations, but there are too many small single-purpose agencies to carry out this objective effectively. The many local agencies exercising some form of water-related authority operate more or less unfettered by any restrictions other than local political and financial restraints. This splintering of powers among virtually autonomous units can result in geographical and functional disputes arising in one area, while other needs go totally unattended.

Jurisdiction is usually based upon political boundaries. New boundaries should be drawn to reflect the geographical realities of water supply and use. The different responsibilities currently fulfilled by several agencies could be delegated to a single multipurpose unit.

Although many water-related agencies are delegated several areas of responsibility, they often devote most of their time, effort, and money to a primary area. Since water functions are interrelated, each agency dealing with a single function must develop some expertise in other problem areas, even though other agencies might have specific responsibility for these areas. For example, one agency acquires and purifies water for use, another treats the water after it is used, and still another is responsible for the stream in which the treated sewage escapes. It may be impractical for one agency to handle all tangential problems of water resources, but there are many areas in which both efficiency and performance could be improved by consolidating agencies. In general, it seems that existing intergovernmental arrangements are woefully inadequate, and that substantial changes should be made.

There are several interstate organizations in which Illinois participates that are concerned with pollution and water use control, but only the Ohio River Valley Sanitation Commission possesses significant regulatory power. ORSANCO demonstrates that these agencies can be effective.

Illinois faces more interstate water problems than most other states. It is bordered by the Mississippi and Ohio Rivers and Lake Michigan. The current political and economic conflicts among the various Great Lakes states, as well as between these states and the federal government, suggest that extensive intergovernmental cooperation will not come easily in the near future. However, regional approaches are occurring in related areas through interstate compacts and federal decentralization. These approaches may coordinate with water use control. It appears that Illinois has much to gain by promoting the establishment of interstate bodies with sufficient authority to deal with the complex problems of water use.

Illinois retains the riparian rights-reasonable use system of regulating water use. Most of the western states that faced water-shortage problems have adopted a prior appropriations doctrine that seems to provide for efficient development and use of water when the supply is limited by establishing a fixed right to measurable amounts of water. This precision is contrasted with the riparian rights system in which one party's rights are always relative to those of his fellow riparian owners. The kind of use that he makes of the water, the length of time he has been using it, and the amount of his investment are not relevant in defining his rights. This uncertainty as to water-resource allocation will need to be remedied by establishing water use priorities on a most beneficial use concept.

The new Environmental Protection Act recognizes that the application of the riparian rights doctrine to pollution control, where prevention is contingent upon individual initiative, is inadequate. For that reason, provision was made for state pollution regulation. A similar approach must be made in the area of water use.

Recommendations for Illinois

The purpose of this section is to weave the legal study and the survey results into a rational set of recommendations. These recommendations deal with legal, organizational, administrative, and intergovernmental changes.

Legal Alterations

Illinois has responded generously with funds and bonds to solve a pollution crisis. It may be equally costly to wait for an acute water shortage before taking action. Illinois and its many substates have taken a minor role in regulating water, but the abundance of water is vanishing, with consumption increasing at a rate of 7 percent per year. It is time to

take a close look at water use law in the state, at property rights in water, at the chaotic local government pattern that deals with water rights, and at the piecemeal policy decisions that have been directed toward single parts of an interdependent natural resource system.

Law and the hydrologic cycle will have to be reconciled. All sources of water must be regulated in shortage areas. The jurisdictional reach of local units must be coordinated, or the units must be combined or superseded. All parts of the water system must be harnessed for a concerted attack on water shortages and excesses, conservation and land-use problems, and a rational vertical scheme of decision making.

A strong state commitment is needed to face up now to potential water problems. The present strategy is to stave off crisis day with cleaner water and more reservoirs. This strategy will help, but law is essential to regulate water for optimum beneficial use — subject only to a few non-quantifiable desires (such as recreation) that may require separate judgments.

Recent federal laws recognize a national responsibility for preserving water and land. River basin commissions have broad planning, coordination, and data-collecting powers. However, the Federal Planning Act leaves to the states the responsibility for intrastate planning and coordination of state programs in water planning and land resources. Some order has been brought to the federal grant program by the Intergovernmental Cooperation Act (1968) and the Legislative Reorganization Act (1970).

The main federal effort has been toward solving water pollution problems. The newly established Environmental Protection Agency, with 7,000 employees and a budget close to two billion dollars will keep this problem in focus for some time. This budget can be contrasted with an appropriation of about seven million dollars for the two major federal agencies charged with water use study and planning — the National Water Council and the National Water Commission. Unless the river basin commissions become a potent force in water management, states will have to use their own resources.

Since a riparian right is subject to the rights of all other riparians, all users' rights are decreased when a shortage occurs, regardless of type or length of use or the investment made. Water is not owned *per se*, but there is a special right of use that attaches to land next to or over water. The right to transfer rights is unclear, but when a surplus exists, there are no special rights in the surplus. It would appear that use limitations can be imposed in the public interest, much like zoning, pollution regulations, rate control, etc.

When water supply is eventually considered a serious problem in Illinois, the common law rules on water use may have little to commend

them but antiquity. The common law is a body of rules upon which a court can draw when a controversy over water use ripens into litigation. The tremendous importance of water resources, the quantity of society's inputs currently being channeled into water-resource development, the delay and expense of the litigation process, and the lack of specialization of the judiciary in coping with water use problems in litigation all point toward the conclusion that a new law on water use rights is only a partial solution to the development of society's ability to deal with water use problems. A well-organized, effective system of administrative agencies is also needed at all levels of government.⁵⁸

The following steps seem appropriate for development of a water use law and system in Illinois:

1. Development of statewide system and administrative goals for water use.

2. Codification and revision of existing substantive principles of the common law of water use.

3. Revision of the Illinois statutes to make enforcement powers and techniques of administration of local governmental units simpler and more uniform.

4. Reorganization of the statutes to collect the water agencies and substantive rules into a single chapter.

5. Allocation and adjustment of administrative responsibility and authority among existing state and local agencies.

6. Supplementation of existing agencies with new agencies, including regional organization on a water-basin basis.

7. Creation of lines of authority and communication between particular units and levels of government.

The following specific authority changes are recommended:

1. Political and administrative expediency is guiding Illinois government toward super agencies with unifunctional responsibility — for example, the environmental protection agencies with pollution control as the primary and almost sole responsibility. It is recommended that a Department of Natural Resources be created with multifunctional authority, including pollution control, water management and regulation, land use, and water and land conservation. These functions have close ties, and isolated planning and separate enforcement for each is not a sensible approach.

2. As concluded in this report, both state and local authority are splintered, singular, and inadequate for water management. Only one kind

⁵⁸ See discussion in "Water for Illinois, A Plan for Action," prepared by the Technical Committee on Water Resources, State of Illinois.

of special district, the Water Authority, has broad powers to deal with water use and water pollution, and even this organization has limitations.

It is recommended that a Water Use Act be passed by the state for the regulation of water by the state, regional authorities, and local performance units. The Model Water Use Act, as drafted at the University of Michigan Law School, could be used with modifications for Illinois. Major deviations would include the following:

a. The Water Resources Commission (or Agency) would report to a Department of Natural Resources for coordination, planning, and policy, but the Commission would act independently in making investigations, enforcement, etc., as contained in the Model Act.

b. The hearing and adjudicative procedure could be similar to provisions in the Illinois Environmental Protection Act. This method would relieve the courts of many highly technical cases and require the Department to provide a board to hear cases brought by the Commission or others.

c. A reasonable level of non-domestic consumption should be exempted from a permit for contained and ground water, except as the provisions for water shortages and emergencies are used. Parts of the state have a water surplus, and it would be folly to impose a permit system on every small user at this time.

The section on "Classes of Permits" allows temporary exemptions as an administrative decision. This is probably the best procedure, but it may not be as politically acceptable as specific exemptions set in the law.

d. The pollution control provisions would not be used, since a separate state agency has a comprehensive pollution law for its use.

e. Authority to use a substate structure for regional and local administration and operations should be specifically authorized in the water code.

Organization Changes

As Illinois takes a more intense interest in economic development, regionalizing local administration may result in substantial benefits from economies of scale and external effects. The present water system has subsystems for each function — it is not goal-directed nor coordinated. A proliferation of local units has led to gradual paralysis and inadequate revenue capacity. Local government is increasingly unable to handle water and sewage problems unilaterally. Some bureaucratic streamlining is needed to improve efficiency, plug gaps, and eliminate overlaps. Incorporating water supply and sewage systems into overall regional plans will involve new institutional arrangements for broad-based management and the use of river basin or watershed boundaries.

Other states are experimenting with a wide variety of governmental structures. Maryland has recently shifted to county-wide water- and waste-treatment service districts that are coordinated with regional planning and development. Ohio has used large-sized districts for several years. The Ohio Water Development Authority can issue revenue bonds and use the funds to assist the districts in building facilities. Nebraska has recently established natural resource districts that are multifunctional, and that supersede the powers of many local districts.

The following specific organization changes are recommended for Illinois:

1. The state government should be restructured at the earliest possible time for greater effectiveness in administering, managing, and coordinating the control of and assistance for water and other natural resources. Currently, at least ten departments and agencies of the state have some authority relating to water resources. This splintered authority has created many problems, including looseness of planning, negligible coordination (although the new Office of Planning and Analysis may be able to improve cooperation between agencies), and weak authority except when health, dams, fish, or wildlife are involved. As suggested earlier, a Department of Natural Resources appears to be needed.

2. Geographic organization of most water units is unrelated to the hydrologic cycle. Even those agencies that were intended to have a logical geographic orientation are not organized in this way. For example, river conservancy districts are usually created for a special purpose involving a limited objective dealing with a physical facility or system of facilities in a limited area.

The Illinois Water Survey reports that the state can be divided into six to ten river basins (see frontispiece). The state Environmental Protection Agency has adopted basins for its regional organization. It seems even more logical for water administration to be organized on this basis for regional planning, coordination, communication, and general regulation subject to state policy and direction. To allow for variations between regions, some policy decision-making could be decentralized, with an advisory board selected for each regional office. The board would represent regional and local interests.

3. Illinois has 20 kinds of local agencies with water-related authority. These total about 3,000 units, largely uncoordinated and unregulated except for water-quality control, and mostly with boundaries unrelated to water factors. Most are unifunctional and contain an area less than a county or municipality. The area is usually too small for sound water management.

It is recommended that natural-resource management or development districts be formed for operational decisions and performance. If existing water units (municipal water systems, for example) were to continue, they would become subunits. In general, the natural-resource management districts would provide services and assume the responsibilities of the many small local units created for drainage, flood control, conservation, supply, recreation, and related land usage. The management districts would relate directly to their regional basin office for overall planning, policy, data, technical and financial assistance, general regulation, and enforcement assistance.

4. Interstate agencies should be strengthened. Although there are several interstate organizations in which Illinois participates, only one, ORSANCO, possesses actual regulatory power. It provides a geographic orientation more closely related to the hydrology of the body of water involved and to the sources of pollution of that water than other water-related units. It is also more independent of a particular state's political forces than state agencies.

Administrative Changes

Efficient and effective water administration requires badly needed changes in Illinois. These include a basic water law, uniform administrative and enforcement procedures, central data collection, a systematic authority pattern, a mechanism for establishing priorities and resolving conflicts, administrative rule-making authority, administrative hearings, and a cost-allocation procedure. The state simply is not geared for managing its water resources, and local problems have remained the responsibility of local agencies.

Local water use for facility permit authority is non-existent, and there is no regional organization that could be helpful. The newly created state Environmental Protection Agency can issue facility permits, but the legal constraints almost preclude water-supply protection on a regional basis; in fact, these constraints are antithetical in requiring that a permit be issued when the supply is adequate for the particular applicant.

A central data bank in one department would be much more efficient, and data by water basin certainly would be useful to local governments. Regional natural-resource authorities — or divisions of the state — would be most effective in performing this function. At the local level, only Water Authorities currently have the right to require reports and obtain data by inspections.

The state has several departments with direct or implicit data-gathering authority. The U.S. Congress is considering an act to provide a national environmental data system. Federally established river basin commissions also have a water-data-gathering duty.

Local agencies can make rules relating to water pollution and enforce them with arrest and penalties for violation. They do not have those powers, generally ascribed to administrative agencies, to investigate, hold hearings, and adjudicate. State and federal agencies do have the administrative powers to issue regulations, hold hearings on alleged violations, and issue orders or obtain judicially imposed fines or injunctions. The Pollution Control Board can impose its own penalties. However, almost all of these powers bear on water quality and not on water use.

The following recommendations are based on the assumption that a comprehensive water law is passed or that the authority of existing units is enlarged:

1. Subject to judicial review under the Administrative Review Act, the state water agency must have authority to make rules, carry out investigations, and enforce its regulations, but with such delegation of these functions to regional basin offices and to local management districts as is expedient. This scheme would provide uniform administrative and enforcement techniques throughout the state. The initial adversary procedure should be placed in an administrative setting.

2. Authority to collect natural-resource data should be placed in regional basin offices, with consolidated information forwarded to a central data bank.

3. A training and technical assistance program for resource management personnel should be established by the state and implemented from regional offices. Larger-sized resource management districts should be able to employ full-time skilled and professional people who will want and need periodic technical updating.

4. The planning and policy decision-making process must be vested with the state, but there should be efficient means of representation by those affected. Regional advisory boards, plus hearings on proposed regulations, should serve this goal.

Changes in Intergovernmental Arrangements

In Illinois statutory law, there is an almost total absence of coordination or cooperation requirements for local units. Two coordinating statements appear in the law for state departments, all relating to water-quality control. Federal law contains an obligation to encourage states to

cooperate and enter into compacts for the protection and use of boundary waters.

Perhaps the intergovernmental cooperation and home-rule provisions in the new Illinois Constitution will be a partial cure; or perhaps they will build more walls than we have now. It is doubtful that, with an average of 63 governmental units per county, many gentlemen's agreements will be consummated without further legal prodding.

A precedent may be established by the National Water Resources Planning Act, which attempts an intergovernmental approach. The Water Council, River Basin Commissions, and planning grants to states are evidence of implementation. It appears, however, that a charge of unifunctionalism can be leveled at this structure if it becomes involved only with water resources. All relationships should be studied, planned, and integrated. Land policy, for example, as it relates to soil and water conservation, pollution, and water supply must be included.

There is a substantial problem of duplication and conflict of authority among the various agencies that exercise water and pollution regulatory powers in Illinois. The Environmental Protection Act consolidates state pollution control efforts to the extent that water, air, and various other types of pollution are brought within one agency. It does not, however, encompass other non-pollution-related water regulatory schemes. Nor does it incorporate local pollution control authority. Thus, the duplication and conflict of authority with respect to water administration is largely unchanged.

A few potential conflicts are avoided by legal provisions allowing a special-purpose district (a sanitary district, for example) to exercise its primary authority without interference from a horizontal agency having secondary authority for the same function. But such limitations are rare, and apparently conflict problems are avoided by informal recognition of priority in time principles and, when necessary, by political agreement.

Regular reports by local agencies to a higher authority seem non-existent. Each unit is autonomous, and unless grants are involved, responsibility for reporting is limited to informing the citizens in the district of the proposed budget and, in some cases, having an audit made at the end of each year.

State departments report to the governor. The statutes do not require horizontal reporting or any formal accounting to the General Assembly. Communication problems seem to be solved more easily by reorganizing departments and establishing new agencies, or by creating specialized units in the governor's office.

The adoption of a state water code, implemented by a vertical organizational structure and administrative procedures as discussed in previous sections, would solve most of the intergovernmental-arrangement problems. However, the following additional recommendations may be helpful:

1. All functions of state planning, policy formation, financial assistance, data collection, and general administration for natural resources should be consolidated in the newly proposed Department of Natural Resources, but with strong subagencies that are empowered to carry out specific programs such as quality control, water management, land use, etc.

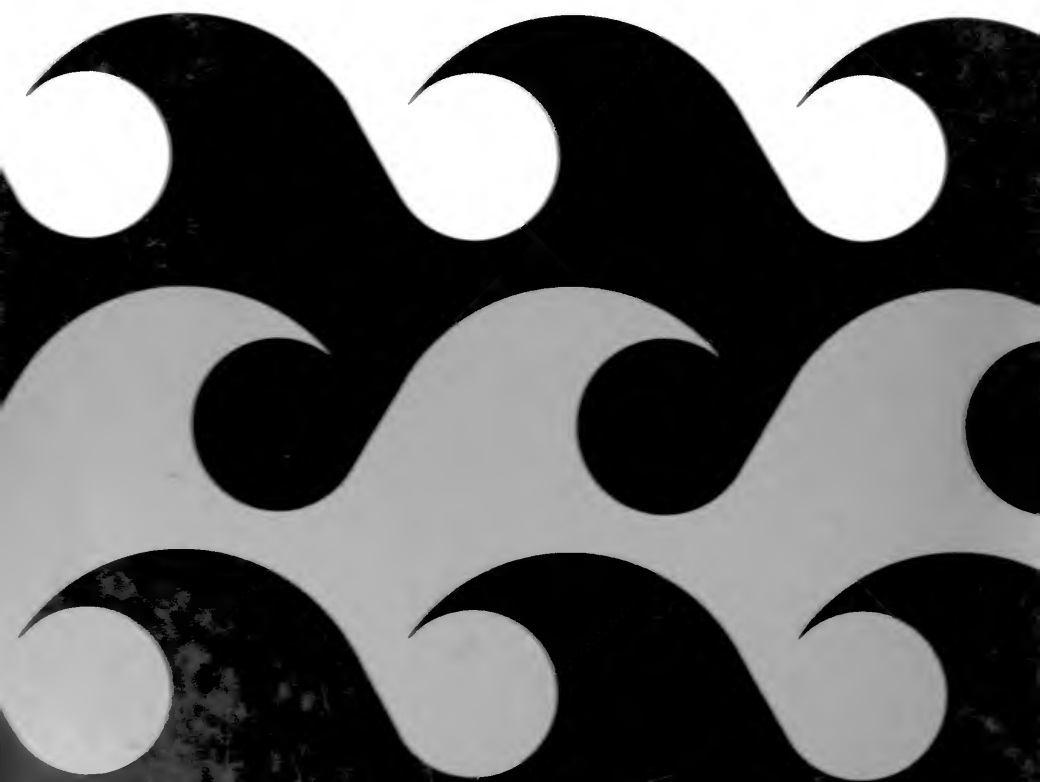
2. A line-authority structure must be established with maximum delegation to regions and local districts. An elaborate system of sharing data and techniques with all units should be an immediate goal.

3. Larger-sized multifunctional local units are needed for coordination of performance efforts and economy of scale, and to arrange water-supply sources for multiple use and for more than a single unit. Arbitrary extraterritorial mileage limits for jurisdiction over a vital human need should be eliminated.

4. Contractual arrangements between units should be encouraged by law and promoted by administrative policy, including personnel and facility sharing.

5. The entire system should be premised on preventive cooperative action rather than remedial edict, reserving the use of power only when essential in the public interest.

The specific recommendations made here are based on project research data, the experiences of other states, and related studies directed by the author. A few officials have proposed that much greater water-management authority be placed at the state level and that state regional offices be used for enforcement and performance. It appears, however, that the range of variations in water resources and uses and the need for coordinate planning with other natural resources require local and regional contributions for sound decision making. This result can best be accomplished by the somewhat more complex governmental structure proposed in this publication.





UNIVERSITY OF ILLINOIS-URBANA
Q.630.71L68
BULLETIN. URBANA C008
741 1972



3 0112 019530945