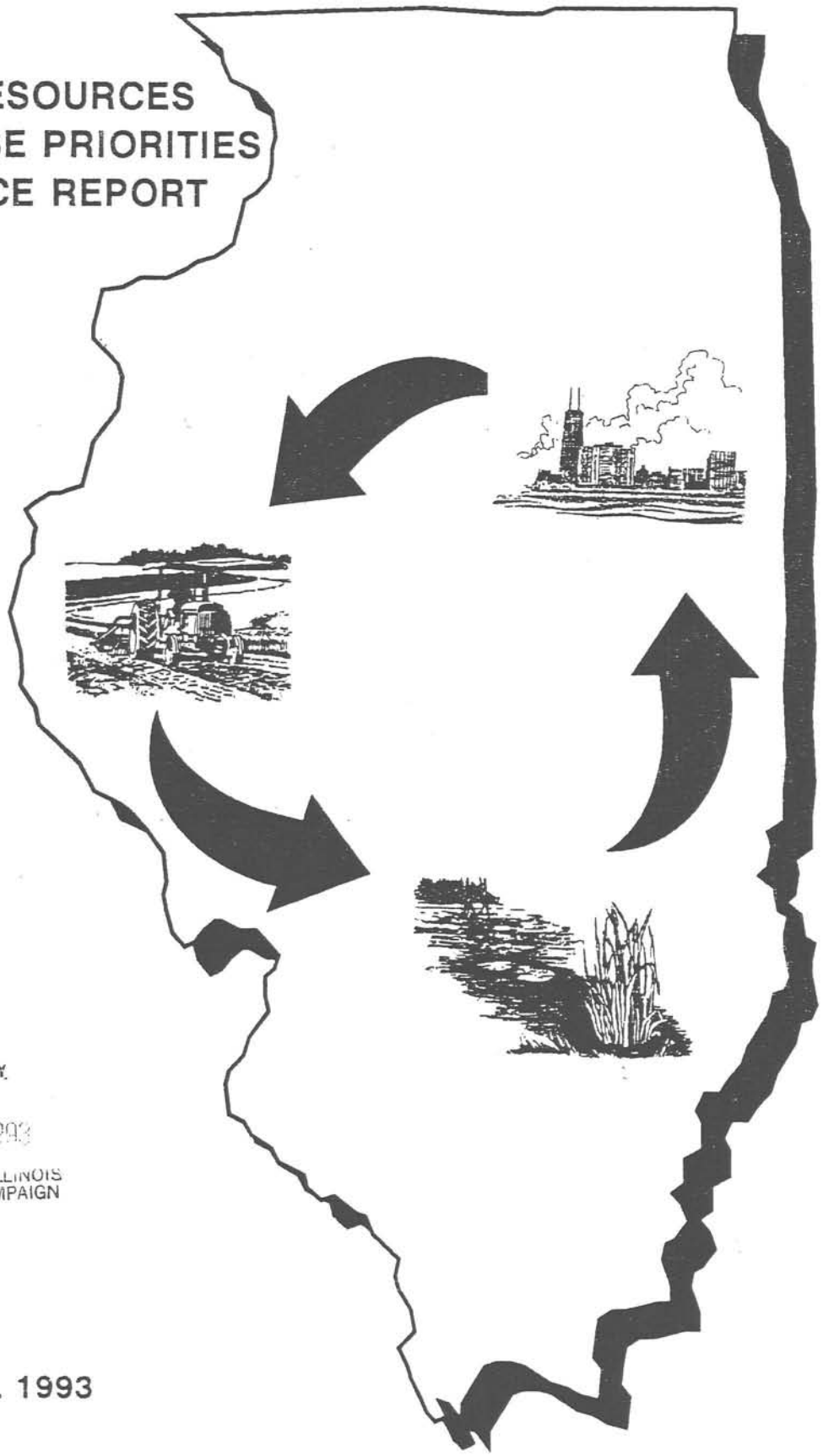
WATER RESOURCES AND LAND USE PRIORITIES TASK FORCE REPORT



APRIL 1993

April 1993

The Honorable Jim Edgar
Governor
State House
Springfield, IL 62706

Dear Governor Edgar:

As Co-Chairs of the Water Resources and Land Use Priorities Task Force, we are pleased to submit to you the final Task Force Report. The Task Force has identified nearly 200 recommendations for action on a wide variety of water and land issues.

Over the course of the last 10 months, the Task Force has demonstrated that common ground can be found on extremely complex issues. In developing its recommendations, the Task Force consulted technical experts, state agency personnel, and members of the public.

The Task Force firmly believes that conservation of Illinois' natural resources is vital to both the economic and social well-being of the people of Illinois. Members of the Task Force stand ready to work with you in implementing the recommendations so that the state's natural and recreational resources are available for future generations to enjoy.

Sincerely,

Becky Doyle, Director
Department of Agriculture

Brent Manning, Director
Department of Conservation

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EXECUTIVE SUMMARY

In recognition of the growing conflicts about water and land use, Governor Edgar appointed a citizen task force to provide recommendations on ways to preserve and conserve natural resources without unduly hampering economic growth. The Water Resources and Land Use Priorities Task Force believes that conservation of natural resources and provision of recreational opportunities are vital to both the economic and social well-being of the people of Illinois. The recommendations adopted by the Task Force provide a sound framework for progress in protecting the important water and land resources of Illinois for future generations.

"...conservation of natural resources and provision of recreational opportunities are vital to both the economic and social well-being of the people of Illinois."

OVERALL THEMES

The conclusions and recommendations of the Task Force reflect a number of common themes:

- Conservation and responsible use of the state's resources are necessary. Resources are finite, and there are limits to the demands populations can put on natural resources.
- Protecting Illinois' water and land resources and providing outdoor recreational opportunities are important governmental responsibilities which are critical to maintaining an attractive business climate and a high quality of life for Illinois' citizens.
- Long-range planning and intergovernmental cooperation with extensive public involvement are essential for responsible natural resources management.
- Public and private entities must work together for long-lasting solutions to current problems.
- Because more than 90% of Illinois' land is privately owned, a responsibility rests upon private and corporate property owners to manage their land in ways which preserve the public benefits of, and the public's interest in, those lands. However, because urban populations will share in the benefits, they should also share in the costs and responsibilities of protecting those lands.
- Education and communication are key ingredients to the solutions to conflicts about water and land use.

"Stable funding is critical in order to implement the recommendations of the Task Force."

"...landowners should be encouraged to protect and create habitat on private lands through technical assistance, property tax relief, and other state supported mechanisms."

"The state should be part of the decision-making process when siting regional facilities of all types."

- Stable funding is critical in order to implement the recommendations of the Task Force. For example, funding is needed for protection of water quality, land acquisition, maintenance and operation of natural and recreational resources, soil conservation programs, technical assistance programs, incentives to landowners, research, and educational programs. New sources of funding need to be developed, and users should be required to help pay their fair share.

OVERVIEW AND SUMMARY OF RECOMMENDATIONS

The Task Force has demonstrated that common ground among diverse interests can be found on extremely complex issues. The complete report of the Task Force provides detailed recommendations related to water, land, recreation, crossover issues, and funding. Following is an overview of the key concerns and recommendations of the Task Force.

Resource Conservation

- The State of Illinois should establish a system of macrosites, meaning large ecological reserves or "sustainable ecosystems."
- The State of Illinois should aggressively pursue securing increased public acreage as well as less-than-fee interests in land such as easements and leases, for resource conservation purposes.
- Landowners should be encouraged to protect and create habitat on private lands through technical assistance, property tax relief, and other state supported mechanisms.
- Soil and water conservation programs should be strengthened in order to ensure the long-term productivity of Illinois farmland and to improve water quality.
- Legislation should be passed to provide property tax incentives on lands managed to provide habitat. Recapture, reimbursement, and compensation mechanisms should be included to ensure local governments are not adversely affected.
- Agricultural programs to encourage sound resource management, prudent use of pesticides, and development of alternative crops and sustainable agricultural practices should be strengthened.

Growth Management

- Legislation should be enacted to require planning as a prerequisite to local governments' authority to zone and otherwise regulate land use.
- The state should be part of the decision-making process when siting regional facilities of all types.
- The state should encourage remediation and reuse of previously contaminated property by providing incentives to potential new owners of the land to clean up and develop it without assuming historic liability. These incentives should in no way diminish the liability of historic owners/operators.
- Development rights transfer, land banking, density transfer, and cluster zoning all should be explored as potential innovative tools for growth management.

" Development rights transfer, land banking, density transfer, and cluster zoning should all be explored as potential innovative tools for growth management."

Government Regulation and Administration

- A comprehensive water resources law should be enacted to replace the present inadequate statutes scattered throughout Illinois law. A thorough examination should be made of the appropriate role of the various state agencies in administering the law.
- To protect ground and surface water quality, existing regulations should be more aggressively enforced, better land management practices should be developed, residual waste sludge should be disposed of properly, septic systems should be cleaned and inspected, and dumping of snow into waterways should be regulated.
- The State of Illinois should pursue a cooperative partnership with the local Soil and Water Conservation District offices for those offices to provide liaison functions locally between landowners and agencies on land use regulations and policies. This would provide an efficient delivery system for water and land resource programs through an existing local framework.
- A Coordinating Council for Natural Resources and the Environment should be created which would expand upon the existing natural resources subcabinet and provide a forum that would institutionalize a process to promote consistency, clarity, and coherence to present and future policies, programs, and strategies.

" A Coordinating Council for Natural Resources and the Environment should be created..."

"... a base level of financial support should be allocated by the state for recreational and natural resources."

"This base level of support must be supplemented by user fees that require the users of the state's natural resources to contribute to the acquisition, development, maintenance, and improvement of these resources."

Recreation

- The Department of Conservation should be a catalyst to planning and implementing a statewide network of greenways by the year 2010.
- The Department of Conservation should give special consideration in the grant-making process to trails or greenways that are part of the statewide network or plan.
- The Governor should convene a meeting of corporate and business leaders to facilitate creating an external foundation to receive public and private funds for recreational purposes.
- The Department of Transportation should require proposals that use state or federal highway funds for road widening or new roads to consider plans for bicycle lanes.
- The Department of Conservation should have a key role in programming and spending transportation enhancement funds available through the Intermodal Surface Transportation Act.

Stable Funding

- Conservation and recreation must be recognized as priorities of the State of Illinois. Stable funding is critical for implementation of the Task Force's recommendations, and a base level of financial support should be allocated by the state for recreational and natural resources.
- This base level of support must be supplemented by user fees that require the users of the state's natural resources to contribute to the acquisition, development, maintenance, and improvement of these resources. For example:
  - Consideration should be given to imposing a state sales tax on outdoor recreational equipment, similar to the federal excise tax on fishing and hunting equipment, with the proceeds used for recreation and conservation purposes.
  - The state should charge user fees for access to state outdoor recreational resources and increase various permit and license fees imposed by the Department of Conservation. However, mechanisms should be provided to ensure that no one is denied access to recreational resources because of economic status.

- ° State laws should be amended to authorize stormwater utility or drainage system user fees and other funding arrangements to support state and local flood protection and watershed management programs.

- The Governor should develop and seek consensus for a major new initiative to provide substantial new revenues for protection of natural resources and for outdoor recreation. The Governor should thoroughly investigate placing an advisory referendum on the ballot to determine the level of support for the following options:

  - ° Dedicated portion of the sales tax, modeled after a program in Missouri, to be allocated for the broad purposes of natural resources protection and outdoor recreation.

  - ° "Penny for Conservation" - a one year, 1 cent increase in the sales tax to establish a trust fund whereby the interest would be used for natural resource protection and outdoor recreational activities and programs at the state and local levels.

"The Task Force calls upon Governor Edgar to work with state, local, and federal agencies; members of the Illinois General Assembly; and others to address the critical needs outlined in this report. Members of the Task Force stand ready to assist in this process."

CONCLUSION

Action must be taken now if Illinois' important water and land resources are to be protected for future generations. Many of the Task Force's recommendations can be implemented through administrative action. Some will require statutory changes, and others will require funding reallocations or increases. The Task Force calls upon Governor Edgar to work with state, local, and federal agencies; members of the Illinois General Assembly; and others to address the critical needs outlined in this report. Members of the Task Force stand ready to assist in this process.

INTRODUCTION

BACKGROUND

"The purpose of the Task Force was to bring together diverse interests to air their differences, find common ground, reach agreement on certain principles, and make recommendations to the Governor on ways to address the growing conflicts over water and land use."

In May of 1992, Governor Edgar appointed a Water Resources and Land Use Priorities Task Force comprised of 25 citizens with wide ranging expertise in agriculture, conservation, recreation, water resources, business, and land use. (A list of Task Force members is provided in Appendix A.) The purpose of the Task Force was to bring together diverse interests to air their differences, find common ground, reach agreement on certain principles, and make recommendations to the Governor on ways to address the growing conflicts over water and land use. The Directors of the Illinois Departments of Agriculture (DOA), Conservation (DOC), Energy and Natural Resources (ENR), the Illinois Environmental Protection Agency (EPA), and the Division of Water Resources of the Illinois Department of Transportation (DOT/DOWR) served as ex-officio members. Becky Doyle, Director of DOA, and Brent Manning, Director of DOC, Co-Chaired the Task Force.

The first meeting of the Task Force was held at the Executive Mansion on June 18, 1992. At that time the Task Force identified 49 issues to address. In order to examine those issues in detail, the Task Force was divided into four Work Groups: Water, Land, Recreation, and Crossover Issues. As part of their deliberations, each Work Group consulted technical experts and reviewed existing agency documents and reports pertaining to the identified issues. Issue papers with draft recommendations were prepared by each Work Group and distributed to more than 250 constituent groups and individuals for review and comment.

Nearly 100 individuals and organizations submitted comments on the draft reports of the Work Groups. Each Work Group reviewed the comments from the public and developed revised recommendations for consideration by the full Task Force. The full Task Force held its final meeting on two days in January 1993 to discuss the recommendations from each Work Group and to negotiate the final recommenations of the Task Force.

"The Task Force has made 184 recommendations...from changes in state and local government policy to specific program recommendations."

OVERVIEW OF RECOMMENDATIONS

The Task Force has made 184 recommendations. These recommendations vary from changes in state and local government policy to specific program recommendations. The Water, Land, Recreation, Crossover Issues, and Funding Reports which follow contain the complete recommendations which were adopted by the Task Force.

The Water Report includes 58 recommendations pertaining to water law; flooding, drainage, and stormwater; siltation and sedimentation; and ground and surface water quality. The Water Work Group cited the lack of an adequate, single water resources act as the root cause of most of the water use conflicts during recent years.

The 38 recommendations in the Land Report were developed based upon the consensus that the three issues of habitat, farmland preservation, and growth management could be envisioned to occupy three sides of an equilateral triangle and that all three elements of the triangle are necessary for a healthy, balanced, and productive society.

A major thrust of the Recreation Work Group was to recommend that the Governor find and dedicate financial resources for outdoor recreation. The funding-related recommendations are discussed in the Funding Report. In addition, throughout the 21 recommendations in the Recreation Report is a call for proper planning for the use of these resources.

The Crossover Issues Work Group addressed several issues that did not fit exclusively into any of the other Work Groups and several issues which cut across one or more of the other Work Groups. These included: siting of regional facilities, cleanup of contaminated sites, chemical use, soil and water conservation, unique natural systems, sustainable agriculture, and mining/resource extraction and reclamation. Within these categories the Task Force adopted 54 recommendations.

The Task Force believes stable funding for natural resources and outdoor recreation is essential. New sources of funding need to be developed, and users should be required to help pay their fair share. Creadon of a funding source that raises a substantial amount of money for the broad purposes of natural resources protection and recreation is a priority recommendation. The Task Force adopted 13 funding recommendations which are described in detail in the Funding Report.

"Creation of a funding source that raises a substantial amount of money for the broad purposes of natural resources protection and recreation is a priority recommendation."

WATER REPORT AND RECOMMENDATIONS

"...present water resources statutes need to be reviewed and revised into a new comprehensive water resources act."

Illinois water resources are a primary element in maintaining human health and the economy of the state. The population centers of the state evolved as a direct result of the availability of water for industry, transportation, and human use. Agriculture has flourished not only because of rich soils, but also because the annual precipitation, on average, is almost optimal for the crops that characterize Illinois agriculture.

The Water Work Group has identified four groups of issues which cover the' current water-related problems that are a consequence of the demographic and economic evolution of Illinois. These four categories are: Water Law; Flooding, Drainage, and Stormwater; Siltation and Sedimentation; and Ground and Surface Water Quality.

The are several dominant needs which are fundamental to all of the other issues. First, present water resources statutes need to be reviewed and revised into a new comprehensive water resources act. Detailed discussion of this need is found in tie Water Law section. Following the adoption of a new water resources act, serious attention should be given to evaluating the appropriate state agency structure and division of responsibilities in order to effectively implement the law.

Funding for water resources programs has been inadequate in the past and will be more inadequate in the future if the Task Force's recommendations are adopted. The Task Force endorses the concept of user fees to fund solutions to many of the critical water resources problems. Included in the Funding Report are recommendations for the establishment of water-related user fees.

"Outside of regulated surface water, there is no policy to manage surface water usage and only limited regulation and policy for groundwater."

WATER LAW

There are a variety of users of ground and surface waters with competing needs in several areas where demand exceeds supply. Outside of regulated surface water, there is no policy to manage surface water usage and only limited regulation and policy for groundwater. In fact, water rights in Illinois are poorly defined.

The law of "reasonable use" is the fundamental law governing the water resources of Illinois and applies to both ground and surface water. The rules were first described by the Illinois State Supreme Court in the 1842 case of Evans v. Merriweather. In its January 1984 report "Critical Issues, Cross-cutting Topics, Operating Issues," the Illinois Water Plan Task Force stated: "Water use law in Illinois is an uncodified collection of court

decisions and state statute. This body of law is incomplete, confusing, and uncertain in prescribing the rights, duties, and governmental responsibilities relating to the development, protection, use, and management of water supply sources within Illinois."

The lack of an adequate, single water resources act is the root cause of most of the water use conflicts during recent years. The piecemeal water resources laws in Illinois have been the result either of federal laws handed down to the states or have evolved from litigation and/or special interest legislation surrounding serious usage conflicts. Many of the conflicts have arisen as a result of degradation of water quality, inadequate water supplies in times of drought, flooding, or competing uses for the same finite resource.

" In times of severe water resource stress, the limited available water must be used for the greatest common good. "

Priority use must be well defined to avoid the conflicts of the past and minimize conflicts in the future. Consideration must be given to human needs, navigation needs, wildlife habitat needs, livestock needs, crop production needs, and so forth. In times of severe water resources stress, the limited available water must be used for the greatest common good. During the recent severe drought of 1988-1990, it was evident that Illinois was ill-prepared and did not possess the authority to adequately respond to regional conflicts about available water.

Wells, lakes, and drainage systems are interconnected to all other waters. When conflicts about groundwater use arise, it must be understood that the solution may not unilaterally he in withdrawals of water from nearby surface sources, and vice versa. Pumping of a shallow aquifer will lower water tables in close proximity and may deprive a nearby stream of its base flow contribution from groundwater. Similarly, pumping from a stream may decrease the recharge of a nearby aquifer.

"...historical water law in Illinois is inadequate to meet present and future needs."

It is most important to realize that water, as a natural resource, does not recognize jurisdictional boundaries. Groundwater aquifers traverse water district, township, county, and even state boundaries, and the same can be said for surface waters. Therefore, water resources protection, development, and conservation laws must transcend politically defined areas for uniformity and consistency, and, thereby, achieve the greatest public good.

These arguments lead to the conclusion that the historical water law in Illinois is inadequate to meet present and future needs. Conflicts about water usage will continue to grow, and their resolution will be determined more easily with a new, comprehensive state water use act.

"The first need is to acknowledge the state's responsibility to provide adequate, good quality water for its citizens, commerce, industry, wildlife habitat, and agriculture by assuming its sovereignty over its ground and surface water resources."

Water Recommendation #1

Prepare a comprehensive water resources act to replace **the inadequate collection of statutes and court** decisions scattered throughout Illinois **law.**

- The law must consider such things as the definition of public versus private waters, the scope of authority delegated to local government, the scope of authority retained by the state, and should address both the quality and quantity of water resources. The law also should consider water conservation and provide authority to equitably allocate water in times of severe drought.

- The state must take the lead to establish its laws for the good of the state as a whole and not let the courts decide the law in favor of specific litigants. The first need is to acknowledge the state's responsibility to provide adequate, good quality water for its citizens, commerce, industry, wildlife habitat, and agriculture by assuming its sovereignty over its ground and surface water resources.

- The interconnectivity of ground and surface waters lead to the inevitable conclusion that Illinois has within its borders a single water resource. Water allocation determinations must be made with the full understanding that surface and groundwater are inextricably intertwined and do not function independently or in isolation.

- A comprehensive water resources act should require that monitoring and scientific research be the foundation for rational water quality and quantity enforcement mechanisms. These must be flexible enough to insure changes can readily be made in response to new knowledge from monitoring and research activities.

  - The first task is to collect all existing laws.

  - The second task is to identify and recommend needed legislation to complete and strengthen existing laws.

  - The third task is to draft a single water resources act with the aid of the Legislative Reference Bureau.

  - Finally, a plan for implementation should be developed which addresses any changes needed in the government water resources infrastructure necessary to ensure efficient permitting and regulation, and effective research and monitoring. For example, the appropriate role and location of

DOWR, various management programs, and water resources permitting authorities should be determined.

FLOODING, DRAINAGE, AND STORMWATER

The need to interact with and use water resources for habitation and economic development (urban and rural) can, but need not, exacerbate the impact of flooding on both natural and man-made environments. The objective should be to manage floodplains, drainage systems, and stormwater runoff through planning, engineering, and development efforts in a manner that would promote the efficient use of resources while protecting life, property, and natural ecosystems.

"Flooding," "drainage," and "stormwater" are terms that describe surface waters that exceed the capacity of normal conveyance systems such as rivers and ditches. In government parlance, the first refers to overflows of streams or lakes that drain more than one square mile. Excess surface flows that drain less than one square mile are considered drainage problems. Stormwater is typically used to describe surface water that has fallen from the sky but has not yet reached an identified conveyance system.

"State and federal flood hazard mapping and regulatory programs do not cover drainage problems, leaving affected property owners ignorant of a hazard and often beyond the reach of government assistance programs."

Defining these terms may appear immaterial but they are key to two points of contention. First, to the owner of property under water, the size of the drainage area does not matter. However, these definitions are used to identify the limits of various authorities and programs. State and federal flood hazard mapping and regulatory programs do not cover drainage problems, leaving affected property owners ignorant of a hazard and often beyond the reach of government assistance programs.

For example, a person affected by a neighbor's alteration of the drainage system can appeal through the state's regulatory program if the site is in a regulated floodplain. If it is not, the "local drainage" problem must be pursued at the plaintiff's expense through the courts. In order to restrict their limited resources to larger problems, some state and federal flood midgation programs have little or no authority to deal with drainage problems.

The second problem is that drawing arbitrary lines of authority in the watershed leads to separate and disconnected programs. Floodplain mapping and regulatory programs have little concern with the increased flood hazard caused by development in the watershed outside the floodplain. Flood control projects can be rendered ineffective over the years if nothing is done to limit increased stormwater runoff and sedimentation from watershed development.

State agencies should take a holistic and multi-objective, watershed approach to surface water problems and adopt the following recommendations:

"...current maps are based on old data. Most of Illinois' regulatory maps are based on data over 15 years old. River gauge data for these maps may have been based on only 30 or 40 years of history..."

Water Recommendation #2

Information about flood hazards, environmentally sensitive areas, and ways to protect properties and prevent damage should be provided to everyone, regardless of the size of the watershed contributing the water.

Water Recommendation #3

Statutory limits to regulation of small drainage areas should be amended to encourage regulation of all known flood hazards and environmentally sensitive areas.

Water Recommendation #4

No flood damage mitigation project should be funded without assurances that future development will not increase flood flows or reduce stream carrying capacities.

Water Recommendation #5

Federal, state, and local flooding, drainage, and stormwater programs should focus not only on excess water quantity, but also take into account other floodplain concerns, including low flows, water quality, and habitat protection.

MAPPING THE HAZARDS

Flood hazard maps perform several functions. They inform property owners, particularly potential owners, of the hazard. They provide the basis for various regulations designed to protect existing development from flood damage. They are also used in flood mitigation programs, such as flood warning and flood control studies.

Current flood mapping programs have several shortcomings. First, they do not cover all known problem areas. Not only are smaller drainage areas not mapped, current techniques omit some hazards, such as ice jams and debris obstructions. Related regulatory concerns, such as the presence of wetlands, are also either inadequately identified or not mapped.

The second shortcoming is that current maps are based on old data. Most of Illinois' regulatory maps are based on data over 15 years old. River gauge data for these maps may have been based on only 30 or 40 years of history, which does not form the basis for dependable projections. Very little mapping has been based on the latest rainfall frequency values as defined by the State Water Survey's Technical Bulletin 70. Finally, most mapping

has been financed by the National Flood Insurance Program, which does not account for increases in runoff due to watershed development.

In most cases, maps based on old data understate the flood hazard. As a result, people are given a false sense of security if they rely on old maps or maps that do not cover all hazards. Some developments built based on the flood hazards identified on old maps have already been damaged by floods.

Updating maps to incorporate the latest data can be an expensive and time consuming process. Several different regulatory agencies must review and approve the changes. Often, the expense of printing prevents the maps from actually being changed. Instead, letters of map amendment or map revision are issued, although these letters are not usually distributed to everyone who still uses the old map.

"Another shortcoming of current mapping practices is that many different water resources and land use programs use different mapping approaches and systems."

Another shortcoming of current mapping practices is that many different water resources and land use programs use different mapping approaches and systems. Flood maps, wetland maps, geologic hazards maps, and soils maps all can be expected to be at different scales and show different man-made features. It is often difficult to relate scientific data, natural hazards information, and regulatory programs to a specific property.

If water resources and land use maps have been digitized, chances are that different software programs were used. After one agency takes all the trouble to digitize map data to make it easier to use, the data may be incompatible with other agencies' digitized maps. The Illinois Mapping Advisory Committee has called for improved coordination of mapping technology as well as improved standards to ensure that public data bases will provide needed map information in useful formats.

"The Illinois Mapping Advisory Committee has called for improved coordination of mapping technology as well as improved standards to ensure that public data bases will provide needed map information in useful formats."

An important issue related to mapping is getting the hazard information out to those who need it. Many floodplain residents are not aware of the hazard they face. Federal laws requiring banks and other lending institutions to advise potential mortgagees and loan recipients of flood hazards have been poorly enforced. Even though the law has been in effect since 1974, only one out of four floodplain property owners has flood insurance.

Water Recommendation #6

One state agency or coordinating office should be given statutory authority for regulatory flood hazard mapping.

- That agency should set adequate mapping standards so other regulatory programs, particularly the National Flood Insurance Program, will have to produce maps that better show Illinois' flood hazards.

"...traditional development practices aggravate surface water problems by increasing the amount and speed of stormwater runoff, contributing pollutants to surface water, diverting natural drainage patterns onto other properties, obstructing flood flows, and removing needed water storage areas."

- The one agency should be given adequate funding to review all regulatory maps and map changes and to settle disputes between developers and various government agencies. A one-stop map shop can greatly reduce the time and confusion that currently exists in updating maps.

- The agency should pursue geographic information systems and other state-of-the-art methods to facilitate producing, revising, and disseminating flood hazard data.

- An office or other administrative mechanism should be designated to coordinate the mapping and digitization standards of all of the water resources and land use mapping programs.

Water Recommendation #7

Appropriate state and federal agencies should ensure that there are enough stream gauging stations to provide the data needed to produce accurate flood hazard maps.

Water Recommendation #8

There should be better enforcement of current laws requiring lending institutions to inform potential mortgage recipients of the flood hazard.

PREVENTING DAMAGE DUE TO FUTURE DEVELOPMENT

Flooding is a natural phenomenon. Flooding is only a problem when human development is affected. Development has a two-fold impact on surface water. First, new buildings and infrastructure built in hazard areas are damaged by flood and stormwaters. Second, traditional development practices aggravate surface water problems by increasing the amount and speed of stormwater runoff, contributing pollutants to surface water, diverting natural drainage patterns onto other properties, obstructing flood flows, and removing needed water storage areas. Only recently and only in a few areas have development practices begun to account for these impacts. In some cases, new developments have helped to correct some of the mistakes of the past.

Since 1917, Illinois has regulated new development to minimize these impacts. State and local regulatory programs have expanded from maintaining river navigation, to protecting new buildings in the floodplain, to preserving natural areas, to controlling the quantity and quality of watershed runoff. With this expanded role has come an expansion in the number of regulatory agencies and programs.

Today, a single development project may need water-related approvals from as many as three federal agencies [U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service, Federal Emergency Management Agency (for remapping)], three state agencies [DOT/DOWR, DOC, EPA] and three local agencies [city, county stormwater committee, sanitary district]. Several of them may request similar information, but they make their decisions based upon different analyses.

Many developers do not object to the requirements of regulatory programs that seek worthy objectives. For one thing, meeting the regulatory requirements protects them from later problems with the development's future owners and/or neighbors. However, they object to dealing with multiple and contradictory regulatory requirements. They are particularly concerned with the time it takes to receive an answer from a regulatory agency and with rules that change during permit processing.

"Many developers... object to dealing with multiple and contradictory regulatory requirements. They are particularly concerned with the time it takes to receive an answer from a regulatory agency and with rules that change during permit processing."

Federal, state, and local surface water regulatory programs should be better coordinated and streamlined consistent with the following recommendations:

Water Recommendation #9

The state should implement quicker, simpler, and more consistent regulatory programs through consolidation, delegation, and administrative enforcement.

At a minimum, the following approaches should be investigated:

- Coordinating all state surface water regulatory programs under one agency or coordinating office,
- Implementing speedier enforcement procedures, such as granting permitting agencies administrative enforcement authority,
- Delegating federal programs to state agencies, and
- Focusing state regulatory resources on projects that affect more than one local jurisdiction. State efforts should provide technical assistance to local regulatory programs and insure that local programs meet minimal state and federal requirements. The state should not have duplicate permit requirements for projects covered by a local authority or local intergovernmental agreement.

" Many of the key participants in the land development system are ignorant of the role floodplains, "swamps," and other water-related lands play in the environment or of the need to allow certain areas to flood".

Water Recommendation #10

Stormwater management authority, similar to the authority possessed by the Northeastern Illinois collar counties (III. **Rev. Stat. ch. 34, par. 5-1062), should be granted to all Illinois counties or to multi-county watershed management agencies to implement a comprehensive stormwater management program.**

Water Recommendation #11

Counties and municipalities should be encouraged to adopt regulatory criteria that address local needs and goals.

Water Recommendation #12

State and federal surface water regulatory authorities should be delegated to city or county agencies that have qualified staff and sufficient resources. Such delegation should not relieve the state or federal agencies from responsibility to oversee and monitor the delegated authorities.

Water Recommendation #13

A system should be developed that measures the natural and public values of wetlands and other sensitive or hazardous areas. Such a system would help set more accurate and fair property tax valuations, acquisition prices, and land dedication values.

PROTECTING NATURAL FUNCTIONS

Floodplains, wetlands, and other parts of the surface drainage system perform certain natural functions that are not duplicated elsewhere. They' provide habitats and breeding grounds for plant and animal species that cannot live elsewhere. They provide natural flood and erosion control, water quality maintenance, and recharge of ground water supplies.

Urban and agricultural development in many sensitive areas has destroyed these valuable natural functions. Few truly natural wetlands and prairies now remain and these should be protected. What is left are some marginally sensitive lands, some of which modern development practices can enhance to return to their pre-development functions.

This problem has been aggravated by the lack of knowledge on the part of developers, state regulatory agencies, local decision makers, and the general public. Many of the key participants in the land development system are ignorant of the role floodplains, "swamps," and other

water-related lands play in the environment or of the need to allow certain areas to flood. They are also unaware of the impacts that a development decision can have on the natural functions of a property and adjacent lands.

State and local programs should include protection of the natural functions of floodplains, wetlands, and related areas as a high priority by implementing the following recommendations:

"State law should require local comprehensive land use planning, including consideration of the natural functions of floodplains, wetlands, and related areas, as a prerequisite to enacting zoning ordinances and other regulations of floodplains and stormwater runoff."

Water Recommendation #14

State and local regulatory programs should not be limited to protecting human development from excess surface water flows and pollutants. Statutes should clearly authorize protection of natural functions as part of the public's interest.

Water Recommendation #15

State agencies should conduct programs to educate state staff, local decision makers, and the general public about the need to protect natural functions and ways to do it.

Water Recommendation #16

Selected rivers, stream corridors, lakes, wetlands, and natural floodplains should be protected by acquisition, easement, cooperative agreement, or designation as a Nature Preserve.

Water Recommendation #17

The state should encourage and assist local governments in developing stream and wetland protection ordinances.

Water Recommendation #18

The state should provide increased support and technical assistance in the restoration of marginal quality or modified wetlands and stream channels to enhance flood control, habitat, and water quality.

"State flood mitigation efforts should be coordinated with other state and local water-related programs to promote local multi-objective programs."

Water Recommendation #19

State law should require local comprehensive land use planning, including consideration of the natural functions of floodplains, wetlands, and related areas, as a prerequisite to enacting zoning ordinances and other regulations of floodplains and stormwater runoff.

MITIGATING DAMAGE TO EXISTING DEVELOPMENT

Illinois averages approximately $300 million in urban flood damage and $50 million in agricultural damage each year. The traditional approach to protect existing development subject to damage by flooding and poor drainage has been to build a levee, retention basin, channel improvement, or other public works project. These projects are only funded if their benefits exceed their costs. In other words, there will be many areas where a flood control project cannot be justified. Further, construction projects will not fix every problem, and they are sometimes opposed by residents who do not want their local environment disrupted. At current state and federal funding levels, it has been estimated that it will take 20-25 years to build the projects that have been justified. Even those who would eventually be protected may have to wait many years before they are free from flood or drainage problems.

Implementation of the following recommendations would allow the state to expand and diversify its approach to reducing flood damage to existing development. The Funding Report also includes a recommendation related to establishing user fees and tax incentives for the purpose of reducing flood **impacts.**

Water Recommendation #20

The state should increase its information and technical assistance efforts to cover a wide variety of mitigation measures, including flood proofing, flood insurance, local flood warning and preparedness, stormwater management, and redevelopment of flood hazard areas, as well as public works projects.

- These efforts should also inform affected parties about the likelihood of a government-funded public works project being built and the time required to build one.

Water Recommendation #21

State flood mitigation efforts should be coordinated with other state and **local water-related programs** to promote **local** multi-objective programs.

- For example, a community that acquires flood-prone buildings for flood protection and redevelops the area for recreation and habitat improvement will accomplish more with less money.

Water Recommendation #22

State flood mitigation programs should encourage a variety of solutions and alternative funding approaches, including property owner cost sharing and self-help.

- Information and technical assistance programs will reach more people than funding only public works projects.

"Streambank and shoreline erosion are major sources of sediments deposited in Illinois lakes and streams and a significant impairment to the overall water resource."

SILTATION AND SEDIMENTATION

It is commonly accepted that there are negative impacts on surface waters from siltation and sedimentation. There needs to be further investigation into the erosion and siltation/sedimentation relationship. Alternatives to reduce siltation and sedimentation need to be developed, evaluated, and implemented.

BANK AND SHORELINE EROSION

Streambank and shoreline erosion are major sources of sediments deposited in Illinois lakes and streams and a significant impairment to the overall water resource. The extent of streambank and shoreline erosion in Illinois is not well known and needs to be quantified. The state stream gauging network needs to be expanded and aerial photography utilized to delineate lengths of streams and shorelines contributing significant amounts of sediment to water bodies. In addition, a method to assess the sediment yield potential of smaller streams is needed. Current environmental policies, standards, and planning activities do not provide for protection of streambanks and shorelines from accelerated erosion due to construction activities.

Agencies and organizations should continue to work together to implement the following recommendations:

Water Recommendation #23

Water resources authorities should develop and demonstrate revegetation techniques for stabilizing streambanks and shorelines in Illinois.

"Channelization of natural streams and waterways causes significant erosion, especially when natural vegetation is not quickly re-established and maintained."

Water Recommendation #24

Water resources authorities should encourage streambank stabilization practices, such as using floodways as greenways, through financial incentive programs.

Water Recommendation #25

Water resources authorities should identify and delineate streambanks and shorelines that need protection and use existing enforcement authorities to discourage uses of streambanks and shorelines that threaten to accelerate erosion.

Water Recommendation #26

Water resources authorities should discourage the encroachment of construction activities on streambanks and shorelines.

Water Recommendation #27

State and local planning activities should be coordinated to maximize efforts to protect eroding streambanks and shorelines.

Water Recommendation #28

State and local entities with water resources responsibilities should cooperatively develop and implement a comprehensive statewide strategic plan for stormwater management that considers impacts of all stormwater discharges, including streambank erosion, throughout a watershed.

CHANNELIZATION FOR DRAINAGE, NAVIGATION, AND CROPPING PRACTICES

Channelization of natural streams and waterways causes significant erosion, especially when natural vegetation is not quickly re-established and maintained. Hydrologic/habitat modifications or upstream channelization for the sake of improved agricultural or urban drainage contribute to the deterioration of water resources. There is a need to evaluate and implement alternatives for the reduction of siltation and sediment from channelization and from drainage, navigation, and cropping activities.

Water Recommendation #29

Water resources authorities should be encouraged to evaluate "in channel" wetlands for sediment trapping potentials and wildlife value.

Water Recommendation #30

State agencies should develop a statewide comprehensive stream improvement program that allows low-impact maintenance of stream channel and drainage ditches.

Water Recommendation #31

Illinois should prevent channelization and relocation of streams and grant permits for such activities only after environmental impact and sediment control plans have been developed.

"Illinois should prevent channelization and relocation of streams and grant permits for such activities only after environmental impact and sediment control plans have been developed."

Water Recommendation #32

Illinois agencies should continue to study the basic ecological concepts associated with, and the effects of, sedimentation pollution on the use of major navigable waterways.

DREDGE SPOIL DISPOSAL

Because of its highly undesirable condition, spoil from dredging, or any operation where soil materials in a saturated condition are excavated, represents a real pollution threat to adjacent streams and lakes. In its Illinois Water Quality Management Plan, the EPA recommended that "the Army Corps of Engineers, in maintaining navigable waterways, should cooperate with state and local jurisdictions in the siting of suitable dredge disposal areas ...." In addition, when evaluating permits for the placement of dredged materials under Part 700 of Title 92 of the Administrative Code of the State of Illinois, DOT/DOWR should have guidelines for indexing the potential of spoil areas for habitat establishment. The DOT and DOC should work together to evaluate and standardize procedures for establishing dredge spoil areas as wildlife habitat with revegetation practices that provide erosion control benefits. Impacts on farmland resources should be avoided in the selection of areas for disposal of spoil from dredging.

"...a majority of woodland owners do not have professionally prepared forest management plans that include properly designed, constructed, and retired access roads, log landings, and skid trails."

Water Recommendation #33

DOT/DOWR should develop and implement expanded statewide erosion and sediment control guidelines for protecting spoil materials.

Water Recommendation #34

DOT/DOWR and DOC should develop, evaluate, and promote procedures for utilizing stream/lake side slopes of spoil disposal areas for wildlife habitat and integrate them into the statewide erosion and sediment control guidelines for spoil disposal areas.

Water Recommendation #35

Illinois water resources authorities should require erosion and sediment control plans be developed for all spoil disposal operations.

Water Recommendation #36

Illinois water resource authorities should jointly develop guidelines for selecting suitable sites for disposal of spoil materials. Illinois water resources authorities should develop standards that prevent spoil from being placed in floodplains, wetlands, and on prime farmlands.

FORESTLAND EROSION

Illinois has 3,429,000 acres of forestland eroding at an annual average soil loss of less than *25* tons/acre. However, 679,000 acres of this total currently are being grazed with a resulting soil loss of 13 tons/acre/year. This increased soil loss is the result of soil compaction, reduced protection due to the loss of the forest duff layer and reduced plant vigor resulting in a loss of the protective tree canopy layer. Additional emphasis is needed to exclude livestock from woodlands.

Soil loss on non-grazed woodland results from site disturbances during harvesting operations and/or site preparation activities for purposes of regenerating a stand of desirable tree species. Such losses occur because a majority of woodland owners do not have professionally prepared forest management plans that include properly designed, constructed, and retired access roads, log landings, and skid trails.

Water Recommendation #37

Require all forestry activities to have an approved plan for control of erosion and sedimentation.

Water Recommendation #38

The state should encourage full funding of the federal Stewardship Incentive Program (SIP) and continue to fully fund the state's Forestry Development Act.

Water Recommendation #39

Require SIP management plans, and plans written for other similar programs, to include provisions for controlling erosion and sediment during harvest operations, and regeneration or reforestation activities. These plans should also provide for streamside management zones along all perennial streams.

"...plans (should)...include provisions for controlling erosion and sediment during harvest operations, and regeneration or reforestation activities."

Water Recommendation #40

Guideline documents should be developed in cooperation with DOC and other agencies and distributed on a continuing basis to landowners, timber operators, and forestry professionals outlining Best Management Practices and their application including erosion and sediment control.

Water Recommendation #41

A series of educational workshops should be developed and presented throughout the state on a continuing basis to teach landowners, timber operators, and professionals Best Management Practices for controlling erosion and sedimentation.

Water Recommendation #42

Lobby Congress to continue funding the Farm Bill's Conservation Reserve Program (CRP) provision for new contracts and to lengthen existing contracts on lands planted to trees from 10 to 15 years.

- The federal Conservation Reserve Program pays farmers to remove classes of erodible and environmentally sensitive lands from production. Contracts are written for 10 year periods and many will begin to expire in the next few years. Ten-year

"Water as a resource does not recognize jurisdictional boundaries. To establish a successful water quality program one must understand the boundaries of the resource and demand the cooperation of all concerned or establish one authority that transcends all boundaries."

contracts do not allow trees to reach an age where they are likely to be maintained if contracts expire.

Water Recommendation #43

Fund and expand the Conservation Enhancement Act to provide a state cost-share program to maintain lands currently enrolled in the federal CRP program which are planted in trees.

GROUND AND SURFACE WATER QUALITY

As a leader in agriculture and manufacturing, Illinois should take the lead in improving the quality of its ground and surface water resources. Standards must be set that will meet present needs and guarantee future water requirements. Water as a resource does not recognize jurisdictional boundaries. To establish a successful water quality program one must understand the boundaries of the resource and demand the cooperation of all concerned or establish one authority that transcends all boundaries. Ground and surface water generally are considered as two separate resources but their interconnections establish them as one singular resource. Pollution from either point or non-point sources that affect either classification will have an impact on the total resource.

Illinois' waters continue to be negatively impacted from various sources including toxic chemicals, industrial waste, sewage, sediment, landfills, dumps, livestock, pesticides, and urban runoff. Illinois must insure that our waters remain or become safe for all users regardless of whether those users are human or other animals. All state waters should remain or become fishable and swimmable. There are many miles of streams in Illinois not meeting their full beneficial use and the overall objectives of the Clean Water Act. Important water-related benefits of the Conservation Reserve Program and the Conservation Enhancement Act in restoring and maintaining the chemical, physical, and biological integrity of Illinois' waters are not being fully accomplished. There is a definite need to fund and implement programs that address these shortcomings for both surface and groundwater and for both point and non-point source pollution.

POINT SOURCE

The regulation of point source pollution is well covered by numerous codes, rules, laws, and regulations which are enforced by a number of agencies. The number of agencies and various regulations tend to make enforcement cumbersome. There is a general belief that adequate regulations exist to control point source pollution but detection of violations and subsequent enforcement tends to be lax.

Water Recommendation #44

There needs to be more aggressive enforcement of existing water-related regulations. Policies need to be streamlined to simplify what dictates a violation and which agency has the authority for enforcement. The use of numerous warnings and permit extensions should be avoided.

"Illinois' waters continue to be negatively impacted from various sources including toxic chemicals, industrial waste, sewage, sediment, landfills, dumps, livestock, pesticides, and urban runoff."

Water Recommendation #45

Consideration should be given to establishment of a Riverkeeper Program in Illinois.

- The Riverkeeper Program is used successfully in other parts of the country. A program of this nature would aid in early detection of violations because the rivers and streams would be under constant surveillance. These programs consist of a watchdog assigned to an area for the purpose of early detection of problems or violations.

"The Riverkeeper Program... would aid in early detection of violations because the rivers and streams would be under constant surveillance."

Water Recommendation #46

Ongoing water-related research is a necessity. Water-related research programs need to be expanded and better funded.

- Ongoing research is needed because the aquatic environment is so complex. As noted in the USEPA publication, Quality Criteria for Water 1976, quality criteria for water are a never ending process of definition that will continue far into the future because research related to water quality is a never ending evolutionary process.

NON-POINT SOURCE POLLUTION

The control of non-point source pollution also is covered by numerous codes, rules, acts, laws, and regulations which are controlled and enforced by a number of agencies. Steps need to be taken to streamline these policies and controls as well as the detection of violations and enforcement of regulations. Non-point sources, however, are very diverse and cover a variety of activities.

Agriculture

Agriculture's contribution to non-point source pollution varies with the crops being grown and production systems being used. The largest problem created by agriculture is soil erosion, which is causing serious negative

"State programs should promote crop rotation, use of resistant crop varieties, minimal or reduced fertilization, revised tillage practices, early pest detection, proper disposal of livestock waste, and other practices that have an effect on water quality."

impacts by filling streams, rivers, lakes, and impoundments with sediment. The runoff from farm ground carries with it many fertilizers and pesticides attached to soil sediment. These materials can have serious deleterious effects upon aquatic ecosystems and pose a human health threat. Livestock waste is another source of pollution that in many cases enters the water resources unchecked.

Water Recommendation #47

The Department of Agriculture (DOA) should take the lead in developing education and voluntary compliance programs relating to farming practices and their contribution to non-point source pollution.

- Agricultural activities that make significant contributions to non-point source pollution will have to be changed. There are various methods to accomplish this task including education, voluntary compliance, leadership from farm organizations, input from state, local, and private organizations, and - most importantly - the involvement of DOA. There is a need for water quality to be adopted as part of the curriculum for schools, colleges, and universities. There is a need to expand the teaching modules presently available to the farming community.

Water Recommendation #48

Research concerning erosion, safer fertilizers and pesticides, improved farming practices, and other topics directly related to ground and surface water quality should be continued and expanded.

Water Recommendation #49

The state should redirect its research and education efforts toward management practices that promote the responsible use of all chemicals and farming practices that are more environmentally friendly.

- State programs should promote crop rotation, use of resistant crop varieties, minimal or reduced fertilization, revised tillage practices, early pest detection, proper disposal of livestock waste, and other practices that have an effect on water quality.

Non-agriculture

Education and voluntary involvement are the keys to pollution reduction on the non-agricultural scene. Development of educational programs that explain the hazards of lawn and garden chemicals is needed. DOA and EPA

should work together to expand programs for urban Illinois. These educational programs should be targeted at both small urban communities and large cities.

Water Recommendation #50

The state should utilize all educational methods available, including mass media, to develop a public awareness of non-point source pollution from both urban and agricultural sources.

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Water Recommendation #51

State agencies, such as DOA and EPA, must work together and develop a water quality and soil erosion strategy. State and federal organizations must cooperate in compliance monitoring and modify rules and regulations where conflicts exist. They also need to assist and promote the merits of the various incentive programs available.

Mineral Extraction (Well Drilling)

The control of oil field brine is a localized problem in Illinois, yet it must be addressed due to local but significant contamination of surface and groundwater sources resulting from seepage from brine pits, injection operations, and abandoned wells.

Water Recommendation #52

The state should more closely monitor oil field brine disposal operations where the threat of contamination of water supplies exists. The state should work with states where this is a major problem to aid in the development of a progressive program to contain this type of pollution.

Mineral Extraction (Mining)

Pollution caused by coal mining is not a pervasive problem in the state, but there is evidence of local negative impacts on water resources.

Water Recommendation #53

Continue to monitor areas within the state where mining is or has occurred. Programs in other states should be reviewed as a potential model for adoption in Illinois.

"Disposal of domestic septage should be by land application in controlled areas when possible."

Residual Waste (Sludge)

A major concern is the disposal of discharges created by industrial, municipal, and private concerns such as waste treatment plants, water treatment plants, wastepaper bedding production facilities, livestock yards, and septic tanks. Many of these waste products contain pathogens, heavy metals, toxic chemicals, or other hazardous elements that can have a serious impact on water quality. Most disposal methods for these materials are strictly regulated and must be permitted by the Illinois Environmental Protection Agency.

Water Recommendation #54

Residual waste sludge should be treated as a potentially harmful contaminant, but reuse as a potential resource should be encouraged where environmentally practical.

- The proper disposal of residual waste sludge is critical to both ground and surface water quality as well as to point source control. It is important that this sludge be considered as a potential resource and that promotion of recycling or reuse of residual materials be encouraged. Only suitable landfills should be used for municipal sludge material and industrial wastewater sludge that contains harmful contaminants. Disposal of domestic septage should be by land application in controlled areas when possible. During adverse weather and in areas where land application is not possible, septage should be disposed of in a wastewater treatment plant that has proper facilities. Septage that contains hazardous or toxic wastes should be deposited in suitable landfills. Refer to the "Illinois Water Quality Management Plan" for regional and subregional septage disposal plans.

On-Site Disposal (Home Septic Systems)

Design of septic systems have improved in recent years; however, older systems are prone to problems if not properly maintained or if located in improper soil conditions. Septic systems are not intended for disposal of any type of hazardous or toxic waste.

Water Recommendation #55

Local governments should be involved with design and installation of septic systems. Systems should be inspected upon resale. Local governments should pursue **a** program of required scheduled cleaning of septic systems based on pertinent variables.

STORMWATER RUNOFF

All discharges into Illinois' waters need to be regulated. Stormwater and snow removal carry a quantity of petroleum residues, salts, metals, and other undesirable materials from roadways and parking lots. They also contain several toxic materials from industrial emissions. Runoff from surfaced lands needs to be considered sewage and handled in a similar fashion.

"All discharges into Illinois' waters need to be regulated. Stormwater and snow removal carry a quantity of petroleum residues, salts, metals, and other undesirable materials from road-ways and parking lots."

Water Recommendation #56

Treatment plants need to expand their facilities where necessary to handle polluted stormwater. Retention areas could aid in the storage problem prior to treatment. Direct discharge into waters should be strictly regulated.

Water Recommendation #57

The dumping of snow from snow removal processes into waters should be prohibited except in emergency situations as permitted by EPA.

Water Recommendation #58

The state should research the development and use of alternative, benign snow and ice removal materials.