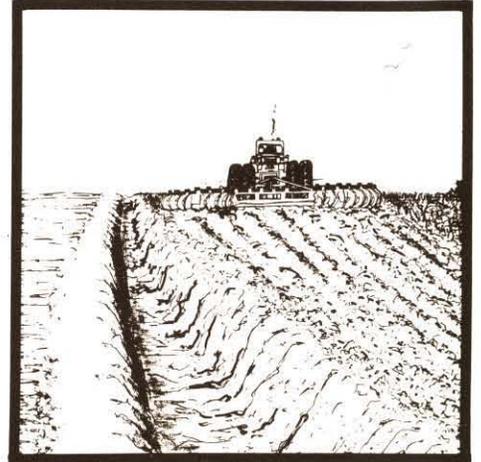


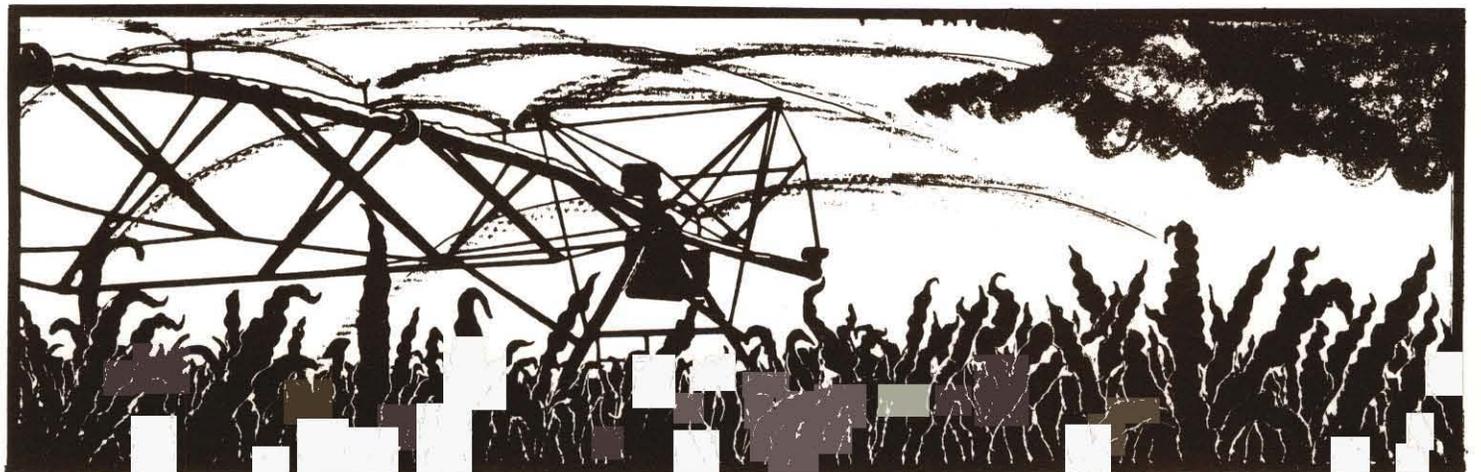
Report # Two  
 POLICY ISSUE STUDY  
 ON SELECTED  
 WATER RIGHTS ISSUES



# DRAINAGE OF DIFFUSED SURFACE WATER

State Water Planning and Review Process  
 Nebraska Natural Resources Commission

MAY 1982



**POLICY ISSUE STUDY  
ON  
SELECTED WATER RIGHTS ISSUES**

**STATE WATER PLANNING AND REVIEW PROCESS**

**REPORT #2, DRAINAGE OF DIFFUSED SURFACE WATER**

**REPORT  
OF THE  
NATURAL RESOURCES COMMISSION  
TO  
GOVERNOR CHARLES THONE  
AND  
THE MEMBERS OF THE NEBRASKA LEGISLATURE**

**MAY 1982**

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**PROGRAMS:**

SOIL & WATER CONSERVATION  
WATERSHED PROTECTION  
COMPREHENSIVE PLANNING  
FLOOD PLAIN MANAGEMENT  
DATA BANK  
WATER CONSERVATION FUND  
DEVELOPMENT FUND



**STATE OF NEBRASKA**

**NATURAL RESOURCES COMMISSION**

301 Centennial Mall So. - 4th Floor  
P.O. Box 94876  
Lincoln, Nebraska 68509  
Phone: (402) 471-2081

The Honorable Charles Thone  
Governor, State of Nebraska  
State Capitol, 2nd Floor  
Lincoln, Nebraska 68509

Members of the Nebraska Legislature  
Eighty-Seventh Nebraska Legislature, Second Session  
State Capitol  
Lincoln, Nebraska 68509

Governor Thone and Members of the Legislature:

This report, entitled "Drainage of Diffused Surface Waters," has been reviewed and approved by the Natural Resources Commission. It is the second report of the Selected Water Rights Issues Policy Study.

Eight subject areas are addressed and 30 alternatives are presented and analyzed. The Commission's recommendations and a suggested order for addressing the alternatives are also provided on the blue pages immediately following the Foreword.

It is the hope of the Natural Resources Commission that this report will be helpful in making policy decisions and, if necessary, statutory changes. The Natural Resources Commission is prepared to answer any further questions you may have.

Sincerely,



Alvin Narjes, Chairman  
Natural Resources Commission

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# Foreword

This report, "*Drainage of Diffused Surface Waters*," is the second of eight reports of the Selected Water Rights Issues Policy Study. It is being forwarded by the Natural Resources Commission to the Legislature and Governor for consideration and appropriate action. The Selected Water Rights Issues Policy Study is one of the eleven water policy studies being conducted through the State Water Planning and Review Process.

The base document for this report was prepared by Norman Thorson, Associate Professor of Law, University of Nebraska-Lincoln, with the assistance of an interagency task force. Members of that task force and the agencies represented are as follows:

Jim Cook ..... Natural Resources Commission (Leader)  
Judy Lange ..... Department of Environmental Control  
Mike Jess ..... Department of Water Resources  
Bill Lee ..... Department of Health  
Darryll Pederson ..... Conservation & Survey Division, UNL  
Dave Aiken ..... Water Resources Center, UNL  
Karen Langland ..... Policy Research Office  
Gerald Chaffin ..... Game & Parks Commission  
John Alloway ..... Department of Agriculture

Others who contributed to the preparation of this report are: Bob Kuzelka, Ray Bentall, and Dennis Lawton of the UNL Conservation & Survey Division; and Charles Deknatel of the UNL College of Architecture.

The Commission released this report for public review on November 18, 1981. A public hearing was held in Kearney, Nebraska, on January 5, 1982. A summary of that hearing can be found as Appendix A in the back of this report. The Public Advisory Board provided the Natural Resources Commission with its recommendations on the alternatives contained within the task force report.

Three Commission members were assigned the responsibility for considering the comments received and for preparing suggested changes in and recommendations on the report. The committee members were:

Henry P. Reifschneider, Chairman  
Robert W. Bell  
Rudolf C. Kokes

Their work was utilized by the Commission to refine and supplement the task force report to its present form.

Six additional reports are to be prepared by the Selected Water Rights Issues task force and have been or will be transmitted to the Natural Resources Commission in the next several months. The last report is due to be submitted to the Commission in the next several months. The last report is due to be submitted to the Commission by June 30, 1982, with transmittal to the Legislature and Governor following a public review process of at least ninety days. The forthcoming reports will address the following water rights subject areas:

Beneficial Use  
Property Rights in Groundwater  
Water Rights Adjudications  
Riparian/Appropriative Rights  
Interstate Water Uses and Conflicts  
Transferability of Water Rights

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# Comments And Recommendations Of The Natural Resources Commission

## INTRODUCTION AND PURPOSE

In preparing policy issue study reports like this one, the Natural Resources Commission has two major responsibilities. The first responsibility of the Commission is to present in an objective manner a representative range of policy alternatives for the particular water policy issue being considered. The purpose of all portions of this report following this section on comments and recommendations is to fulfill that responsibility.

Once all of the alternatives have been presented, the second responsibility of the Commission is to provide the Legislature, the Governor, and the public with opinions on the various alternatives. This part of this report is to fulfill that responsibility. Comments and opinions are offered in the material which follows on the alternatives in each of the eight subject areas addressed. Some alternatives are favored and others are not.

## RECOMMENDED ALTERNATIVES AND PRIORITIES

This report contains 30 alternatives addressing eight different drainage and diffused surface water subject areas. The Commission is of the opinion that action alternatives are appropriate in seven of the eight subject areas and makes recommendations to that effect. In addition, the Commission suggests that it would be unrealistic to expect the Legislature to address all seven subject areas at one time and thus recommends that the alternatives be considered in a priority order by subject area.

The recommended priority order by subject area and the recommended alternatives for each of the subjects are as follows:

### **PRIORITY AREA #1: Alternatives That Define Relevant Terms.**

*Recommended Alternatives:*

*Alternative #2:* Amend Nebraska statutes

to define those terms that are crucial to a proper classification of water, given the substantive law of drainage and diffused surface water in Nebraska.

*Alternative #5:* Amend Nebraska statutes to provide that natural drainway is to be defined with reference to historical drainage patterns unless it is demonstrated that rights to current drainage patterns have been acquired by prescription.

### **PRIORITY AREA #2: Alternative Rules of Property and Liability**

*Recommended Alternatives:*

*Alternative #8:* Amend Nebraska statutes to explicitly recognize a landowner's right to capture and use diffused surface water present on his land, provided the captured water is used for reasonable or beneficial purposes.

*Alternative #10:* Adopt a comprehensive water conservation statute which requires landowners to adopt practices that will bring soil erosion losses within acceptable limits.

*Alternative #13:* Amend Nebraska statutes to codify the reasonable use rule of liability for interference with the flow of diffused surface water.

### **PRIORITY AREA #3: Urban Runoff**

*Recommended Alternative:*

*Alternative #18:* Adopt a comprehensive statutory scheme relating to management and control of storm water runoff (from urban areas) that gives due regard to the interests of downstream landowners.

### **PRIORITY AREA #4: Non-Uniform Provisions Governing Political Subdivisions**

*Recommended Alternative:*

*Alternative #28:* Specify a uniform set of drainage powers for cities and villages and eliminate obsolete or unnecessary provisions relating to counties.

## **PRIORITY AREA #5: Public Drainage Projects**

### *Recommended Alternative:*

*Alternative #30:* Amend Nebraska statutes to provide a single statutory mechanism for organizing and operating public drainage projects in Nebraska.

## **PRIORITY #6: Lakes**

### *Recommended Alternatives:*

*Alternative #20 (as revised):* Amend Nebraska statutes to provide that a prior appropriation permit must be secured before a landowner can divert water from a natural lake.

*Alternative #21 (As revised):* Amend Nebraska statutes to provide that a permit must be secured before draining a natural lake.

## **PRIORITY AREA #7: Wetlands**

### *Recommended Alternative:*

*Alternative #27:* Adopt a comprehensive regulatory program designed to identify, preserve, and protect critical wetland areas.

An explanation of the Commission's reasons for these recommendations follows.

## **EXPLANATION OF RECOMMENDATIONS**

Commission recommendations were made following a review of the report and consideration of the comments offered by the public. By itself, the above listing of the recommended alternatives tells very little and the Commission hopes that the following explanation will be helpful to a better understanding of the alternatives and their respective merits. The material which follows is arranged in the same order as the alternatives appear in the report rather than in the priority order identified above.

### **Alternatives that Define Relevant Terms**

#### *Recommended Alternatives:*

*Alternative #2:* Amend Nebraska statutes to define those terms that are crucial to a proper classification of water given the substantive law of drainage and diffused surface water in Nebraska.

*Alternative #5:* Amend Nebraska statutes to provide that natural drainway is to be defined with reference to historical drainage patterns unless it is demonstrated that rights to current drainage patterns have been acquired by prescription.

Alternative #1 (make no change) was rejected and alternative #2 recommended because the Commission believes that the present lack of definitions for critical terms relating to drainage

and diffused surface water create uncertainty and confusion in many cases. While the report recognizes that any definitions will be somewhat arbitrary and that defining terms has the disadvantage of eliminating flexibility, the Commission believes that the gains derived from defining terms would exceed any losses. The definitions given in the body of the report on pages (4-4) through (4-6) would serve as excellent bases for consideration.

Alternatives #3, #4, and #5 are mutually exclusive ways of defining the term "natural drainway." Alternative #5 is recommended because it represents a more reasonable approach than do the other alternatives. Any person who is damaged by another's alterations in the characteristics of a natural drainway is given a reasonable degree of protection. Alternative #5 would essentially provide that protection for 10 years, a sufficient length of time to raise a valid objection.

### **Alternative Rules of Property and Liability**

#### *Recommended Alternatives:*

*Alternative #8:* Amend Nebraska statutes to explicitly recognize a landowner's right to capture and use diffused surface water present on his land, provided the captured water is used for reasonable or beneficial purposes.

*Alternative #10:* Adopt a comprehensive water conservation statute which requires landowners to adopt practices that will bring soil erosion losses within acceptable limits.

*Alternative #13:* Amend Nebraska statutes to codify the reasonable use rule of liability for interference with the flow of diffused surface water.

Rules of property and liability are clearly an area where present policy needs revision and clarification. Alternative #6 (make no change) is therefore felt to be inappropriate by the Commission. The remainder of the alternatives fall into two categories. Alternatives #7, #8, and #9 are mutually exclusive ways of addressing the capture and use of diffused surface water. Alternative #8 was selected by the Commission because it prevents the capture and use of water solely for malicious purposes, a possibility not prohibited by Alternative #7. Alternative #9, calling for an administrative permitting program for all activities designed to capture and use diffused surface water, was not selected because it is felt that the problems currently being experienced do not justify the creation of additional governmental bureaucracy. There are many disputes between landowners over the capture and use of diffused surface water, but the number of those disputes nevertheless involves a fairly small percentage of the total number of drainage activities undertaken. If all of those

activities had to be permitted, the administrative burden would be significant.

Alternative #10 is also recommended because of its beneficial effect in resolving problems between individual landowners, and because of the public benefits that can be realized from land and water conservation practices. The Commission included a similar alternative in its recommendations on the Policy Issue Study Report on Water Quality completed in 1980, and continues to believe that mandatory measures for conservation practices are essential in at least some areas of the state.

Alternatives #11 through #15 are mutually exclusive ways of dealing with the question of how to dispose of unwanted diffused surface water. Among these alternatives, alternative #13 is favored because it appears to best promote equity between landowners. The reasonable use rule contained within that alternative seems preferable to the common enemy rule, the civil law rule, or the common law rule presently in effect in Nebraska.

Alternative #13 is closely related to alternative #15. The Commission found the choice between the two alternatives to be a difficult decision. Alternative #13 was preferred only because it was felt that much flexibility would be lost if alternative #15 were adopted.

#### **Urban Runoff**

##### *Recommended Alternative:*

*Alternative #18:* Adopt a comprehensive statutory scheme relating to management and control of storm water runoff that gives due regard to the interests of downstream landowners.

Disregard of drainage patterns has been and will continue to be a serious problem in urban areas. If the internal and external water impacts of urban developments are not considered at the time those developments are occurring, serious damages can result to many parties, especially those landowners downstream from a developing area. The Commission believes that a proper drainage plan should be an integral part of any development and favors the adoption of alternative #18. The cost of implementing these plans would be small in comparison to the total cost of the development. Preparation and approval of plans prior to development is the only way to assure that construction activities will be properly carried out.

#### **Lakes**

##### *Recommended Alternatives:*

*Alternative #20 (as revised):* Amend Nebraska statutes to provide that a prior appropriation permit must be secured before a landowner can divert water from a natural lake.

*Alternative #21 (as revised):* Amend Nebraska statutes to provide that a permit must be secured before draining a natural lake.

The number of natural lakes in the State of Nebraska is not great in comparison to some other states. Those which do exist are a valuable natural resource and should not be destroyed without consideration of the impacts that result from such destruction. The Commission does not believe the present law to be adequate in providing the protection needed for these lakes and recommends that both alternatives #20 and #21 be enacted as revised. Alternative #20 would require an appropriation permit before the water in a natural lake could be utilized for beneficial purposes. Alternative #21 differs in that it would require approval to drain a natural lake when no beneficial use of water was intended. Both alternatives have been revised by the Commission to eliminate the exemption of lakes below a minimum size. Any standard based on size would be difficult to administer because many of these lakes vary greatly in size from year to year or season to season.

#### **Wetlands**

##### *Recommended Alternative:*

*Alternative #27:* Adopt a comprehensive regulatory program designed to identify, preserve and protect critical wetland areas.

This particular subject area was the most difficult in which to arrive at a recommendation. Alternatives #22 through #26 are attractive because they would be largely or exclusively voluntary. Financial methods are used to address wetland problems. The reasons for not recommending any of the alternatives include the possible overlap with federal programs and the anticipated costs of these programs. The most serious deficiency of the first five alternatives, however, is that they cannot assure the protection of wetlands which have the greatest public value. Because it would represent a more comprehensive approach, alternative #27 is recommended. It incorporates identification of wetlands, a task critical to the preservation of important wetlands.

#### **Non-uniform Provisions Governing Political Subdivisions**

##### **Administrative Jurisdiction over Disputes Public Drainage Projects**

##### *Recommended Alternatives:*

*Alternative #28:* Specify a uniform set of drainage powers for cities and villages and eliminate obsolete or unnecessary provisions relating to counties.

*Alternative #30:* Amend Nebraska statutes to provide a single statutory mechanism for organizing and operating public drainage projects in Nebraska.

These last three subject areas have been joined for purposes of our recommendations because they deal with the same general subject-governmental involvement in drainage activities. Alternative #28 is recommended because there is no apparent logical reason for the current disparity in authorities between classes of cities and villages. An effort should be made by cities and villages, working with natural resources districts and other affected local subdivisions, to develop an agreed upon list of authorities and procedures for dealing with drainage problems in all cities and villages.

Alternative #30 is almost a companion to alternative #28. While cities and villages would still be vested with drainage authority through adoption of alternative #28, it should be possible to assign all non-urban drainage activities to a single governmental unit. We believe natural resources districts to be the most appropriate entity for such activities. However, contrary to the description in the report, we believe that the implementation of alternative #30 ought to be prospective only. Mandatory merger of drainage districts was considered in the mid-1960's when the NRD concept was being formulated. Findings at that time indicated that many drainage districts had essentially disbanded and had projects in need of extensive repair and in some cases, reconstruction. Other districts were found to be burdened with large outstanding money judgements for damages to downstream landowners. We believe that such findings remain valid today. Thus, mandatory merger of all drainage districts would unduly burden some natural resources districts and would not be appropriate.

Alternative #29, providing for resolution of drainage disputes between landowners by the Department of Water Resources, has not been recommended. While an alternative of this type could well cause some reduction in the number of disputes actually going to court, it is likely that a larger number of landowners would take advantage of an administrative remedy if one was available. The demands placed upon the Department of Water Resources could be significant and costly. Government cannot be all things to all people, and, the services provided by alternative #29 are among those which are best left to non-government resolution.

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# Introduction And Summary

## INTRODUCTION

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This report was prepared to provide policy decision makers with information relevant to the law of drainage and diffused surface water and how existing law could be modified by legislation.

Diffused surface water is water that flows across the surface of the land but which has not yet entered a natural watercourse. Its source varies from precipitation to permanently detached flood water. Conflicts involving diffused surface water are of two types: 1) conflicts which involve the right to capture and retain diffused surface water for use on the land of the captor and 2) conflicts which involve the right to rid lands of unwanted diffused surface water.

Well over one hundred opinions of the Nebraska Supreme Court have involved drainage and diffused surface water issues, constituting nearly all of the state's reported water law decisions. The Nebraska law of diffused surface water is governed by a unique common law rule developed from a large body of litigated cases. This common law rule is supplemented by a limited number of statutory provisions and administrative regulations concerned mainly with drainage. While the law of diffused surface water is primarily of local origin, federal law impacts particularly in the areas of wetland preservation, soil conservation, and control of non-point sources of pollution.

*Chapter One* of this report summarizes current Nebraska law, the embodiment of current state water policy. *Chapter Two* summarizes federal law that impacts on the Nebraska law of drainage and diffused surface water. Federal water policy expressed through federal law is not always consistent with current state law incentives and restraints. *Chapter Three* presents an analysis of the practical effects of existing law, the needs and problems not addressed adequately by existing law, and whether significant opportunities are foregone because of existing policies.

*Chapter Four* responds to the analysis devel-

oped in the first three chapters by developing thirty alternatives for legislative consideration. Policy alternatives are suggested for eight broad opportunity areas identified earlier in the report. The eight opportunity areas include: (1) defining relevant terms; (2) developing alternative rules of property and liability; (3) urban runoff; (4) lakes; (5) wetlands; (6) non-uniform provisions governing political subdivisions; (7) administrative jurisdiction over disputes; and (8) public drainage projects. Each alternative is described in detail and indications of how it could be enacted are provided. Where appropriate, reference is made to the law of other states.

The external impacts of adopting each alternative also are addressed in *Chapter Four*. Included are the physical-hydrologic and environmental impacts and the socio-economic impacts of adopting each alternative. The degree of detail possible in these impacts analyses varies greatly from alternative to alternative, with some having fairly apparent impacts and others having impacts that are almost impossible to assess.

The final chapter, *Chapter Five*, is devoted to explaining the relationship between this report and all other policy issue reports produced or to be produced as part of the State Water Planning and Review Process. Relationships are developed for many of the studies being conducted. The value of *Chapter Five* to the decision maker is to alert him or her to how other issues can be affected by decisions regarding drainage or diffused surface waters.

## SUMMARY

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### CURRENT SITUATION

#### Source of Conflict

Water from rains, springs, or melting snows is considered diffused surface water until it reaches a stream or lake or infiltrates the earth's

surface. The interest of landowners in diffused surface water is great. Some landowners may want to capture it for later use or take measures to increase its infiltration into the soil. Other landowners may want to divert it off their lands as expeditiously as possible and to prevent its accumulation in low areas. Still others may want to reduce or direct the flow of diffused surface water that enters their land from higher estates. Often, changes in the use and disposition of diffused surface waters are the result of conscious decisions by landowners but many times such changes are merely a byproduct of changing patterns of land use in rural or urban areas. Whatever the cause, however, the potential for conflict among landowners with differing and conflicting goals is great. This conflict potential is reflected by the fact that the Nebraska Supreme Court has issued far more opinions in drainage and diffused surface water cases than in all other water law cases combined. One can safely say that, in Nebraska, drainage and diffused surface water conflicts have directly affected the lives of more citizens than any other single water law issue.

## Nebraska Law

Nebraska law is a unique mixture of statutory drainage authority and complex common law rules that govern the right to use, avoid, or drain diffused surface water. Some lakes can also be drained under Nebraska law. Common law rules that establish liability for interference with the natural flow of diffused surface water vary somewhat between rural and urban areas. Nebraska law, which generally favors drainage, authorizes at least eight different ways of instituting or operating public drainage projects. Counties, cities, and villages also are given various non-drainage powers to control and affect diffused surface water. The Department of Water Resources ostensibly has jurisdiction over all drainage matters in the state. Finally, the state has been minimally involved in wetland preservation through the wildlife habitat acquisition program of the Game and Parks Commission.

## Federal Law

An often conflicting set of federal incentives and restraints impacts on the state system of drainage and diffused surface water law. Federal law impacting on this area is the result of national policies directed toward control of water pollution, protection of wetlands, and encouragement of soil and water conservation efforts.

## Need to Examine Policy Alternatives

Nebraska drainage law is cumbersome and complex. If legal rules cannot be understood by the people on whom they impact, the cost of undertaking particular tasks will be increased by the risk that subsequent litigation will show their conduct to have been unlawful. Consequently, significant economic savings could be had by simplifying and clarifying substantive rules so that litigation and other conflicts might be reduced. Several alternatives discussed in the main body of the report have been developed primarily to simplify and clarify the current rules of law. Further opportunities for simplification and clarification exist with respect to the drainage powers conferred on political subdivisions, the jurisdictional authority of the Department of Water Resources, and the number and appropriateness of procedures used to create or operate public drainage projects.

In addition to clarification and simplification of existing law, some policy alternatives were developed in response to perceived gaps in existing law. Many issues involving lakes, wetlands, and urban runoff either are not addressed by current law or are given only passing attention.

The main body of this report develops and analyzes the impacts of thirty policy alternatives covering eight distinct subject matter areas. The eight general areas include: 1) defining relevant terms to eliminate confusion and improve consistency and precision in applying existing law to conflicts; 2) specifying alternative rules of property and liability to govern the use and disposition of diffused surface water; 3) exploring issues of urban runoff; 4) specifying rights to use or drain lakes; 5) specifying alternative strategies to preserve critical wetlands; 6) providing uniform drainage powers for political subdivisions; 7) providing for dispute resolution in an administrative forum; and 8) simplifying and modernizing procedures under which public drainage projects are organized.

## ALTERNATIVE LEGISLATIVE POLICY ACTIONS

### Alternatives that Define Relevant Terms

*Alternative #1:* Make no change in the scope or content of definitions currently found in the drainage sections of the Nebraska statutes.

*Alternative #2:* Amend Nebraska statutes to define those terms that are crucial to a proper classification of water given

the substantive law of drainage and diffused surface water in Nebraska.

*Alternative #3:* Amend Nebraska statutes to provide that natural drainway is to be defined solely with reference to presently existing drainage patterns.

*Alternative #4:* Amend Nebraska statutes to provide that natural drainway is to be defined solely with reference to historical drainage patterns that pre-date man-made changes.

*Alternative #5:* Amend Nebraska statutes to provide that natural drainway is to be defined with reference to historical drainage patterns unless it is demonstrated that rights to current drainage patterns have been acquired by prescription.

Under current law, most critical terms are not defined by statute. Definitions, which are not always consistent, must be extracted from case law. *Alternative One* would continue this practice thereby giving judges maximum flexibility to achieve a "just" result in a particular case. This flexibility comes, however, at the expense of certainty and clarity. Consequently, it may lead to economically inefficient decisionmaking by private individuals. *Alternative Two*, in contrast, would increase certainty by codifying the definitions of eight critical terms: 1) surface water; 2) watercourse; 3) natural drainway; 4) lake; 5) wetland; 6) diffused surface water; 7) flood water; and 8) irrigation waste water. Sample definitions are included for this alternative in the body of the report.

*Alternatives Three through Five* are mutually exclusive ways of resolving ambiguities in the current definition of "natural drainway." Natural drainage patterns are significant because lower estates are under a duty to accept runoff that flows from upper estates in "natural drainways." The issue is whether one uses the oldest available evidence to establish what is a natural drainway or whether one limits the length of the historic search required. *Alternative Four* probably codifies existing law but can result in significant proof problems for some types of conflict situations. *Alternative Three*, in contrast, simplifies problems of proof but probably at the cost of defeating some of the reasonable expectations of long time area residents. *Alternative Five* is a compromise that permits historic drainage patterns to be altered in favor of new drainage patterns if no one objects for the requisite number of years. It is also an economic compromise between those who wish to develop their lands in ways that alter historic drainage patterns and those who wish to preserve historic patterns for all time.

## Alternative Rules of Property and Liability

*Alternative #6:* Make no change in Nebraska law concerning property rights in or liability for the avoidance of diffused surface water and continue to rely on the evolution of the common law to resolve disputes.

*Alternative #7:* Amend Nebraska statutes to explicitly recognize a landowner's absolute right to capture and use diffused surface water present on his land.

*Alternative #8:* Amend Nebraska statutes to explicitly recognize a landowner's right to capture and use diffused surface water present on his land, provided the captured water is used for reasonable or beneficial purposes.

*Alternative #9:* Amend Nebraska statutes to provide that a landowner can capture and use diffused surface water present on his land only after securing a permit from a designated regulatory authority.

*Alternative #10:* Adopt a comprehensive water conservation statute which requires landowners to adopt practices that will bring soil erosion losses within acceptable limits.

*Alternative #11:* Amend Nebraska statutes to codify the common enemy doctrine of liability for interference with the flow of diffused surface water.

*Alternative #12:* Amend Nebraska statutes to codify the civil law natural flow doctrine of liability for interference with the flow of diffused surface water.

*Alternative #13:* Amend Nebraska statutes to codify the reasonable use rule of liability for interference with the flow of diffused surface water.

*Alternative #14:* Amend Nebraska statutes to codify the common law rule of liability for interference with the flow of diffused surface water that is currently expressed in Nebraska case law.

*Alternative #15:* Amend Nebraska statutes to codify a reasonable use drainage statute that incorporates most substantive principles of existing law.

*Alternative Six* would make no change in existing law. The confusion and unpredictability associated with the present situation would remain, discouraging landowners from making improvements to their land that would impact on the drainage or use of diffused surface water. The remaining alternatives in this area would either codify existing rules or codify alternative rules of property and liability. Codification of rules ought

to increase clarity and consistency of application while reducing the potential for litigation.

*Alternatives Seven through Ten* concern a landowner's property right to capture and use diffused surface water found on his land. *Alternatives Seven and Eight* would give landowners an absolute or near absolute right to capture and use such water, a right currently expressed in case law. Either alternative would codify a rule that encourages landowners to develop and use a resource that might otherwise cause significant costs to downstream landowners. *Alternative Nine*, in contrast, would limit a landowner's right to capture and use diffused surface water by requiring that he first secure a permit to do so. If permits were routinely granted *Alternative Nine* would encourage the same development as *Alternatives Seven and Eight*. It would, however, give the Department of Water Resources discretion to deny a permit to large scale impoundments that might adversely affect the rights of downstream users. Finally, *Alternative Ten* would impose a quasi-duty on landowners to capture and use diffused surface water by imposing mandatory soil and water conservation standards, a duty consistent with evolving federal law in the area of non-point source pollution control.

*Alternative Eleven through Fifteen* would codify alternative formulations of rules that establish liability for interference with the flow of diffused surface water. *Alternatives Eleven and Twelve* represent the extreme ends of the spectrum in the common enemy doctrine and the natural flow doctrine. No state retains either of the historical rules in their pure form. *Alternative Thirteen* would adopt the reasonable use rule of liability, a flexible rule that is becoming increasingly popular in other jurisdictions. *Alternative Fourteen* would attempt to reduce confusion by codifying a rule presently expressed in Nebraska case law. It would, however, retain language and concepts that are unique to Nebraska law. Finally, *Alternative Fifteen* also would codify current Nebraska law but it would do so by incorporating the conceptual frame of the reasonable use rule. It would, thus, add a degree of flexibility while preserving the general thrust of existing law. With the possible exception of the two historical rules, all of the above alternatives have a significant potential to clarify the law, reduce litigation, and promote economically efficient private land use decisions.

## Urban Runoff

*Alternative #16:* Amend Nebraska statutes to adopt a unique urban rule of liability for interference with the flow of diffused surface water.

*Alternative #17:* Amend Nebraska statutes to provide that urban and suburban developers are liable to downstream landowners for any injury resulting from increased peak streamflows consequent to the development.

*Alternative #18:* Adopt a comprehensive statutory scheme relating to management and control of storm water runoff that gives due regard to the interests of downstream landowners.

*Alternative Sixteen* would codify a unique rule of liability for interference with the flow of diffused surface water in urban areas. Case law currently distinguishes between rural and urban areas. A distinction can be justified because urban areas tend to incorporate more sophisticated drainage systems than rural areas and because efficient urban development may require greater alteration of natural drainage patterns than efficient rural development.

*Alternative Seventeen* would address the problem of downstream flooding caused by runoff from urban developments. It would place liability on developers for provable injury suffered by downstream property owners. The major impact of this alternative would be to compensate downstream landowners for losses they incur consequent to upstream urban development.

*Alternative Eighteen* would address the issues raised by *Alternatives Sixteen and Seventeen*, as well as other issues, in a comprehensive urban drainage statute. Its major impact would be to resolve disputes or potential disputes in a planning posture where they might be resolved by relatively minor changes in construction or design.

## Lakes

*Alternative #19:* Make no change in existing law relating to property rights or drainage rights in natural lakes or wetlands.

*Alternative #20:* Amend Nebraska statutes to provide that a prior appropriation permit must be secured before a landowner can divert water from a lake exceeding a specified minimum size.

*Alternative #21:* Amend Nebraska statutes to provide that a permit must be secured before draining a lake having a surface area exceeding ten acres.

*Alternative Nineteen* would continue existing law that does not specifically address property rights in lake water. It also would continue existing rules that permit, and perhaps encourage, the drainage of lakes and wetlands. *Alternative*

Twenty would bring some lakes within the general surface water prior appropriation system. An anomaly of present law is that a supplemental appropriation is authorized for lake water but not an original appropriation. *Alternative Twenty-One* would modify an existing lake drainage statute making it somewhat more difficult to drain a lake with a surface area of greater than ten acres. This alternative also would bring state law into conformity with federal dredge and fill permit requirements and, therefore, would facilitate eventual state administration of the program.

## Wetlands

*Alternative #22:* Expand existing state programs and/or develop new programs authorizing the state to acquire wetlands by purchase or otherwise, where preservation of such wetlands would serve an important public purpose.

*Alternative #23:* Expand the wetlands acquisition portion of the habitat programs currently administered by the Nebraska Game and Parks Commission.

*Alternative #24:* Establish a broad program of wetlands acquisition to be administered by an agency that has broader responsibilities than the Nebraska Games and Parks Commission.

*Alternative #25:* Encourage landowners to preserve wetlands by offering cooperators a tax credit.

*Alternative #26:* Adopt a state water banking act to encourage the withdrawal of wetlands from development for a predetermined number of years.

*Alternative #27:* Adopt a comprehensive regulatory program designed to identify, preserve, and protect critical wetland areas.

*Alternatives Twenty-Two through Twenty-Seven* all would encourage the preservation of critical wetlands. Many, though not all, wetlands perform a variety of useful functions including aiding in flood control, facilitating groundwater recharge, improving the quality of ground and surface water, providing wildlife habitat, and creating recreational values. With the exception of modest purchases of wetlands by the Game and Parks Commission, however, Nebraska law does not address the issue of identifying and preserving wetlands.

*Alternatives Twenty-Two through Twenty-Four* would authorize systematic purchases of those wetlands deemed critical from willing sellers. *Alternatives Twenty-Five and Twenty-Six* would encourage voluntary preservation efforts through tax credits or contractual agreements. *Alternative Twenty-Seven* would identify critical wetlands and require landowners to preserve them. Landowners would not be compensated unless the preservation requirement was deemed to constitute an unconstitutional taking. While each of the wetlands alternatives would encourage preservation, the alternatives vary greatly in their ease of administration and facilitation of sound management practices. Strengths and weaknesses of each alternative are discussed in the body of the report.

## Non-Uniform Provisions Governing Political Subdivisions

*Alternative #28:* Specify a uniform set of drainage powers for cities and villages and eliminate obsolete or unnecessary provisions relating to counties.

*Alternative Twenty-Eight* would simplify and make uniform the many statutory provisions that confer drainage related authority on cities of various classes and on counties. Uniformity and simplification should decrease the cost of ascertaining the controlling law.

## Administrative Jurisdiction Over Disputes

*Alternative #29:* Clarify the jurisdiction authority of the Department of Water Resources to hear disputes involving drainage of diffused surface water.

*Alternative Twenty-Nine* would address an ambiguity in existing law. Statutes ostensibly give the Department of Water Resources jurisdiction over all matters relating to drainage in the state. This alternative would clarify the Department's power to mediate disputes among private landowners.

## Public Drainage Projects

*Alternative #30:* Amend Nebraska statutes to provide a single statutory mechanism for organizing and operating public drainage projects in Nebraska.

*Alternative Thirty* would reduce and simplify the mechanism available for creating public drainage projects in the state by transferring all

outstanding special district authority to the Natural Resource Districts. Currently, at least eight separate statutory procedures can be used to create or operate public drainage projects, to no apparent purpose.

## **RELATIONSHIP TO OTHER STUDIES**

Water policy issues cannot be decided in a vacuum. One water policy issue can affect or be affected by other water policy issues. Significant relationships were found to exist between this study and the *Instream Flow Study*, the *Water Quality Study*, the *Groundwater Reservoir Management Study*, the *Water Use Efficiency Study*, the *Supplemental Water Supplies Study*, and the *Interbasin Transfer Study*. Much of the interrelationship is accounted for by the fact that water retained for use on the land where it occurs will be unavailable for use elsewhere.

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# CHAPTER 1

## THE NEBRASKA LAW OF DIFFUSED SURFACE WATER

### Definitions

With well over one hundred decisions issued in diffused surface water cases, the Nebraska Supreme Court has had ample opportunity to expand on the definitions of relevant terms. A recent diffused surface water case, *Sullivan v. Hoffman*,<sup>1</sup> repeats two definitions of **surface water** (diffused surface water):<sup>2</sup>

Surface waters comprehend waters from rains, springs, or melting snows which lie or flow on the surface of the earth but which do not form part of a watercourse or lake. . . . Surface waters cease to be such when they empty into and become part of a natural stream or lake, but they do not lose their character as such by reason of their flowing from the land on which they first make their appearance onto lower land in obedience to the law of gravity, or by flowing into a natural basin from which they normally disappear through evaporation or percolation, . . .<sup>3</sup>

Surface waters are waters which appear upon the surface of the ground in a diffused state, with no permanent source of supply or regular course, which ordinarily result from rainfall or melting snow.<sup>4</sup>

The central characteristic of diffused surface water is an existence apart from a watercourse or lake. Consequently, diffused surface water, with the possible exception of that arising from springs, lacks a permanent source of supply. In Nebraska, springs on the surface of the land produce flow which is classified as diffused surface water only as long as the water does not flow naturally in a well defined channel.<sup>5</sup>

Diffused surface water loses its character as diffused surface water once it reaches a watercourse or lake. Nebraska statutes define **watercourse** as "any depression or draw two feet below the surrounding lands and having a continuous outlet to a stream of water, or river or brook . . ." <sup>6</sup> In addition, the Nebraska Natural Resource Commission is empowered to expand the definition of watercourse in the process of carrying out its statutory duties.<sup>7</sup>

While no statutory definition of **lake** exists, the Nebraska Supreme Court has adopted a definition found in the RESTATEMENT OF TORTS.<sup>8</sup> RESTATEMENT OF TORTS § 842 defines lake as "a reasonably permanent body of water substantially at rest in a depression in the surface of the earth, and also the depression, both depression and body of water being of natural origin or part of a watercourse."<sup>9</sup>

Two categories of water must be distinguished from diffused surface water, flood water and irrigation waste water. **Flood water** is water that spills over the banks of a watercourse in times of high water and flows over adjacent lands in the flood plain, returning to the stream at a downstream point.<sup>10</sup> Flood water generally is governed by the law applicable to watercourses,<sup>11</sup> unless the flood water becomes permanently separated from the watercourse. Upon permanent separation from the watercourse, flood water generally is treated as diffused surface water<sup>12</sup> However, floodwater permanently separated from the originating watercourse does not become diffused surface water if it follows a natural depression to another lake or watercourse.<sup>13</sup> Floodwater which forms a continuous body of water with water flowing in the ordinary channel of a watercourse is known as **overflow water** and is subject to the rules of law governing watercourses.<sup>14</sup>

**Irrigation waste water** is irrigation water that does not percolate into the soil when it is applied to the land. Such water is not subject to the rules of law governing diffused surface water.<sup>15</sup> Instead, users of groundwater are under a statutory duty to control or prevent runoff of irrigation water<sup>16</sup> and owners of irrigation ditches or canals are under a duty to maintain them in a fashion that will prevent waste.<sup>17</sup>

Distinguishing between water that is classified as diffused surface water and other surface water that is subject to the rules of law governing watercourses is critical. Landowners are much more restricted in the actions they can take respecting streams than in the actions they can take respecting diffused surface water. Absent

vested riparian rights, for instance, landowners have no right to withdraw and use the waters of a stream unless they secure a prior appropriation permit. Similarly, landowners have no right to protect their land from the overflow of flowing streams if the effect is to injure another riparian owner by causing an increased volume of water to flow onto his land.<sup>18</sup> A landowner in Nebraska also is prohibited from diking against flood water within the flood plain of a running stream.<sup>19</sup> In contrast, as will be seen below, landowners can exercise many possessory property rights over diffused surface water and may take many steps to avoid the presence of unwanted diffused surface water on their land.

## Right to Use Diffused Surface Water

The Nebraska Supreme Court thoroughly reviewed the Nebraska law of diffused surface water in the case of *Nichol v. Yocum*.<sup>20</sup> In *Nichol*, the Supreme Court pointed out that the owner of land “is in the position of an owner of all surface waters which fall or arise on it, or flow upon it.”<sup>21</sup> Consequently, such water may be retained by the landowner for his own use and he can change its course by ditch or embankment as long as the water is retained on his own land.

Later in the same year the Court applied this rule in *Rogers v. Petsch*.<sup>22</sup> In *Rogers*, plaintiff had secured two appropriation permits to divert water from Nealy Springs, a spring that flowed out of a gully on the defendant’s land. Nealy Springs was fed by irrigation return flow and natural precipitation. Plaintiff subsequently entered onto defendant’s land and constructed a dam to collect runoff from the spring. This runoff was piped onto plaintiff’s land until defendant obstructed the flow. The trial court enjoined defendant’s interference with the flow of water onto plaintiff’s land. The Supreme Court reversed, however, after determining that the spring water was properly classified as diffused surface water and hence, was owned by the defendant and not subject to appropriation by the plaintiffs.

The right to capture and use diffused surface water on the land where it is found is apparently an absolute right in Nebraska. Consequently, any use of such water would likely be permitted, irrespective of whether the use was “beneficial” or “reasonable”. A landowner with malicious intent might even be permitted to capture diffused surface water and store it for the sole purpose of preventing its availability to another landowner. Furthermore, since the property right to diffused surface water depends on capture, it is unlikely that a downgrade landowner could ever establish a prescriptive right to receive

flows of diffused surface water from an upgrade landowner.<sup>23</sup>

Finally, the state actively encourages certain efforts by private landowners to control and use diffused surface water by offering financial assistance to landowners for water and land resource conservation measures. The Nebraska Water Conservation Act provides up to 75% cost sharing assistance for construction of permanent water impoundment structures with a drainage area of less than two thousand acres (less than 5,000 acres where 90% of the drainage area is grassland) or for construction of terraces and other structures for the temporary retention of water.<sup>24</sup>

## Right to Avoid Diffused Surface Water

Most of the litigation in Nebraska has involved the right to avoid diffused surface water. A rule of law apparently unique to Nebraska was announced in *Nichol v. Yocum*.<sup>25</sup> In *Nichol*, defendant erected an earthen embankment along the eastern boundary of his land where diffused surface water commonly flowed onto his land from the land of the plaintiff. The court concluded that the purpose of the embankment was to stem the flow of diffused surface water from the land of the plaintiff onto the land of the defendant for the benefit of the defendant. Plaintiff brought an action to compel defendant to remove the embankment. The District Court held for the defendant but the Supreme Court reversed on appeal, using the dispute as an opportunity to thoroughly review the Nebraska law of diffused surface waters.

Defendant in *Nichol* argued that diffused surface water in Nebraska is a common enemy<sup>26</sup> and hence, the owner of land may fight it “as he will without liability therefor.”<sup>27</sup> The Supreme Court conceded that language in several of its opinions supported such a conclusion, but proceeded to announce a new rule which they denominated the rule of the common law. The so-called common law rule apparently was based on the Court’s definition of surface waters as those which “appear upon the surface of the ground in a diffused state, with no permanent source of supply or regular course.”<sup>28</sup> For water that strictly comes within this definition, the common enemy rule applies. A landowner may defend himself against encroachment of such water by embankments, dikes, or other devices. Furthermore, a landowner will not be liable for injury caused by his actions provided his defensive measures do not negligently or unnecessarily injure another. However, once diffused surface water enters a watercourse it ceases to be diffused surface water and clearly is no longer

subject to being repelled as a common enemy.

The Court, however, apparently created two categories of diffused surface water. The definition adopted by the Court referred to water without a "permanent source of supply or regular course".<sup>29</sup> Some surface water, however, begins to flow in a "regular course" before it enters a watercourse or lake. This led the Court to discuss diffused surface waters that "gather in volume in velocity and flow into a natural depression, draw, gulch, or drainway" and that "partake of the nature of rivulets and small streams to which riparian rights do not attach."<sup>30</sup> Thus, the Court distinguished diffused surface water that flows in a purely diffused state from diffused surface water that flows in some regular course. Diffused surface water in the latter category, a so-called "little watercourse",<sup>31</sup> is subject to a special rule.

According to the Court in *Nichol*, the common law rule contemplates that lower lands are under a natural servitude to receive the surface water of higher lands to the extent that such water flows along accustomed and natural drainways. Thus, only diffused surface water flowing in a purely diffused state is subject to being repelled as a common enemy. Once diffused surface water enters a "little watercourse" the lower proprietor cannot obstruct the flow of water from the land above. This seems to be a variation of the civil law rule.<sup>32</sup>

The *Nichol* Court summarized the common law surface water avoidance rule as follows:

[D]iffused surface waters may be dammed, diverted, or otherwise repelled, if necessary, and in the absence of negligence. But when diffused surface waters are concentrated in volume and velocity and flow into a natural depression, draw, swale or other drainway, the rule as to diffused surface waters does not apply. The proper rule in such cases . . . is to the effect that . . . a natural drainway must be kept open to carry the water into the streams, and as against the rights of the upper proprietor, the lower proprietor cannot obstruct surface water when it has found its way to and is running in a natural drainage channel or depression. . . .

. . . Lower lands are, at common law, under a natural servitude to receive the surface water of higher lands flowing along natural depressions on the surface of the ground. This is so, whether or not a live watercourse occupies the natural course.<sup>33</sup>

The statement of the court is consistent with a modified common enemy rule and most commentators would probably so classify Nebraska law despite the protestation of the Court that "[w]e now hold that the common enemy doctrine

is not the law of the state, . . . ." <sup>34</sup>

Unfortunately, the language of the Court is very confusing. Lawyers familiar with the civil law rule and the common enemy rule are perplexed by a "common law" rule which reads like a modified common enemy rule and which incorporates civil law language. The lay public undoubtedly finds the unique rule of law equally confusing as evidenced by the large number of diffused surface water cases which continue to reach the Nebraska Supreme Court. Furthermore, the Court's distinction results in three categories of surface water: (1) surface water contained in a watercourse, which the court does not refer to as surface water; (2) surface water without a permanent source of supply or regular course, which the Court refers to as "surface water" or "diffused surface water"; and (3) diffused surface water flowing in a natural drainway that is not a watercourse, which the court refers to as "other surface water." Apparently, the Nebraska Supreme Court has recognized the labelling problem under the Nebraska rule. In *Paasch v. Brown*,<sup>35</sup> the Court stated: "Our law relating to diffused surface water has no clear, accurate label. . . . The reason is apparent in light of certain statutory and common law rules."<sup>36</sup>

Finally, confusion is enhanced by a suggestion in *Jorgenson v. Stephens*<sup>37</sup> that the common enemy rule is applied in purer form to avoidance of diffused surface water in urban areas. Although *Jorgenson*, discussed in the next section, concerned the right of an upper proprietor to rid his land of unwanted surface water, the court noted, but did not discuss, the right of the lower proprietor to protect her land.<sup>38</sup> Thus, a separate rule may govern conflicts in urban areas.

## Right to Drain Land of Unwanted Surface Water

Closely related to the right to avoid surface water, essentially a right of a lower proprietor, is the right to drain away excess surface water, a right of an upper proprietor. In large part, the *Nichol* Court's tripartite classification of surface waters was a recognition of the statutory and common law rights of upper proprietors to drain their land. Nebraska statutes provide the "[o]wners of land may drain the same in the general course of natural drainage by constructing an open ditch or tile drain, discharging the water therefrom into any natural watercourse or into any natural depression or draw, whereby such water may be carried into some natural watercourse; and when such drain or ditch is wholly on the owner's land, he shall not be liable in damages therefor to any person or corporation."<sup>39</sup>

Two other statutes establish a duty on landowners to keep natural drainways free of obstructions. Landowners or tenants are required to clear drainage courses of rubbish, weeds, or other obstructions, once a year between March 1 and April 15.<sup>40</sup> Landowners also are required to annually deepen drainways that have been plowed or planted over.<sup>41</sup>

In addition to the drainage statutes, the Nebraska common law rule announced in *Nichol v. Yocum* permits the discharge of surface water into natural drainways. The statute goes beyond the common law rule, however, in that it also permits the drainage of ponds or basins that have no natural drainage outlet, and which may not constitute diffused surface water. Special rules, however, govern the drainage of large lakes.<sup>42</sup>

The Nebraska lake drainage statute provides as follows:

No person shall drain, lower, or in any manner, reduce or divert the water supply of any natural or perennial lake, if the area exceeds twenty acres at low water stage or if the lake is of such depth, and character as to have more economic importance for fish culture, hunting, or other purpose than the bed of said lake would have for agricultural purposes. Any person intending to drain, lower, divert, or in any way reduce the waters or water supply of any natural or perennial lake shall, before commencing the construction of any such work for drainage or diversion, make application to the Department of Water Resources for a permit to do so.<sup>43</sup>

On its face the statute would seem to prohibit drainage of lakes that exceed twenty acres or that have greater economic value in their natural state than the lake bed would have as productive agricultural land. It would also seem to require a permit to drain other lakes. As this section has been interpreted, however, a permit is required only to drain lakes exceeding twenty acres apparently leaving landowners free to drain smaller lakes without approval.<sup>44</sup> In addition, there is no permit requirement if title to the shoreline of the lake to be drained and all land used for drainage construction is vested in the person doing the drainage or diversion.<sup>45</sup> Finally, no apparent statutory provision governs property rights in lake water since the Nebraska system of prior appropriation refers only to "natural streams."<sup>46</sup>

Even apart from the existence of a lake, however, the right of an upper proprietor to drain his land is not unlimited. One cannot collect diffused surface water in a large body and flow it onto the land of a lower proprietor to his injury.<sup>47</sup> On the other hand,

an owner of land has the right **in the interest of good husbandry** to drain ponds or basins thereon of a temporary character, and which have no natural outlet or course of flow, by discharging the waters thereof by means of an artificial channel into a natural surface water drain on his own property, . . . even though the flow in such natural drain is thereby increased over the lower estate, . . . provided that this is done in a reasonable and careful manner and without negligence.<sup>48</sup>

Thus, drainage cases apparently are resolved by comparing the equities prevailing in individual fact situations. An upper proprietor reasonably can increase the flow of water across the lands of a lower proprietor provided that the drainage is related to good husbandry and that the drainage system is constructed and operated without negligence. If alternative drainage systems are available of roughly equivalent efficiency and cost, an upper proprietor likely will be required to select the system that minimizes harm to lower proprietors.

A similar rule of reasonableness apparently governs other modifications of natural flow by an upper proprietor. As long as a drain is related to good husbandry and is constructed and operated without negligence, accelerated or additional flow is a burden which the lower proprietor must accept.<sup>49</sup> While language in some opinions indicates that water cannot be diverted so that it flows in a different direction,<sup>50</sup> this requirement is also subject to a rule of reasonableness. While water cannot be discharged in a manner directly contrary to natural drainage patterns, water discharged in accord with the general course of drainage satisfies the rule, even if water would never flow naturally in precisely the direction established by the drainage system.<sup>51</sup>

Moreover, it is well established in Nebraska law that no liability for interference with the flow of diffused surface water will be found unless a complaining party suffers actual injury.<sup>52</sup> Despite the general proposition that irrigation waste water is not subject to the rules of law governing diffused surface water, this rule implies that discharge of excess irrigation water into a drainway also is not actionable at common law absent a demonstration that such water actually injures a lower landowner.<sup>53</sup>

Nebraska employs a somewhat different rule in cases involving urban runoff. In *Jorgenson V Stephens*,<sup>54</sup> plaintiff brought an action for damages and an injunction against defendant who allegedly increased the flow of surface water onto her residential property by developing his property with apartment buildings. The Nebraska Supreme Court affirmed a district court order

denying plaintiff any relief. In its opinion, the Court stressed that forcing defendant to provide an unnatural and artificial outlet for diffused surface water would "be a stumbling block in the path of progress and the development of urban real estate.... In other words urban development, except on level areas, would be arrested by the burden of overcoming the operation of the law of gravity."<sup>55</sup> Thus, while in rural areas diffused surface water can be deflected only through natural drainways, in urban areas diffused surface water is treated as a common enemy. Urban landowners are free to deflect or protect against the deflection of surface water if they do so without negligence. Even in urban areas, however, landowners likely would not be free to completely alter the natural direction of diffused surface water flow. The standard of conduct to be applied where urban lands drain onto rural lands has not yet been resolve.

Of course, drainage rights in rural or urban areas can be established by private agreement among landowners, usually through the purchase of an easement. Significantly, drainage easements also can be created by prescription.<sup>56</sup> Such easements can be particularly important where an artificial drainage system is constructed materially at odds with the general course of drainage or where an abnormally large amount of water is routinely discharged.

## **Drainage by Public Authority**

In addition to rules governing the conduct of individual landowners in draining or repelling unwanted diffused surface water, Nebraska statutes contain a confusingly large number of provisions that operate as enabling legislation for the creation of a wide variety of public drainage projects. Much of the currently operative public drainage authority is centered in County Boards which sit as drainage supervisors for their respective counties.<sup>57</sup> Counties are given the power to cause all natural watercourses to be kept free and clear of obstructions.<sup>58</sup> Any five landowners owning land abutting a natural watercourse can petition the County Board to have the watercourse cleared out with the costs assessed proportionally to the land benefitted.<sup>59</sup> Landowners located within the confines of a metropolitan city, or within three miles thereof, can petition the city council for similar drainage relief.<sup>60</sup>

Chapter 31 of the Nebraska statutes contains three articles expressly giving county boards public drainage authority. Article One,<sup>61</sup> which gives county boards the authority to undertake drainage improvements on the petition of affected landowners, is currently of limited im-

portance. No new drainage ditches or other improvements pursuant to this article can be instituted after June 30, 1972, the effective date of the creation of natural resource districts.<sup>62</sup> However, projects in existence on June 30, 1972 were not affected by the prohibition.<sup>63</sup>

The other two relevant articles were not affected by the creation of natural resource districts. Article Two<sup>64</sup> provides that individual landowners can petition the county board for construction of drainage facilities. The petition must be accompanied by a bond sufficient to cover surveying and engineering expenses incurred in evaluating the proposed project. The bond is forfeited if the drainage facility is not found to be necessary for the public welfare, or for agricultural or sanitary purposes.<sup>65</sup> The county board is responsible for surveying the project, notifying affected parties and conducting hearings, and constructing the project if it is finally approved. The costs of construction are assessed to the lands benefited with the assessment made by three disinterested freeholders who are county residents and who are appointed by the county board as appraisers.<sup>66</sup> The lay appraisers are paid three dollars a day plus expenses.<sup>67</sup>

The third article authorizing county drainage projects is Article Nine, the County Drainage Act of 1959.<sup>68</sup> The County Drainage Act of 1959 gives counties authority to assist in the control and maintenance of drainage in any area located within the confines of the county and not included within a drainage district organized in district court,<sup>69</sup> a drainage district organized by vote of affected landowners,<sup>70</sup> or within the boundaries of sanitary drainage districts.<sup>71</sup> Similar to Article Two discussed above, Article Nine provides a procedure for individual landowners to petition the county board for construction of drainage projects with the costs assessed to the lands benefited. Unlike the Article Two provision, however, the assessment need not be made by a team of lay appraisers and the petitioner need not post a bond. While the county has no general authority to make improvements within the boundaries of existing drainage districts, the county may acquire such authority by contracting with the districts.<sup>72</sup> Finally, Article Nine contains a definition of watercourse which incorporates the concept of "little watercourse" discussed earlier.<sup>73</sup> Watercourse is defined as "any stream, creek, draw or natural depression through which normal drainage or storm water is accustomed to flow."

The creation of special purpose drainage districts is authorized by statute although no new such districts can be created after June 30, 1972.<sup>74</sup> Although such districts seemingly would

be of little current interest they retain all of the authority they possessed prior to 1972. Consequently, in the case of a drainage district organized by district court,<sup>75</sup> individual landowners located within the district can still petition for the creation of subdistricts that will undertake drainage improvements on the landowners' land.<sup>76</sup> Similarly, where a drainage district was organized by a vote of the landowners,<sup>77</sup> a procedure exists for the district to enlarge its boundaries.<sup>78</sup> Thus, both types of special purpose drainage district have authority to expand current operations.

Additional drainage responsibility is given to sanitary drainage districts<sup>79</sup> and to sanitary improvement districts.<sup>80</sup> Sanitary drainage districts however are given specific statutory authority to contract with the local natural resource district to assume the responsibilities of the sanitary district.<sup>81</sup> County jurisdiction over drainage is superseded to the extent that sanitary drainage districts or sanitary improvement districts have jurisdiction over the area in question.<sup>82</sup>

The large number of separate statutory provisions authorizing public drainage projects is indicative of the historic importance of drainage to the state. An interesting statement of past legislative policy with respect to drainage is found in statutes authorizing the organization of drainage districts by petition in a district court. "The fact that the district contains one hundred and sixty acres or more of wet, overflowed, or submerged lands shall be sufficient cause for declaring the public utility of such improvements, and shall be sufficient grounds for declaring the organization of a public corporation of this state."<sup>83</sup>

Since their creation, natural resource districts apparently have had primary responsibility for the instigation of new drainage projects in the state. In setting forth its declaration of intent, the legislature provided that "other special purpose districts, including . . . drainage districts . . . are hereby encouraged to cooperate with and, where appropriate, to merge with natural resources districts created by this act."<sup>84</sup> The purposes of natural resource districts include the development and execution of "plans, facilities, works and programs relating to (1) erosion prevention and control, (2) prevention of damages from flood water and sediment, (3) flood prevention and control, . . . [and] (9) drainage improvement and channel rectification, . . ."<sup>85</sup> Natural resource districts are authorized to:

- (1) build or construct, operate and maintain, any reservoir, dike or levee to prevent overflow of water,
- (2) drain any cropland subject to overflow by water, or drain wet land when desirable to

make reasonable use of such land whether such condition is caused by surface water or ground water, or drain any land which will be improved by drainage,

- (3) locate and construct, straighten, widen, deepen, or alter and maintain any ditch, drain, stream, or watercourse,
- (4) riprap or otherwise protect the bank of any stream or ditch, and
- (5) construct, enlarge, extend, improve, or maintain any stream of drainage or system of control of surface water.<sup>86</sup>

Projects authorized by the enabling legislation can be carried out by designating improvement project areas, either on the motion of the local natural resources district board or by a petition of landowners. Costs of the project are allocated to individual landowners on the basis of benefits they receive from the project.<sup>87</sup> Although it may have been the intent of the legislature creating natural resources districts to have natural resource districts supersede the power of other public drainage districts, thus far only one drainage district, the Perry Drainage District in Red Willow County, has been merged into a natural resources district.

## Miscellaneous Statutory Provisions

A wide variety of statutes impinge in some manner on drainage policy. All cities and villages have statutory authority to provide storm and sanitary sewer systems.<sup>88</sup> In addition, all urban units have the power to require that lots be drained and if owners do not comply, the power to cause the lots to be drained with the cost assessed as a tax against the lot.<sup>89</sup> However only second class cities and villages are specifically authorized to dike to protect against surface waters.<sup>90</sup> Another unique rule provides that no city of the first class shall be liable for the accumulation of surface waters.<sup>91</sup> Although no other class of city benefits from a similar exculpatory rule, no urban units are specifically made responsible for increased runoff which occurs consequent to urban development.

Other miscellaneous statutory provisions give county boards the authority to improve drainage on the public roads of the county including the right to make channel changes, control erosion, and provide stream protection beyond the road right of way limits.<sup>92</sup> Landowners, however, have the right to sue the county for damages caused by the accumulation of water behind a bridge, culvert, or highway installed by the county.<sup>93</sup> Thus, the county cannot hinder the flow of surface water by its highway construction. Finally,

county boards are required to consider surface water drainage in establishing rural zones.<sup>94</sup>

Health considerations can play an important role in certain situations. Still water with protruding vegetation provides an ideal breeding place for mosquitoes, and thus can contribute to disease, including encephalitis. In recognition of these problems, counties and primary class cities have been given the authority to declare and abate as nuisances all stagnant pools of water and other breeding places.<sup>95</sup> Authority also exists for the creation of mosquito abatement districts with very similar responsibilities.<sup>96</sup>

The Nebraska Resources Development Fund, administered by the Natural Resources Commission, is a potential source of funds for drainage projects. The Fund was established to provide financial assistance to state agencies and political subdivisions that have the authority to develop, preserve, and maintain, the state's water and land related resources.<sup>97</sup>

Not all policies in Nebraska are designed to facilitate drainage of diffused surface water. Certain wetlands may be particularly valuable as

wildlife habitat. Statutes authorize the sale of wildlife habitat stamps.<sup>98</sup> Proceeds from these sales are used by the Nebraska Game and Parks Commission to acquire property interests in wildlife habitat areas on a willing buyer-willing seller basis.<sup>99</sup> Such funds have been used to acquire wetlands in the past.

A final miscellaneous statutory provision gives the Department of Water Resources jurisdiction over all matters relating to drainage in the state.<sup>100</sup> The apparent scope of this jurisdictional grant is exceedingly large, perhaps even extending to disputes among private landowners. Although the Department of Water Resources has specific statutory duties to perform in conjunction with certain drainage districts and in conjunction with the drainage of natural lakes, the possibility that its jurisdictional grant extends literally to "all matters pertaining to . . . drainage, except as such jurisdiction is specifically limited by statute,"<sup>101</sup> creates a potential for a significant increase in the Department's adjudicatory function.

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## FOOTNOTES

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1. 207 Neb. 166, 296 N.W.2d 707 (1980).
2. Nebraska cases often refer to "diffused surface water" as "surface water," a reference which adds to the confusion that plagues this area of the law. **See also** Hutchins, **Selected Problems in Western Water Law**, Dept. Agric. Misc. Pub. No. 418, p. 3 (1942).
3. **Id.** at 170, 296 N.W.2d at 710.
4. **Id.** at 172, 296 N.W.2d at 711.
5. **See** *Rogers v. Petsch*, 174 Neb. 313, 174 N.W.2d 771 (1962).
6. NEB. REV. STAT. § 31-202 (Reissue 1978).
7. **Id.** § 2-1503 (10) (Reissue 1977). **See also id.** §§ 2-1506.02 (17) and § 2-1572 (7) (Reissue 1977).
8. **See** *Block v. Franzen*, 163 Neb. 270, 79 N.W.2d 446 (1956).
9. RESTATEMENT OF TORTS § 842 (1939).
10. **See generally** *Wiese v. Klassen*, 177 Neb. 496, 129 N.W.2d 527 (1964).
11. **See, e.g.,** *Bahm v. Raikes*, 160 Neb. 503, 70 N.W.2d 507 (1955).
12. **See** *Bringer v. Copass*, 77 Neb. 241, 109 N.W. 173 (1906).
13. **See** *Murphy v. Chicago B. & Q. R. R.*, 101 Neb. 73, 161 N.W. 1048 (1917).
14. **See generally** *Hengelfelt v. Ehrmann*, 141 Neb. 322, 3 N.W.2d 576 (1942).
15. **See** *Peters v. Langrehr*, 188 Neb. 480, 197 N.W.2d 698 (1972).

16. **See** NEB REV STAT. § 46-664 (Reissue 1978).
17. **Id.** § 46-265 (Reissue 1978).
18. **See generally** *Hofeldt v. Elkhorn Valley Drainage Dist.*, 115 Neb. 539, 213 N.W. 832 (1927).
19. **See** *Bahm v. Raikes*, 200 Neb. 195, 263 N.W.2d 437 (1978).
20. 173 Neb. 298, 113 N.W.2d 195 (1962).
21. **Id.** at 307, 113 N.W.2d at 201.
22. 174 Neb. 313, 117 N.W.2d 771 (1962).
23. **Cf.** *Rogers v. Petsch*, 174 Neb. 313, 117 N.W. 2d 771 (1962).
24. **See** NEB REV. STAT. § 2-1575 **et seq.** (Reissue 1977 & 1980 Cum. Supp.).
25. 173 Neb. 298, 113 N.W.2d 195 (1962).
26. The common enemy rule was developed in a series of Massachusetts cases beginning in 1851. **See** 5 WATERS AND WATER RIGHTS § 451.1 (R. Clark ed. 1972). Under the common enemy rule landowners are free to interfere with the flow of diffused surface water by capturing, diverting, or repelling such flow. No cause of action arises from the interference, even if other landowners are injured. **See also** Alternative 1-7 and accompanying discussion, **infra** at Chapter 4.
27. **Id.** at 303, 113 N.W.2d at 198.
28. **Id.**
29. **Id.** (emphasis added).
30. **Id.**

31. **See** Comment, **Diffused Surface Water Law in Nebraska**, 41 NEB. L. REV. 765 (1962).
32. The origin of the civil law rule is frequently attributed to an 1812 Louisiana case, although not everyone agrees that the rule was ever a part of the civil law. **See** 5 WATER AND WATER RIGHTS § 452.1 (A. Clark ed. 1972). The civil law, or natural flow, rule places lower lands under a servitude to receive the natural flow of upper lands. The lower owner cannot obstruct such flow to the detriment of the upper owner. **See also** Alternative 1-8 and accompanying discussion, **infra** at Chapter 4.
33. 173 Neb. at 306-07, 113 N.W.2d at 200.
34. **Id.** at 306, 113 N.W.2d at 200.
35. 190 Neb. 421, 208 N.W.2d 695 (1973).
36. **Id.** at 423, 208 N.W.2d at 697.
37. 143 Neb. 528, 10 N.W.2d 337 (1943).
38. **Id.** at 532-33, 10 N.W.2d at 339.
39. NEB. REV. STAT. § 31-201 (Reissue 1978).
40. **Id.** § 31-224.
41. **Id.** § 31-225.
42. **See** NEB. REV. STAT. § 46-801 **et seq.** (Reissue 1978).
43. **Id.** § 46-801.
44. **See** *Lackaff v. Bogue*, 158 Neb. 174, 62 N.W.2d 889 (1954).
45. **See** NEB. REV. STAT. § 46-806 (Reissue 1978).
46. **See id.** § 46-204. **But see id.** § 46-240 (authorizing a supplemental appropriation of water from natural lakes).
47. **See** *Hengelfeldt v. Ehrmann*, 141 Neb. 322, 2 N.W.2d 576 (1942).
48. *Nickman v. Kirschner*, 202 Neb. 78, 82, 273 N.W.2d 675, 678 (1979) (**emphasis added**).
49. **Id.** at 84-85, 273 N.W.2d at 679-80.
50. **See, e.g.,** *Hengelfeldt v. Ehrmann*, 141 Neb. 322, 327, 3 N.W.2d 576, 579 (1942).
51. **See** *Nickman v. Kirschner*, 202 Neb. 78, 273 N.W.2d 675 (1979).
52. **See, e.g.,** *Clare v. County of Lancaster*, 160 Neb. 622, 71 N.W.2d 190 (1955).
53. **See** *Peters v. Langrehr*, 188 Neb. 480, 197 N.W.2d 698 (1972).
54. 143 Neb. 528, 10 N.W.2d 337 (1943).
55. **Id.** at 535, 10 N.W.2d at 340.
56. **See** *Nickman v. Kirschner*, 202 Neb. 78, 273 N.W.2d 675 (1979).
57. **See** NEB. REV. STAT. § 31-203 (Reissue 1978).
58. **Id.** § 31-202.01.
59. **See id.** §§ 31-202.02 to 202.03.
60. **Id.** § 31-229.
61. **Id.** §§ 31-101 **et seq.**
62. **Id.** § 31-101.01.
63. **Id.**
64. **Id.** § 31-204 **et seq.**
65. **Id.** § 31-204.
66. **Id.** § 31-208, 211.
67. **Id.** § 31-219.
68. **Id.** §§ 31-901 **et seq.**
69. **See id.** §§ 31-301 **et seq.**
70. **See id.** §§ 31-401 **et seq.**
71. **See id.** §§ 31-501 **et seq.** & 31-701 **et seq.**
72. **Id.** § 31-927.
73. **Id.** § 31-902(4).
74. **Id.** §§ 31-301.01 & 31-401.01.
75. **Id.** §§ 31-301 **et seq.**
76. **See id.** § 31-359.
77. **See id.** §§ 31-401 **et seq.**
78. **See id.** § 31-438.
79. **See id.** §§ 31-501 **et seq.**
80. **See id.** §§ 31-701 **et seq.**
81. **Id.** §§ 31-551 to 53.
82. **Id.** § 31-927.
83. **Id.** § 31-304.
84. **Id.** § 3-3201 (Reissue 1977).
85. **Id.** § 2-3229 (Cum. Supp. 1980).
86. **Id.** § 2-3242 (Reissue 1977).
87. **See generally id.** §§ 2-3252 to 3255.
88. **See generally id.** §§ 18-501 **et seq.** **See also** NEB. REV. STAT. §§ 14-360 **et seq.** (cities of the metropolitan class); 15-717 **et seq.** (cities of the primary class); 16-667 **et seq.** (cities of the first class); 17-149 **et seq.** (cities of the second class); 17-913 **et seq.** (cities of the second class and villages).
89. **See generally id.** §§ 14-105 (cities of the metropolitan class); 15-211 (cities of the primary class); 16-230 (cities of the first class); 17-563 (cities of the second class and villages).
90. **See id.** § 17-529.
91. **See id.** § 16-221.
92. **See id.** § 39-1802 (Reissue 1978).
93. **See id.** § 39-809.
94. **See id.** § 23-114 (Reissue 1977).
95. NEB. REV. STAT. §§ 71-2917, 71-2918 (Reissue 1976).
96. NEB. REV. STAT. §§ 71-2901 to 71-2916.
97. **See generally id.** §§ 2-3263 **et seq.**
98. **See id.** §§ 37-216.01 **et seq.** (Reissue 1978).
99. **Id.** § 37-216.08.
100. **See id.** § 46-209.
101. **Id.**
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## CHAPTER 2

# FEDERAL LAW THAT IMPACTS ON THE LAW OF DIFFUSED SURFACE WATER

### Nature of the Federal Impact

While the law of drainage and diffused surface water is largely of local origin and concern, certain federal programs have a significant impact both on the development of local law and on its permissible scope. Specifically, the federal government has a demonstrated interest in wetland preservation, protecting water quality, and promoting soil and water conservation. Much of the federal impact on the law of diffused surface water is in the form of financial incentives to landowners to adopt recommended soil and water conservation practices or to preserve wetlands that provide critical wildlife habitat. In addition to financial incentives, the federal government has the power to directly regulate with respect to wetland destruction and with respect to non-point sources of water pollution. The following sections will briefly summarize four federal programs or powers that impact most significantly on the law of drainage and diffused surface water. They include Sections 208 and 404 of the Federal Water Pollution Control Act, the Federal Water Banking Act, and the various federal soil and water conservation programs administered through the Department of Agriculture.

### Section 208-Control of Non-point Source Pollution

In 1972, Congress passed the Federal Water Pollution Control Act,<sup>1</sup> an Act subsequently amended by the Clean Water Act of 1977.<sup>2</sup> The Act, as amended, requires a nationwide program of water pollution control and abatement. The Act recognizes two major sources of water pollution, point sources and non-point sources. Control of non-point sources of water pollution such as agricultural runoff and urban storm water has a potential for significant impact on the law of diffused surface water.

The Act defines point sources of pollution to include "any discernable, confined and discrete

conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, or vessel or other floating craft, from which pollutants are or may be discharged."<sup>3</sup> The Act does not define non-point sources of pollution, although irrigation return flows are considered to be non-point sources.<sup>4</sup> Generally, however, non-point sources include all sources not included in the definition of point sources. Consequently, agricultural non-point source pollution includes "organic and inorganic materials entering surface and groundwater from nonspecific or unidentified sources in sufficient quantity to constitute a pollution problem. They include sediment, plant nutrients, pesticides, and animal wastes from cropland, rangeland, pastures, and farm woodlots."<sup>5</sup> Thus, most agricultural non-point source pollution entering the nation's streams is in the form of soil erosion borne by diffused surface water runoff.<sup>6</sup>

Section 208 of the Federal Water Pollution Control Act<sup>7</sup> requires states to prepare area wide waste management plans which provide for control of non-point sources of pollution. Such plans must include a process to identify agricultural nonpoint sources of pollution and procedures and methods, including land use restrictions, to control such sources to the extent feasible.<sup>8</sup> The plans developed must include a description of regulatory and non-regulatory activities and best management practices selected to meet nonpoint source control needs.<sup>9</sup> Best management practices are methods, measures, or practices to prevent or reduce water pollution and include both structural and nonstructural controls as well as operation and maintenance procedures.<sup>10</sup> Regulatory programs apparently are favored over nonregulatory programs.<sup>11</sup> Finally, the Federal Water Pollution Control Act provides that cost-sharing funds shall be paid to landowners "for the purpose of installing and maintaining measures incorporating best management practices to control nonpoint source pollution for



plains states including that portion of Nebraska west of Highway 81.<sup>24</sup> Contracting producers are eligible for up to eighty percent cost sharing assistance for a variety of conservation practices including reestablishing grasslands; establishing permanent waterways, terraces, and diversion or retention structures; and developing shallow water areas for wildlife.<sup>25</sup>

SCS programs create many financial incentives to control agricultural runoff. Federal policy thus favors capture and use of diffused surface water, with a growing federal recognition of the value of using such captured water for fish and wildlife, recreational and aesthetic purposes.

### **Programs Administered by the Agricultural Stabilization and Conservation Service**

Two programs administered by the Agricultural Stabilization and Conservation Service (ASCS) impact directly on the drainage of diffused surface water. The Agricultural Conservation Program has been a major source of federal cost-sharing funds for production oriented conservation efforts. The Water Banking Program is a potential source of funds for voluntary preservation of wetlands.

The Agricultural Conservation Program<sup>26</sup> administered by ASCS began as an effort to control production and raise farm prices.<sup>27</sup> Today, however, its major emphasis is on conservation with cost-sharing funds available for a wide variety of soil and water conservation practices. Individual counties determine which practices are locally approved for cost-sharing.<sup>28</sup> Approved practices can be implemented to meet a variety of needs including improving or establishing cover, conserving or safely disposing of water, benefitting wildlife, protecting against soil erosion and flood damage, and preventing agricultural pollution of water.<sup>29</sup>

The Water Bank Program, also administered by ASCS, authorizes the Secretary of Agriculture to enter into ten year agreements with private landowners in important migratory waterfowl nesting and breeding areas for the preservation of wetlands.<sup>30</sup> The contract rate can be adjusted every five years to reflect changes in land and crop values.<sup>31</sup> Under the Water Bank Program farmers receive an annual payment for retaining ownership of the lands affected. To date, most of the monies spent in the program have gone to the prairie potholes region of Minnesota, North Dakota, and South Dakota. Among the benefits of wetland preservation cited in the regulations are "to conserve surface waters, to preserve and improve habitat for migratory waterfowl and

other wildlife resources, to reduce runoff, soil and wind erosion, and contribute to flood control, to contribute to improve water quality and reduce stream sedimentation, . . . , to enhance the natural beauty of the landscape, and to promote comprehensive and total water management planning."<sup>32</sup> Thus, the Water Bank Program encourages the capture and retention of diffused surface water in designated wetlands rather than draining such areas to bring new land into production.

### **Wetland Preservation - Section 404 of the Federal Water Pollution Control Act**

A final example of federal law having a direct impact on the law of drainage and diffused surface water is the "dredge and fill" provision of the Federal Water Pollution Control Act set out in Section 404.<sup>33</sup> Section 404 requires the Department of the Army, through the Corps of Engineers to issue permits, after notice and an opportunity for public hearing, before any dredged or fill material can be discharged into the waters of the United States. Dredged material includes any material excavated or dredged from waters of the United States.<sup>34</sup> Fill materials are defined as "any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a waterbody."<sup>35</sup>

The tremendous scope of the regulatory power of the Corps of Engineers is derived from the definition of "waters of the United States." The statutory language of Section 404 refers to "navigable waters" which are defined in Section 502 (7) of the Act as "waters of the United States including the territorial seas."<sup>36</sup> Traditionally, the Corp's jurisdiction over navigable waters extended only to waters used for interstate or foreign commerce,<sup>37</sup> waters used in the past to transport interstate or foreign commerce,<sup>38</sup> all waters capable of being used in their ordinary condition or by reasonable improvements to transport interstate or foreign commerce,<sup>39</sup> and all waters subject to the ebb and flow of the tides.<sup>40</sup> Initial regulations issued by the Corps concerning Section 404 adopted this traditional definition of navigable waters.

Subsequently, the Natural Resources Defense Council and the National Wildlife Federation challenged the Corp's limitation on jurisdiction as inconsistent with the intent of Congress to regulate "all waters of the United States" as expressed in the Federal Water Pollution Control Act's definition of navigable waters. In *Natural Resources Defense Council, Inc. v. Callaway*,<sup>41</sup>

the Corp's restrictive definition of navigability was invalidated. Ultimately, the Corps adopted a new definition of "navigability" that is co-extensive with the constitutional reach of the "commerce clause".<sup>42</sup> The regulations identify five categories of waters: (1) territorial seas; (2) coastal and inland waters, lakes, rivers and streams that are navigable waters of the United States, including adjacent wetlands; (3) tributaries to navigable waters, including adjacent wetlands; (4) interstate waters and their tributaries, including adjacent wetlands; and (5) all other waters of the United States such as isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters not part of a tributary system to navigable or interstate waters.<sup>43</sup>

Section 404 specifically exempts certain agricultural practices from the reach of the dredge and fill permit requirements including normal farming and ranching activities such as plowing, seeding, cultivating, minor drainage, harvesting, or soil and water conservation practices; maintaining or making emergency reconstruction of dikes, dams, and levees; and constructing or maintaining farm or stock ponds or irrigation ditches, or the maintenance of drainage ditches.<sup>44</sup> Significantly, only minor drainage and the maintenance of existing drainage ditches are exempt from the permit requirement. Otherwise, virtually any discharge into a wetland area requires a permit.

The regulations, however, permit the discharge of dredge and fill materials into certain waters of the United States pursuant to a national permit subject to a number of specified management practices.<sup>45</sup> Discharge into certain categories of waters is permitted provided that the discharge will not destroy a threatened or endangered species or endanger the critical habitat of such species; that the discharge is free of toxic pollutants; that the fill created by the discharge will be properly maintained to prevent erosion and other non-point sources of pollution; and that the discharge will not occur in a component of the National Wild and Scenic River System or in a component of a State wild and scenic river system.<sup>46</sup> Discharge into the following categories of water is permitted under the national permit: 1) Non-tidal rivers, streams and their impoundments including adjacent wetlands that are located above the headwaters; 2) Natural lakes, including wetlands, that are less than ten acres in surface area and that are fed or drained by a river or stream above the headwaters; 3) Natural lakes, including adjacent wetlands, that are less than ten acres in surface area and that are isolated and not a part of a surface river or stream; 4) other nontidal waters of the United

States, except for isolated lakes larger than ten acres, that are not part of a surface tributary system to interstate or navigable waters of the United States.<sup>47</sup> The "headwaters" of a stream is defined as the water above a point on a nontidal stream where the average annual flow is less than five cubic feet per second.<sup>48</sup>

Thus, the constitutional authority to regulate dredge and fill activities in waters of the United States is exceedingly broad, reaching to most of the nation's wetlands. While the Corps has exempted many wetland areas of limited size from regulation through a national permit, many other areas are currently within the permit requirement. An application for permit can be denied whenever it is determined that the discharge will have an adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas.<sup>49</sup> Consequently, the permit requirement could have a substantial effect on the operation of state drainage laws which generally have favored the conversion of wetlands into productive agricultural land. Finally, it should be noted that provisions exist enabling a state to administer its own individual and general permit program under Section 404.<sup>50</sup>

## FOOTNOTES

1. Pub. L. No. 92-500, 86 Stat. 816, 33 U.S.C. §§ 1251-1376 (1976).
2. Pub. L. No. 95-217, 91 Stat. 1566, 33 U.S.C. §§ 1251-1376 (Supp. 1977).
3. 33 U.S.C. § 1362 (14) (1976).
4. 33 U.S.C. § 1288 (b) (2) (F) (1976).
5. U.S. Environmental Protection Agency, **Methods and Practices for Controlling Water Pollution from Agricultural Non-point Sources** 82 (1973).
6. **See** 2 AGRICULTURAL LAW § 8.25 (J. Davidson ed. 1981).
7. 33 U.S.C. § 1288 (1976).
8. **Id.** § 1288 (b) (2) (F).
9. **See** 40 C.F.R. § 35.1521-4(c) (1980).
10. **Id.** § 35.1521-4(c) (1).
11. **Id.** § 35.1521-4(c) (2).
12. 33 U.S.C. § 1288(j) (1) (Supp. I 1977).
13. **Id.**
14. **See generally** Williams, **Soil Conservation and Water Pollution Control: The Muddy Record of the United States Department of Agriculture**, 7 B.C. ENVTL AFF. L. REV. 365 (1979).
15. **See generally** 16 U.S.C. §§ 590a-590q (1976 and Supp. III 1979).
16. **See** 7 C.F.R. §§ 610.1-610.5 (1980).
17. **See** Williams, *supra*.note 14, at 381.

18. **See** 16 U.S.C. §§ 1001-1009 (1976 and Supp. III 1979).
  19. 7 C.F.R. § 622.2(a) (1980).
  20. **See** 16 U.S.C. § 1004(5) (1976).
  21. **See** 7 C.F.R. § 622.15(c) (1980).
  22. **See** 7 U.S.C. §§ 1010-1011 (1976 and Supp. III 1979).
  23. **See** 16 U.S.C. § 590(p) (1976).
  24. **See** 7 C.F.R. § 631.2 (1980).
  25. **Id.** § 631.11.
  26. **See** 16 U.S.C. §§ 590g (a) (1976); 1501-1510 (1976 and Supp. III 1979).
  27. **See generally** Williams, **Soil Conservation and Water Pollution Control: The Muddy Record of the United States Department of Agriculture**, 7 B.C. ENV'TL. AFF. L. REV. 365, 396-404 (1979).
  28. **See** 7 C.F.R. § 701.15 (1980).
  29. **See id.** § 701.9 (1980).
  30. **See generally** 16 U.S.C. §§ 1301-1311 (1976 and Supp. III 1979).
  31. **Id.** § 1302 (Supp. III 1979).
  32. 7 C.F.R. § 752.1(b) (1980).
  33. **See** 33 U.S.C. § 1344 (1976 and Supp. III 1979).
  34. **See** 33 C.F.R. § 323.2(k) (1980).
  35. **Id.** § 323.2(m).
  36. **See** 33 U.S.C. § 1362(7) (1976).
  37. **See** *Daniel Ball v. United States*, 77 U.S. 557 (1871).
  38. **See** *Economy Light and Power Company v. United States*, 256 U.S. 113 (1921).
  39. **See**, *United States v. Appalachian Electric Power Co.*, 311 U.S. 377 (1940).
  40. **See** *United States v. Moretti*, 478 F.2d 418 (5th Cir. 1975).
  41. 392 F. Supp. 685 (D.D.C. 1975).
  42. **See** 33 C.F.R. § 323.2(a) (1980). **See also** *United States v. Holland*, 373 F. Supp. 665 (M.D. Fla. 1974).
  43. **See** 33 C.F.R. § 323.2(a) (1)-(5) (1980).
  44. **See** Federal Water Pollution Control Act § 404(f) (1)(A)-(C), 33 U.S.C. 1344(f)(1)(A)-(C) (1976 and Supp. III 1979).
  45. **See** 33 C.F.R. § 323.4 (1980) (requiring among other practices, that discharges are permitted only if there are no other practical alternatives, discharges in spawning areas during spawning season are avoided, and discharges in wetlands areas should be avoided).
  46. **See id.** § 323.4-2(b).
  47. **See id.** § 323.4-2(a).
  48. **See id.** § 323.2(i).
  49. **See** Federal Water Pollution Control Act § 404(c), 33 U.S.C. § 1344(c) (1976 and Supp. III 1979).
  50. **See id.** § 404(g)-(i), 33 U.S.C. § 1344(g)-(i) (1976 and Supp. III 1979).
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# CHAPTER 3

## CRITICAL ANALYSIS OF EXISTING LAW

### Introduction

A critical analysis of existing law involves a multi-step inquiry. **First**, the law of diffused surface water must be examined to determine its practical effect. Is there a general bias in existing law in terms of groups or activities benefitted or hindered? Is the law flexible enough to respond to changing social and economic conditions? Can the law be understood by lawyers and lay people alike? Does the law operate efficiently? **Second**, needs and problems not addressed by existing law must be identified. Are there significant gaps in the law? Are there problems which need to be addressed that are currently ignored? **Third**, the law must be examined to determine whether significant opportunities are forgone because of present policies. The end goal of the analysis is to isolate those issues that merit closer inspection as proper subjects for the development of policy alternatives.

While the practical effects of existing law often can be readily evaluated, the desirability of these effects is more difficult to evaluate. This, in turn, complicates the process of identifying needs and problems not addressed and opportunities foregone. On some matters, such as on the desirability of reducing the number of existing mechanisms for the exercise of public drainage authority, there may be widespread agreement. On others, such as wetland preservation, there may be widespread disagreement. The purpose of this chapter is to identify all of those areas within the general topic which merit a closer evaluation in terms of current and future water policy. This includes those issues for which needs and problems not addressed and opportunities foregone are readily identifiable as well as those issues which have potential for generating conflict among the various sectors of the public.

### Practical Effect of Existing Law

Although there are many conflicting incentives and constraints contained in the existing

Nebraska law of drainage and diffused surface water, two dominant legislative and judicial policy positions are apparent. First, existing law favors the drainage of wetlands and the consequent development of productive agricultural land. Nebraska statutes give landowners an absolute right to drain their land as long as the water is drained into a natural depression and insofar as the drain is wholly on the owner's land. Similarly, at common law, lower estates are under a servitude to accept the diffused surface water flowing off upper estates and upper estates may accelerate the flow to the disadvantage of the lower estate as long as the actions are justified by "good husbandry." Finally, a variety of statutory provisions authorize drainage by public authorities on the petition of one or a small number of affected landowners.

Second, the law of diffused surface water as applied in Nebraska urban areas has ostensibly promoted urban growth and development. Generally, landowners in urban areas are not liable for increased flow of surface water that occurs consequent to the development of their lots. Furthermore, all urban units have the authority to require that lots be drained adequately. Some cities have the power to dike against the encroachment of surface water, and other cities are exempted from liability for the accumulation of surface water.

A wide variety of cost-sharing incentives are available to landowners who want to improve the capacity of their lands to either retain or repel diffused surface water. Many, though not all of these programs, are federally financed. Often, however, the programs have conflicting goals, such as preserving wetlands or bringing wetlands into agricultural production. To date, most program incentives have been production oriented but recently, a trend toward encouraging wetland preservation and subsidizing efforts to reduce runoff as a pollution control measure have assumed important roles in cost-sharing programs. Unfortunately, policy goals are often

obscured or thwarted by conflicting incentives available to landowners through cost-sharing programs.

The most significant effect of existing law, however, probably is the uncertainty that the current system engenders. Existing law is neither clear nor comprehensive. Substantive rights of landowners often turn on the "label" applied to particular physical features of the land. "Natural drainway" is not defined by statute, yet the presence of water in a natural drainway subjects a lower estate to a duty to accept the water. Furthermore, additional diffused surface water can be drained into a natural drainway. "Lake," likewise is not defined by statute. "Watercourse", in contrast, is defined by statute. Unfortunately, a uniform definition is lacking as several alternative definitions exist depending upon the particular section of the statutes involved. Clearer and more complete definitions are needed if litigation involving diffused surface water is to be reduced.

In addition to imprecise definitions, the Nebraska law of drainage is based on a unique "common law" rule. The so-called common law rule confusingly borrows language from both the "civil law" and "common enemy" rules. Despite an extensive body of case law, diffused surface water disputes continue to appear with great regularity on the docket of the Nebraska Supreme Court. This suggests that existing law is unclear both as to legal liability for avoiding diffused surface waters from a higher estate, and as to legal liability for draining surface waters onto a lower estate. Uncertainty engendered by imprecise definitions and by confusing rules of law clouds the decision-making environment. Consequently, the effective cost of capturing and using or of repelling and diverting diffused surface water is increased.

### **Needs and Problems not Addressed by Existing Law**

Significant gaps exist in the current law of diffused surface water in Nebraska. Some of the gaps are a consequence of an incomplete development of the common law rules of liability and property. Other gaps apparently exist through inadvertence in drafting statutory provisions. Still other gaps exist because certain problems or potential problems, such as urban runoff and wetland preservation, have never been systematically addressed by policy makers. These gaps are summarized below.

Nebraska statutes are silent on the right to capture and use diffused surface water. Case law, while not completely developed, indicates that the right to capture and use diffused surface water on the land where it is found is an absolute

right. Legislation may be appropriate to clarify the permissible uses of diffused surface water, particularly limiting the use of such water for malicious purposes.

Nebraska statutes are also silent on the issue of irrigation return flow. Court decisions have held that such water is not diffused surface water, but have offered little guidance as to how this water should be treated. Existing statutes apparently create a duty to control irrigation runoff. Since such runoff may have independent economic value, and since return flows may form a valuable part of another appropriation, further statutory direction may be appropriate.

Nebraska law is particularly incomplete with respect to lakes. No provision is made for appropriating the water of a natural lake, although a provision does exist to secure a supplemental appropriation from a lake. "Lake" is not defined in Nebraska statutes, but by case law. Although technically, diffused surface water ceases to be such when it enters a lake, for all practical purposes Nebraska law treats lake water as diffused surface water. Moreover, Nebraska law suggests that lakes of less than twenty acres of surface area, or lakes located entirely on the land of one individual, can be drained without a permit, a provision often at odds with Section 404 of the Federal Water Pollution Control Act.<sup>1</sup> Under existing law, the property rights that a landowner has in lake water are subject to conjecture, but such rights would likely be classified as common law littoral rights, a version of riparianism that Nebraska law has rejected for other surface waters.

Nebraska statutes also are silent on the problem of urban runoff. When new areas of a city are developed, reduced infiltration capacity can result in significant increases in the amount of water flowing onto lower estates. An analysis of case law suggests that the owner of upper lands generally is not liable for the increased flow of surface water that usually accompanies urban development of the land. Increased surface flow that accompanies urban development affects the value of adjacent lower land and may ultimately contribute to increased flooding in local streams. Consequently, the issue of urban runoff probably should be addressed by the legislature.

A final concern with respect to urban runoff exists because the common law rules of diffused surface water in Nebraska are applied differently to rural and urban areas. Under existing law a rural landowner who owns land below an urban development may have a lesser right to protect his land from an increased flow of diffused surface water than would an urban landowner in similar circumstances. This concern might also be a proper subject for legislative action.

Wetland preservation is, perhaps, the most obvious need not addressed by existing law. Unless the federal government intervenes through the permit requirements of Section 404 of the Federal Water Pollution Control Act, individual landowners or public drainage authorities can engage in drainage projects without considering their effect on wetlands. The legislature should consider incorporation of wetland evaluation into Nebraska drainage law.

In the agricultural censuses of the 1800's, wetlands were defined as potential agricultural lands needing drainage to make them productive. Nebraska law seems to incorporate this philosophy. More recently, however, it has been recognized that many wetlands perform a variety of useful functions. Specifically, some wetlands act as natural collecting basins for rainfall and hence aid in flood control. Other wetlands may play an important role in groundwater recharge, although in Nebraska, most wetlands are probably agents of groundwater discharge. Many wetlands also act as natural water purification systems and nutrient traps, and some are so situated that they reduce the impact of man's activities on the quality of ground and surface water.<sup>2</sup> Furthermore, most wetlands produce a large quantity of biomass that supports a rich crop of wildlife and waterfowl. Wetlands also may have significant recreational value. The wide variety of potential uses and values of wetlands, coupled with the fact that soils underlying most wetlands have a high percentage of clay and organic matter which makes such areas less well suited for development than many other sites, indicates that the legislature should explicitly consider wetlands in its statutory drainage scheme.

A final issue raised by the existence of wetlands is more concerned with the interrelationship between ground and surface waters than with the flow of diffused surface water or drainage. Some wetlands can be drained by groundwater pumping as well as by surface water drains and land reshaping. This is potentially a serious problem with wet meadowlands and shallow lakes in the sandhills region of the state. Conceivably, irrigation development could drain existing meadows that provide much of the region's hay crop. The legislature may want to consider proposals that recognize the nature of this interrelationship and that establish a framework for resolving potential conflicts that are likely to result.

## **Opportunities Foregone Under Existing Law**

An examination of the practical effect of

existing law and of the needs and problems not addressed by existing law discloses a variety of opportunities that are currently foregone. In addition to opportunities foregone because many issues involving lakes, wetlands, and urban runoff are not currently addressed by existing law, the opportunity exists to realize economic savings by simplifying and clarifying existing law.

To the extent that rules of law are unclear or not readily understandable by the people on whom they impact, the cost of undertaking a particular activity will be increased by the risk that subsequent litigation will show their conduct to have been unlawful. Rules clear enough to be applied with some degree of predictability and uniformity could be structured with enough flexibility to accommodate unusual factual situations. The large number of litigated cases in Nebraska indicates that Nebraska law could be improved in this respect.

A second area where simplification and clarification might be appropriate is in statutes conferring a wide variety of drainage and diffused surface water powers on political subdivisions. To date, these statutes apparently have been adopted with little consideration of the need for or desirability of uniformity. The problem is particularly apparent with respect to cities of various classes. There seems little reason to give certain cities specific rights or duties with respect to diffused surface water and to withhold such rights from other cities of a larger or smaller size.

A third area where clarification would be appropriate concerns an apparent grant of statutory jurisdiction to the Department of Water Resources over all matters relating to drainage in the state.<sup>3</sup> The legislature should consider whether or not it intended this jurisdiction to extend to disputes among private landowners.

Finally, significant economic savings could probably be achieved by revising the procedures used to institute public drainage projects in the state. Nebraska statutes provide that a great variety of public drainage projects can be constructed with the cost of such projects assessed against the lands benefitted. Public drainage projects can be undertaken by many administrative units. At least two issues relative to such projects need to be addressed. The first concerns the great number of means by which public drainage projects can be authorized. The second concerns the criteria for forming such a district.

Nebraska statutes authorize the creation of, or continuation of, no less than eight types of public drainage administrative units. Although an attempt was made to consolidate drainage districts coincident with the creation of natural resource districts in 1972, no mandatory merger of existing districts was required. Furthermore, only

three of the eight district types could no longer be formed after 1972 and previously created districts of those three types retained all of their pre-1972 powers, including the power to expand. The proliferation of statutory public drainage authority is very confusing and maintenance of the multiple administrative units is undoubtedly very expensive. It may be possible to consolidate existing districts or to encourage more actively their merger with natural resource districts. In any event, it should be possible to streamline the statutory mechanisms for creating public drainage projects by eliminating obsolete procedures and by attempting to create uniformity in procedures among district types.

Most of the statutory provisions authorizing public drainage projects provide for initiation of projects on the petition of one or several affected landowners. There is very little statutory guidance as to when such projects should be approved, however. Occasional vague references are made to public health, convenience, and welfare, but the overriding assumption seems to be that inadequate drainage, in itself, is sufficient justification for public drainage projects. With the federally expressed interest in wetland preservation, some evaluation of the wetland value of lands considered for drainage projects should probably be included in the statutory criteria. Moreover, a single set of criteria applicable to all authorized public drainage projects probably could be developed.

## Conclusion

An analysis of existing Nebraska and federal law indicates that new policy alternatives should be considered in at least eight areas.

- 1) Consideration should be given to statutory modifications of the Nebraska law of diffused surface water that comprehensively and consistently define relevant terms.
- 2) Consideration should be given to adopting alternative rules of liability and rules of property concerning diffused surface water with a goal of increasing clarity while preserving flexibility.
- 3) Consideration should be given to addressing the problem of urban runoff, particularly at the interface of rural and urban areas.
- 4) Consideration should be given to clarifying rights to use water in lakes and rights to drain lakes.
- 5) Consideration should be given to incorporating an explicit recognition of the value of wetlands into the Nebraska law of drainage and diffused surface water.
- 6) Consideration should be given to eliminating non-uniform provisions presently found

in Nebraska statutes, especially concerning drainage and diffused surface water powers conferred on political subdivisions, so that the statutory structure can be simplified and made more understandable.

- 7) Consideration should be given to clarifying the jurisdictional authority of the Department of Water Resources over drainage disputes.
- 8) Consideration should be given to consolidating, simplifying, and reducing the number of procedures that can be used to create public drainage projects.

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## FOOTNOTES

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1. 33 U.S.C. § 1344 (1976 and Supp. III 1979). It would be difficult to drain a lake and convert the bed to agricultural use without engaging in operations that would technically constitute dredge or fill operations under Corps regulations. **See generally** 2 AGRICULTURAL LAW § 8.20 (J. Davidson ed. 1981).
  2. Not all wetlands enhance water quality, however. Wetlands attract birds and other wildlife and their excreta may pollute the local water. Similarly, decaying vegetation may affect water quality adversely.
  3. NEB. REV. STAT. § 46-209 (Reissue 1978).
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# CHAPTER 4

## ALTERNATIVE LEGISLATIVE POLICY ACTIONS

### INTRODUCTION

#### Scope of Chapter

Preceding chapters have described the Nebraska law of diffused surface water and federal law which impacts on the Nebraska law of diffused surface water. The practical effects of existing law, as well as needs and problems not addressed and opportunities foregone, were discussed in Chapter Three. Eight general areas were identified where new policy alternatives might be considered in light of the needs, problems, and opportunities discovered. In this chapter, thirty separate policy alternatives are presented. Each alternative is described in depth, with reference made to the law of other jurisdictions where appropriate. Each alternative is accompanied by analyses of the physical/hydrologic/environmental and socio-economic impacts which the policy alternative would have if adopted.

The list of alternatives to the present law of drainage and diffused surface water is, while lengthy, not exhaustive. Possible alternatives are limited only by the imagination. The range of alternatives listed, however, does fairly cover the subject and does address each of the eight general areas identified in Chapter Three. Additional alternatives would likely be variations of those set forth in this chapter.

No alternative was included because it was thought to be politically acceptable. Similarly, no alternative was excluded because of political unacceptability. An attempt was made to fairly and objectively present the full range of alternatives available.

Finally, it should be noted that policy alternatives listed in this chapter are not mutually exclusive. Consequently, they must not be evaluated in a vacuum. Adoption of a particular policy recommendation to address the needs of one of the eight general areas may restrict the range of policy alternatives available to solve

problems in one of the other seven areas. Similarly, changes in the law of diffused surface water might impact on other parts of the hydrologic cycle, requiring compensating changes in the law of groundwater or the law of streams.

#### Identification of Alternatives

Each of the thirty alternatives discussed in this chapter is listed below, grouped into the eight general opportunity areas identified in Chapter Three.

##### 1. Define Relevant Terms

*Alternative #1:* Make no change in the scope or content of definitions currently found in the drainage sections of the Nebraska Statutes.

*Alternative #2:* Amend Nebraska statutes to define those terms that are crucial to a proper classification of water given the substantive law of drainage and diffused surface water in Nebraska.

*Alternative #3:* Amend Nebraska statutes to provide that natural drainway is to be defined solely with reference to presently existing drainage patterns.

*Alternative #4:* Amend Nebraska statutes to provide that natural drainway is to be defined solely with reference to historical drainage patterns that pre-date man-made changes.

*Alternative #5:* Amend Nebraska statutes to provide that natural drainway is to be defined with reference to historical drainage patterns unless it is demonstrated that rights to current drainage patterns have been acquired by prescription.

##### 2. Alternative Rules of Property and Liability

*Alternative #6:* Make no change in Nebraska law concerning property rights in or liability for the avoidance of

diffused surface water and continue to rely on the evolution of the common law to resolve disputes.

*Alternative #7:* Amend Nebraska statutes to explicitly recognize a landowner's absolute right to capture and use diffused surface water present on his land.

*Alternative #8:* Amend Nebraska statutes to explicitly recognize a landowner's right to capture and use diffused surface water present on his land, provided the captured water is used for reasonable or beneficial purposes.

*Alternative #9:* Amend Nebraska statutes to provide that a landowner can capture and use diffused surface water present on his land only after securing a permit from a designated regulatory authority.

*Alternative #10:* Adopt a comprehensive water conservation statute which requires landowners to adopt practices that will bring soil erosion losses within acceptable limits.

*Alternative #11:* Amend Nebraska statutes to codify the common enemy doctrine of liability for interference with the flow of diffused surface water.

*Alternative #12:* Amend Nebraska statutes to codify the civil law natural flow doctrine of liability for interference with the flow of diffused surface water.

*Alternative #13:* Amend Nebraska statutes to codify the reasonable use rule of liability for interference with the flow of diffused surface water.

*Alternative #14:* Amend Nebraska statutes to codify the common law rule of liability for interference with the flow of diffused surface water that is currently expressed in Nebraska case law.

*Alternative #15:* Amend Nebraska statutes to codify a reasonable use drainage statute that incorporates most substantive principles of existing law.

### 3. **Urban Runoff**

*Alternative #16:* Amend Nebraska statutes to adopt a unique rule of liability for interference with the flow of diffused surface water.

*Alternative #17:* Amend Nebraska statutes to provide that urban and suburban developers are liable to downstream landowners for any injury resulting from increased peak streamflows consequent to the development.

*Alternative #18:* Adopt a comprehensive statutory scheme relating to management and control of stormwater runoff

that gives due regard to the interests of downstream landowners.

### 4. **Lakes**

*Alternative #19:* Make no change in existing law relating to property rights or drainage rights in natural lakes or wetlands.

*Alternative #20:* Amend Nebraska statutes to provide that a prior appropriation permit must be secured before a landowner can divert water from a lake exceeding a specified minimum size.

*Alternative #21:* Amend Nebraska statutes to provide that a permit must be secured before draining a lake having a surface area exceeding ten acres.

### 5. **Wetlands**

*Alternative #22:* Expand existing state programs and/or develop new programs authorizing the state to acquire wetlands by purchase or otherwise, where preservation of such wetlands would serve an important public purpose.

*Alternative #23:* Expand the wetlands acquisition portion of the habitat programs currently administered by the Nebraska Game and Parks Commission.

*Alternative #24:* Establish a broad program of wetlands acquisition to be administered by an agency that has broader responsibilities than the Nebraska Game and Parks Commission.

*Alternative #25:* Encourage landowners to preserve wetlands by offering cooperators a tax credit.

*Alternative #26:* Adopt a state water banking act to encourage the withdrawal of wetlands from development for a predetermined number of years.

*Alternative #27:* Adopt a comprehensive regulatory program designed to identify, preserve, and protect critical wetland areas.

### 6. **Non-uniform Provisions Governing Political Subdivisions**

*Alternative #28:* Specify a uniform set of drainage powers for cities and villages and eliminate obsolete or unnecessary provisions relating to counties.

### 7. **Administrative Jurisdiction Over Disputes**

*Alternative #29:* Clarify the jurisdictional authority of the Department of Water Resources to hear disputes involving drainage of diffused surface water.

## 8. Public Drainage Projects

*Alternative #30:* Amend Nebraska statutes to provide a single statutory mechanism for organizing and operating public drainage projects in Nebraska.

### Information Presented for Each Alternative

For each alternative discussed below, information is presented under three headings: **Description and Methods of Implementation**; **Socio-Economic Impacts**; and **Physical-Hydrologic and Environmental Impacts**. Information under the first heading, **Description and Methods of Implementation**, describes the alternative and how it could be implemented. Constitutional issues are addressed if appropriate. In addition, reference is made to the law of other jurisdictions or to federal law whenever a comparison would be beneficial.

Information under the second heading, **Socio-Economic Impacts**, describes how implementing the alternative would impact on economic efficiency<sup>1</sup> and equity.<sup>2</sup> The discussion is necessarily theoretical, and consequently, no attempt is made to quantify the magnitude of the expected impacts. A change that increases economic efficiency is generally desirable, however, since an efficient change translates into a greater output of societal goals and services from a particular combination of resource inputs.

In a perfect economic world, the market would always allocate resources, goods, and services efficiently. For a variety of reasons, however, a market may not operate efficiently. The cost of completing a particular transaction that would increase satisfaction might well exceed the benefit to be gained from the transaction.<sup>3</sup> In that case, a potential gain in economic efficiency will be prevented by **transaction costs**.<sup>4</sup> Alternatives that reduce transaction costs, therefore, generally increase economic efficiency. Similarly, an efficient transaction may not take place because the information necessary to evaluate the transaction is not available at low cost.<sup>5</sup> Reducing **information costs**, therefore, also enhances economic efficiency. Finally, economic inefficiency may exist because some economic costs and benefits never enter into the economic calculus and hence, are not considered in private decisionmaking.<sup>6</sup> These costs or benefits are known as **externalities**.<sup>7</sup> Alternatives which internalize these externalities so that they must be considered by private decisionmakers, also tend to enhance economic efficiency.

Equity refers roughly to the "fairness" of a particular system of production and consump-

tion which may, or may not, be efficient. While economics cannot answer the question of what is fair or equitable, it can indicate what the likely equity impacts of a particular alternative are likely to be. An alternative has an equity impact if it results in benefits being conferred on some at the expense of uncompensated losses which must be borne by others. In theory, an efficient alternative should produce the necessary revenues to compensate anyone who suffers an adverse equity impact from adoption of the alternative.<sup>8</sup> Whether or not such effects should be compensated for, however, is a political and social question caught up in personal notions of fairness and justice. Consequently, the equity effects of particular alternatives are noted with no attempt made to evaluate whether those effects are fair or not fair.

Information under the final heading, **Physical-Hydrologic and Environmental Impacts**, describes the probable effect that changes in water use patterns, which would accompany the adoption of a given alternative, would have on hydrologic relationships and on the physical environment.<sup>9</sup> Many of the alternatives identified in this chapter do not lend themselves to detailed descriptions of their probable physical/hydrologic or environmental impacts. Too many variables potentially intervene between the policy alternatives and the impacts. Such variables include geographic factors, management, type of use, technology, and others including the effect of changing economic incentives and restraints on water use. Notwithstanding these limitations, likely changes in water use patterns and consequent physically or environmentally oriented impacts have been identified for each of the thirty alternatives in as much detail as felt possible.

## ALTERNATIVES THAT DEFINE RELEVANT TERMS

### Introduction

In virtually all jurisdictions, most of the law of diffused surface water and hence, much of the law of drainage, is embodied in court decisions rather than in statutes. Nebraska is somewhat of an exception to the general rule as statutes create substantive drainage rights. The Nebraska statutory scheme is incomplete, however, both in the specification of substantive rights of property and liability discussed in the next section and as to definitions which are treated in this section. Since much of the law of diffused surface water turns on a proper classification of the particular water involved, the first general policy alternatives to be considered concern the advisability of expressing various

definitions in the form of statutes. For the most part, the alternatives discussed in this section do not change substantive law.

*Alternative #1:* Make no change in the scope or content of definitions currently found in the drainage sections of the Nebraska statutes.

#### **Description and Methods of Implementation**

Only one relevant term currently is defined by the Nebraska statutes, and that term is "watercourse". Somewhat confusingly, however, several definitions of "watercourse" exist depending on which section of the statutes is consulted.<sup>10</sup> The "no change" alternative would continue the present situation where all definitions except that of "watercourse" have been developed in and must be derived from case law.

Although definitions exist for most relevant terms, many cases must be searched to seek them out. Furthermore, the definitions are not always perfectly consistent from one case to another. On the other hand, leaving definitional questions to case law development arguably permits greater flexibility than embodying such definitions in a statute. Flexibility can be important in reaching a "just" result in a case where the equities are not all on one side. Consequently, the remaining alternatives in this section may involve some trade-off between certainty and clarity on the one hand and flexibility on the other hand.

#### **Socio-Economic Impacts**

When critical terms are either undefined or are defined somewhat inconsistently in case law, decisionmakers face high information costs. The underpinnings of a market economy require that individuals act to further their rational self-interest. High information costs cause individuals to expend considerable amounts of time and money in ascertaining what the consequences of their actions will be. The consequences of contemplated actions, for instance, draining diffused surface water onto neighboring land, must be understood before an individual can make a rational decision as to whether the action furthers his self-interest.

Information costs, in the present context, include such things as the cost of legal opinions, the cost of obtaining physical data, and the cost of possible litigation which may be required to establish the nature of a right. These costs act as barriers to efficiency. Eliminating or reducing information costs, however, does not guarantee an efficient solution.<sup>11</sup>

In addition to generally high information costs, imprecise definitions in Nebraska law create uncertainty. Uncertainty is a special form of information cost that makes it more expensive to

contemplate a change from the status quo. If a result is uncertain, no expenditure, no matter how great, can provide completely adequate information prior to decision making. Thus, uncertainty itself acts as an additional barrier to efficient changes.

Finally, **Alternative #1** has no obvious equity impacts as no change is contemplated. To the extent that high information costs and substantial uncertainty impede changes from the status quo, however, existing wealth distribution patterns tend to be preserved, favoring larger or wealthy landowners over those of more modest means.

#### **Physical-Hydrologic and Environmental Impacts**

Since this alternative contemplates no change in existing law, no change in water use patterns is expected. Evident confusion in Nebraska law, however, does apparently discourage changes from the status quo.

This alternative, consequently, would result in a continuation of present physical/hydrologic and environmental impacts as related to drainage. Present impacts are determined by flow and degrees of retention of diffused surface water. Negative environmental impacts now include soil erosion and other non-point source water pollution.

*Alternative #2:* Amend Nebraska statutes to define those terms that are crucial to a proper classification of water given the substantive law of drainage and diffused surface water in Nebraska.

#### **Description and Methods of Implementation**

This alternative would codify the definitions of certain terms that currently are defined only in case law. In addition, it would establish a single definition of watercourse and add a definition of wetland that is consistent with federal law.

At least eight terms should be defined in a comprehensive statutory scheme that makes no changes in existing substantive law. The critical terms include: 1) surface water; 2) watercourse; 3) natural drainway; 4) lake; 5) wetland; 6) diffused surface water; 7) flood water; and 8) irrigation waste water. Suggested definitions and comments are included below. It should be recognized, however, that any definitional scheme is essentially arbitrary. Consequently, some variations on the suggested definitions probably would work equally well. In any event, it probably is more important to consider the comprehensiveness of a statutory definitional scheme than the specific content of the particular definitions. The suggested definitions follow:

##### **1. Surface water**

Any water lying on or flowing across the

surface of the earth. Surface water flowing across the surface of the earth shall be sub-classified as present in a watercourse, present in a natural drainway, or diffused. Surface water substantially at rest on the surface of the earth shall be sub-classified as present in a lake or present in a wetland. To the extent that surface water can also be classified as irrigation waste water the rules of this section do not apply.

**Comment:** Given this definition, all water found on the surface of the earth is surface water regardless of source. Surface water is sub-classified according to physical location. Finally, the definition makes clear that irrigation waste water might be subject to different rules of liability and property than apply to naturally occurring surface water.<sup>12</sup>

## 2. **Watercourse**

Any depression or draw two feet below the surrounding lands and having a continuous outlet to a stream of water, or river, or brook.

**Comment:** This is the definition currently found in Nebraska statute.<sup>13</sup> A possible modification of this definition which should be considered is to add the words "or lake" after brook. There seems little reason to differentiate between substantial depressions with outlets to streams and those with outlets to lakes. Without the change, depressions otherwise classified as watercourses will be natural drainways if their outlet is a lake. An additional modification would place "natural" in front of "depression" to clarify that the definition of watercourse does not apply to artificial drains. A final modification would add "or through which surface water normally and habitually flows if no continuous outlet is present." The final modification would account for the small number of Nebraska streams which sink into the ground and hence, have no continuous outlet. A modified definition would read as follows:

Any natural depression or draw two feet below the surrounding lands and having a continuous outlet to a stream, river, brook, or lake. Any such depression or draw lacking a continuous outlet shall, nevertheless, be classified as a watercourse if surface water normally and habitually flows through the depression to a point where it sinks into the ground.

## 3. **Natural drainway**

Any depression, draw, gulch, or other defined course formed by nature and in which water naturally and normally flows in draining from higher to lower lands. To the extent

that a depression can be classified as a watercourse it is not a natural drainway.

**Comment:** This definition appears to be consistent with Nebraska case law. It is intended to pick up all natural drainage channels which do not meet the statutory definition of watercourse.

## 4. **Lake**

A reasonably permanent body of water substantially at rest in a depression in the surface of the earth.



**Comment:** The inspiration for this definition is the RESTATEMENT OF TORTS<sup>14</sup> which has been cited with approval by the Nebraska Supreme Court.<sup>15</sup> The RESTATEMENT definition, however, limits lakes to bodies of water that are of natural origin or exist as part of a watercourse. Thus, an artificially constructed farm pond would not be within the RESTATEMENT'S definition of lake, unless the pond was part of a watercourse. While there may be reasons for distinguishing between types of lakes for some purposes, there appears to be no need to create an extra category of surface water for purposes of drainage law. Consequently, the suggested definition of lake eliminates the limitations found in the RESTATEMENT and covers all permanent bodies of water at rest in a depression including natural lakes, artificial impoundments in a natural watercourse, and artificial impoundments not hydrologically linked to a natural watercourse.

## 5. Wetlands

Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

**Comment:** This definition is copied from federal regulations that define wetlands for purposes of dredge and to permit requirements pursuant to § 404 of the Federal Water Pollution Control Act.<sup>16</sup> Wetlands under this definition are characterized by the presence of aquatic vegetation. Thus, lakes are distinguished by the quantity of water present and wetlands are also distinguished from temporarily inundated areas which drain naturally over a period of days or weeks. Classification of wetlands based upon a period of inundation, however is extremely difficult and biologists use it only in the absence of vegetation. The length of time that water remains on a site is influenced by many factors including intensity of precipitation and season during which it occurs, climatic conditions, and site treatment during previous seasons. Other factors such as biological activity and chemistry can influence the composition and abundance of vegetation present on a site. Any or all of these factors might be reflected in an alternative definition of wetlands.

## 6. Diffused surface water

Water that appears on the surface of the ground in a diffused state, generally having no permanent source of supply or regular course, and ordinarily resulting from rainfall or melting snow. To the extent that surface water cannot be classified as a watercourse, natural drainway, lake, or wetland, it is diffused surface water.

**Comment:** This definition, or a closely related version thereof, has been repeated in numerous Nebraska decisions. The qualifying sentence makes it clear that diffused surface water is a residual category. To the extent that surface water falls into no other category it is classified as diffused surface water. Thus, diffused surface water can either be flowing water that has not entered a watercourse or natural drainway, or water that, although substantially at rest in a basin, normally disappears through percolation or evaporation.

## 7. Flood water

Water that spills over the banks of a watercourse in times of high water and flows over adjacent lands in the flood plain. Flood water that returns to the watercourse at a downstream point is deemed to be a part of the originating watercourse. Flood water that becomes permanently separated from the watercourse becomes surface water that in turn can be classified as a watercourse, natural drainway, lake, wetland, or diffused surface water depending on its location.

**Comment:** This definition attempts to clarify what are often confusing distinctions made in case law. Under the definition, flood water is treated as part of the stream if it returns to the stream at a downstream point. Once flood water becomes permanently separated from the stream, however, it is treated as any other source of surface water.

## 8. Irrigation waste water

Water that is artificially applied to land but that does not percolate into the soil.

**Comment:** Nebraska case law makes it clear that irrigation waste water is subject to special rules of liability and property. This definition permits the ready application of such special rules without resorting to a fiction excluding such water from the definition of surface water.

### Socio-Economic Impact

This alternative would reduce the information costs and uncertainty which plague existing law as discussed in the previous alternative. It is impossible to predict, however, whether such an effort would increase or decrease the use and/or drainage of diffused surface water. Nevertheless, such a change probably would be desirable from an economic standpoint because the choices made by individuals would be better informed and the exercise of particular choices would be less costly. Whether or not this alternative would lead to greater economic efficiency, however, depends on the efficiency of the underlying system of property rights and liability rules.<sup>17</sup> Similarly, the equity impacts of this alternative cannot be determined since they also depend on the underlying rules of property and liability and whether or not changes from the status quo occur. **Alternative #2** merely reduces the economic barriers to such changes.

### Physical-Hydrologic and Environmental Impacts

Since this alternative contemplates no change in substantive law, no significant

changes in water use are likely to result. To the extent that any changes in water use occur, they would be the result of increased predictability in the law.

This alternative, consequently, likely would result in a continuation of present physical/hydrologic and environmental impacts as related to drainage. Present impacts are determined by flow and degrees of retention of diffused surface water. Negative environmental impacts now include soil erosion and other non-point source water pollution. Some of the definitions, as written, could result in minor changes in land development and use of diffused surface water. The impacts of these minor changes cannot be assessed, however, without greater study.

*Alternative #3:* Amend Nebraska statutes to provide that natural drainway is to be defined solely with reference to presently existing drainage patterns.

*Alternative #4:* Amend Nebraska statutes to provide that natural drainway is to be defined solely with reference to historical drainage patterns that pre-date man-made changes.

*Alternative #5:* Amend Nebraska statutes to provide that natural drainway is to be defined with reference to historical drainage patterns unless it is demonstrated that rights to current patterns have been acquired by prescription.

#### **Description and Methods of Implementation**

**Alternatives Three through Five** are all concerned with the temporal reference point to be used in determining the existence of a natural drainway. The reference point is important for resolving disputes in cases where the natural drainage pattern has been changed by tillage, land levelling, or other mechanical operations. Currently, courts are given no statutory guidance on this matter. Case law, while not clear, implies that an historical view will be taken in determining the existence of a natural drainway.<sup>17A</sup> Logically, however, three alternatives should be considered: a) classify water with respect to the present lay of the land ignoring historical drainage patterns; b) classify water as it would have been classified had historical drainage patterns remained unchanged by acts of man; and c) provide for prescriptive changes in "natural" drainage patterns.<sup>18</sup>

Similar alternatives might be appropriate for determining the existence of a watercourse. The law, however, generally protects watercourses from interference by man.<sup>19</sup> It might well be reasonable to adopt a "once a watercourse, always a watercourse" rule while permitting greater flexibility in the artificial modification of

natural drainways. Consequently, the three alternatives apply only to natural drainways.

Several drainage conflict patterns can be discerned where the temporal perspective would be determinative. In the first case, the actions of an upper proprietor modify drainage patterns in a manner that causes water to enter onto the lands of a lower proprietor at other than the historical entry point. Can the lower proprietor require the upper proprietor to "deliver" surface water to the historical entry point? In the second case, a lower proprietor alters the terrain of his land and water that historically flowed onto the lower proprietor's land in a natural drainway now backs up onto the lands of the upper proprietor. Can the upper proprietor compel the lower proprietor to drain the upper land? In the third case, the lower proprietor modifies drainage patterns, and although the upper proprietor suffers no direct damage he later decides to drain a low spot on his land into what was formerly an historical natural drainway on the lower proprietor's land. Can the upper proprietor compel the lower proprietor to accept water at the historic entry point?

Adoption of **Alternative Three** would result in a substantial change in the Nebraska law of drainage. In many respects the result would be similar to adoption of the common enemy rule of liability for interference with surface water.<sup>20</sup> On the other hand, looking to current topographical patterns simplifies evidentiary problems of proving the relevant physical features. The proof problem is significant, particularly in the third case discussed above, where many years may pass between a change in the drainage patterns on a lower estate and the desire of the owner of an upper estate to drain his land. This alternative also would tend to encourage landowners to modify the lay of their land if they found it to their advantage to do so as, for instance, by levelling land to facilitate irrigation development. The central thrust of this rule would be development oriented. Finally, absent other changes in substantive law, upper or lower proprietors injured by changes in case one or two above probably would retain a cause of action in tort for interference with their drainage rights. However, the upper proprietor in case three above probably would be denied relief if he sought to drain his land onto the lower proprietor's land at the historical entry point.

**Alternative Four** would probably codify existing practice by Nebraska courts. The advantage of such a system is that landowners would be assured that they would gain the benefit of all of the natural advantages inherent in the tract of land that they purchase. On the other hand, problems of proving the historic features of the tracts of land can be considerable, particularly if

the dispute is of the nature of case three where many years may have passed between the time of the modifications and the assertion of drainage rights. Furthermore, subsequent purchasers may have purchased the land unaware of modifications in historic drainage patterns that would be disclosed only by old surveys or aerial photographs. Finally, the impact of a strict historical rule is to discourage land levelling and development operations. Such a rule may, however, encourage development on the upper estate since historic drainage rights would be preserved.

**Alternative Five** is a compromise between **Alternatives Three** and **Four**. Prescription<sup>21</sup> operates in most areas of the law and is readily understood by attorneys and many lay people. An ability to cut off historic claims through prescription would solve many evidentiary problems by limiting the length of the historic search required. Prescriptive rights also would tend to bring legal obligation and physical appearance of the land into a consistent relationship. On the other hand, the possibility that legal rights may be lost or acquired by prescription, requires that potentially disadvantaged landowners be vigilant in protecting their rights. Furthermore, important questions would need to be answered as to the proper length of the statutory period and when the statutory period should start to run. The period could run from the day the terrain is changed or it could run only when it becomes apparent that the position of one party is, in fact, adverse to the interests of another party. Must the proprietors in cases one and two above, for instance, suffer actual injury before the statutory period begins to run? Each of the many possibly variations in a system of prescriptive rights to change "natural" drainage patterns would have its own specific impacts on the parties involved. Consequently, the effect of such a rule on land use would be difficult to predict.

#### **Socio-Economic Impacts**

To the extent that these alternatives reduce uncertainty, a significant economic barrier to change is eliminated. The efficiency and equity effects of the reduced uncertainty are unpredictable, however.

Choosing among the alternative reference points also has a direct bearing on efficiency. The economic consequences of adopting alternative reference points, however, are exceedingly complex. **Alternative Four**, which institutionalizes an historic reference point for determining the existence of a natural drainway, establishes economic inertia in favor of retaining natural drainage patterns. Absent private agreement, using historic patterns prevents all solutions to drainage problems, including economically efficient ones, that require diverting water in

ways that are inconsistent with historic drainage patterns.

Conversely **Alternative Three**, which looks only to current drainage patterns to define natural drainway, tends to promote drainage of lands even where the drainage may be inefficient. Landowners are encouraged to modify existing drainage patterns without contracting with those who might be adversely affected by the change, conduct which yields inefficiency in the form of negative externalities. On the other hand, information costs would be lower with **Alternative Three** than with **Alternative Four**. Current drainage patterns can be discovered by survey and inspection. In contrast, historic drainage patterns often can be discovered only at relatively high cost, particularly where historic records are inadequate or conflicting.

Once the ability to contract around established rules of liability is recognized, however, one would expect the contracting process to yield efficient results under either alternative. For example, if it is efficient to drain any upper estate in a non-historic natural drainway, owners of the upper and lower estates should be able to reach a mutually advantageous agreement by contract under either rule. If the historic test of **Alternative Four** is used, the burden will be on the owner of the upper estate to contractually secure the permission of the owner of the lower estate to drain into the non-historic drainway. If the solution is economically efficient, the upper landowner should be able to compensate the lower landowner for any inconvenience and thereby secure his agreement. If the solution is inefficient, the benefit to the upper owner will not be great enough to compensate the lower owner for his losses and the planned drainage will not occur. Conversely, if the current drainage pattern test of **Alternative Three** is used, the burden will be on the owner of the lower estate to pay the owner of the upper estate to forego his drainage right. If the proposed drainage is economically inefficient, the cost to the lower landowner (and hence the size of the payment he would make to avoid the injury) will exceed the benefit the upper owner would receive from drainage. Consequently, a rational upper owner would agree not to exercise his drainage right in exchange for a payment from the lower owner. On the other hand, if the drainage was economically efficient the injury to the lower owner would be less than the benefit of drainage to the upper owner and a contractual limitation of drainage rights could not be negotiated. Efficient solutions are encouraged under either alternative.

Efficient solutions may, however, be thwarted because the party with the legal right to drain or bar drainage is a monopolist. As a monopolist, if

he does not act “rationally”, an efficient solution will be prevented.<sup>22</sup> To avoid the problem of an irrational monopolist, rights initially should be assigned in a manner that obviates the need for contractual modifications.

While the choice of a temporal reference point has important, albeit hard to quantify, impacts on efficiency, equity impact is much more direct. Under **Alternative Four**, the historic test, those who can benefit from draining in historic channels (or those who can benefit from preventing others from draining in non-historic channels) will be the recipients of wealth transfers from those who are injured by historic channel drainage (or those who are denied the benefit of non-historic channel drainage). Under **Alternative Three**, the current drainage patterns test, wealth transfers will be made in reverse. To a limited extent, an historic channel test favors “preservationists” while a current channel test favors “developers”.

**Alternative Five** incorporates an historic channel test that can be modified by prescription. **Alternative Five** is thus an economic compromise. Information costs are reduced over the pure historic test since only a finite number of years need be searched. Furthermore, the existence of a prescriptive period encourages landowners who want to alter historic drainage patterns to contract with those adversely affected in contrast with a pure current pattern rule which might tend to discourage contracting. In the contract process itself, those seeking to use historic drainways and those seeking to use non-historic drainways that had been in existence for the statutory period would be treated equally. Ignoring the always present problem of an irrational monopolist, only efficient solutions would be encouraged. Finally, any wealth transfers would flow to those who relied on historic patterns (or non-historic patterns for the statutory period) from those seeking to alter historic patterns (or to restore historic patterns after the statutory period has run). Thus, **Alternative Five** creates a slight bias in favor of preserving the status quo.

### **Physical-Hydrologic and Environmental Impacts**

Given the ability to contract around liability rules, **Alternatives Three through Five** likely would lead to no significant changes in the use of diffused surface water. To the extent that minor changes in water use would occur, **Alternative Four** tends to discourage new uses while **Alternative Three** and **Alternative Five** tend to encourage new use.

Since little change in water use is expected, these alternatives would probably result in a continuation of present physical/hydrologic and

environmental impacts as related to drainage. Present impacts are determined by flow and degrees of retention of diffused surface water. Negative environmental impacts now include soil erosion and other non-point source water pollution. Minor changes in land development might occur under these alternatives, with **Alternatives Three and Five** favoring development of upper land more than **Alternative Four**. Assessing the impacts of these minor changes, however, is impossible without specific knowledge of the type and location of development that likely would occur.

## **ALTERNATIVE RULES OF PROPERTY AND LIABILITY**

### **Introduction**

Drainage law has at least two distinct components: 1) the right to capture and use diffused surface water; and 2) the right of a lower estate to avoid the entry of diffused surface water from a higher estate or the concomitant right of an upper estate to drain onto a lower estate. A right of landowners to capture and use diffused surface water occurring on their property is universally recognized. The rule is so firmly established that only two major alternatives are suggested, one establishing a duty to control diffused surface water and the other integrating diffused surface water into a general system of regulated water rights.

In contrast to the general agreement found among states concerning the right to capture and use diffused surface water, there is widespread disagreement with respect to the appropriate way to resolve questions of drainage and avoidance. In virtually all states, most rules for adjudicating drainage disputes developed at common law from two disparate historical models, the natural flow model and common enemy model. Suggested alternative rules of liability thus will include statutory adoption of one of the historical models, adoption of the so-called reasonable use rule, codification of the current Nebraska rule, and codification of a combination of the current Nebraska rule and the reasonable use rule.

*Alternative #6:* Make no change in Nebraska law concerning property rights in or liability for the avoidance of diffused surface waters and continue to rely on the evolution of the common law to resolve disputes.

### **Description and Methods of Implementation**

**Alternative Six** would make no change in existing substantive law.<sup>23</sup> Accessibility of the

law to lawyers and lay people would not be affected. To the extent that lawyers and judges claim a mastery of existing law, their expertise would be preserved. Furthermore, leaving the development of rules of property and liability to the courts, constrained only by the constitution and principles of **stare decisis**, promotes maximum flexibility in the process of resolving disputes equitably. On the other hand, existing law is so complex that attorneys who rarely practice in the area find it difficult to grasp and the lay public finds it almost impossible to understand. Consequently, the law is not very predictable and landowners cannot alter the physical features of their land with any degree of confidence that their alterations will withstand judicial scrutiny.

#### **Socio-Economic Impacts**

The major economic feature of existing rules of liability and property is the uncertainty and unpredictability of results they engender. Uncertainty is a particularly severe form of information cost that makes it less likely that efficient solutions will be adopted. On the other hand, existing rules retain maximum flexibility in dispute resolution. If courts use this flexibility to force efficient solutions which might otherwise be achieved by mutual contract, efficiency will be promoted. Judicial arbitration of disputes is not superior to private contract, however, unless it is assumed that judges make "better" decisions than negotiating parties or unless one of the negotiating parties arbitrarily is using a monopoly position to prevent an efficient solution. Generally, the economic costs of uncertainty exceed the economic benefit of judicial flexibility.

In addition to the economic effect of uncertainty, the underlying substantive law of property and liability can be examined to determine their effect on economic efficiency and equity. Existing rules of property are analyzed in **Alternative Seven** and existing rules of liability are analyzed in **Alternative Fourteen**.

#### **Physical-Hydrologic and Environmental Impacts**

Since this alternative contemplates no change in existing law, no change in water use patterns is expected. Evident confusion in Nebraska law, however, apparently does discourage changes from the status quo.

This alternative, consequently, would result in a continuation of present physical/hydrologic and environmental impacts as related to drainage. Present impacts are determined by flow and degrees of retention of diffused surface water. Negative environmental impacts now include soil erosion and other non-point source water pollution.

*Alternative #7:* Amend Nebraska statutes to explicitly recognize a landowner's absolute right to capture and use diffused surface water present on his land.

#### **Description and Methods of Implementation**

Apparently, Nebraska law gives a landowner an absolute right to use diffused surface water found on his property.<sup>24</sup> **Alternative Seven** would codify this common law right. Historically, this right probably is explained best as an attempt to foster the development of agriculture.<sup>25</sup> Today, the rule is also supported by policies favoring watershed protection and flood control, development of recreational facilities, and environmental protection. Thus, there seems to be little reason to disturb the basic rule. Furthermore, any modification of a rule of property raises the constitutional question of whether or not a "taking" has occurred.<sup>26</sup> If the modification is significant enough to constitute a taking, "just compensation" must be paid to the landowner for the right given up. With the above caveat, however, two specific alternatives to the existing rule are suggested. **Alternative Eight** resolves an ambiguity under existing law and probably raises no taking issue; **Alternative Nine** explicitly recognizes the position of diffused surface water in the hydrologic cycle, perhaps in a manner that does raise a taking issue.

#### **Socio-Economic Impacts**

Giving landowners the absolute right to capture and use diffused surface water is probably efficient in that it encourages development and use of a resource that might otherwise cause significant cost to downstream landowners. It also enables landowners to take maximum advantage of a natural water distribution system in the form of precipitation and runoff. The existing rule is inefficient only if it prevents water from reaching others who would value it more highly, possibilities discussed under **Alternative Eight** and **Alternative Nine**.

The equity impact of the existing rule is to permit transfers of wealth from the general public to private individuals in proportion to the amount of surface water effectively captured on an individual's land. Since both groundwater and surface water are public property in Nebraska, precipitation and diffused surface water which becomes surface and groundwater probably also constitute public property. Consequently, a private right to capture and use diffused surface water is a transfer of public wealth. The rule favors those in the humid eastern part of the state and those with relatively large holdings of land. The wealth transfer is not necessarily insignificant, since in the extreme case, capture and use of a high percent of diffused surface water might

well reduce the amount of water available to meet public uses such as minimum streamflows, multipurpose irrigation projects, and municipal water supplies.

### **Physical-Hydrologic and Environmental Impacts**

This alternative encourages investments in land having potential for entrapment of diffused surface water to be used for beneficial purposes. Since this alternative is merely a codification of existing law, it probably would result in a continuation of present physical/hydrologic and environmental impacts. To the extent that diffused surface water is retained for use on the land where it occurs, negative environmental impacts such as soil erosion and other non-point source water pollution are reduced.

*Alternative #8:* Amend Nebraska statutes to explicitly recognize a landowner's right to capture and use diffused surface water on his land, provided the captured water is used for reasonable or beneficial purposes.

### **Description and Methods of Implementation**

The intent of such a provision is to make clear that a landowner cannot utilize diffused surface water on his property solely with the malicious intent of injuring another party. The Nebraska Supreme Court likely would reach the same conclusion if faced directly with the question. Such a statute could be drafted in many ways, each differing subtly from the others. For instance, a statute might read "A landowner has the right to capture and use diffused surface waters found on his property except that such right cannot be exercised solely to injure another." Probably this is the least restrictive version of a statute. The statute also could limit a landowner's use of diffused surface water to beneficial and/or reasonable use of the water. If "beneficial" was broadly interpreted, the result would be similar to the "can't injure another" language above. On the other hand, beneficial use and reasonable use are terms of art. At times, beneficial use has been limited to those uses which create traditional economic values, raising questions as to whether such uses as recreation or aesthetics are beneficial. Similarly, reasonable use often implies a degree of correlation between the rights of competing landowners, typified by the position of reasonable use in the doctrine of riparianism. Thus, the degree to which a landowner's "absolute right" to use diffused surface water would be restricted by this alternative depends in large measure on the precise language adopted. In any event, adoption of this alternative would result in no additional administrative costs or burdens and probably would

make only minor changes in substantive law, provided the language was chosen with care. This alternative would, however, resolve a current ambiguity thereby increasing predictability.

### **Socio-Economic Impacts**

This variation on existing law would be efficient provided a very broad definition of beneficial use was employed. To capture a resource for the sole purpose of injuring another is economically inefficient, assuming that malicious injury of another is a social harm. **Alternative Eight** would eliminate such inefficiencies. Similarly, from an equity perspective, the possibility that a private individual could capture public wealth without producing any social or private benefit from the capture would be eliminated.

### **Physical-Hydrologic and Environmental Impacts**

Few landowners capture diffused surface water solely to inflict injury on another landowner. Since the magnitude of the problem is undoubtedly small, the physical-hydrologic and environmental impacts of this alternative likely will be negligible. This alternative, like the previous one, however, encourages capture and use of diffused surface water, thereby reducing negative environmental impacts such as erosion and other non-point source water pollution.

*Alternative #9:* Amend Nebraska statutes to provide that a landowner can capture and use diffused surface water present on his land only after securing a permit from a designated regulatory authority.

### **Description and Methods of Implementation**

Many legal commentators have suggested that diffused surface water be brought within the purview of a state regulatory scheme.<sup>27</sup> Generally, such proposals are part of larger plans to bring all water resources within the same regulatory sphere. It can be argued that diffused surface water is not an important enough element of a state's water supply to merit a permit requirement. Certainly, any permit requirement would have associated administrative costs and such costs might exceed any benefit derived from the requirement. On the other hand, each form of water is a part of the hydrologic cycle and interference with one part of the cycle can impact on other parts. Large scale capture of diffused surface water in ponds or lakes reduces the amount of water reaching streams. Terracing and other land use measures also reduce the amount of diffused surface water reaching streams.<sup>28</sup> Since use of stream water is regulated by permit, it can be argued that any use of diffused surface water that tends to interfere with streamflows also should be regulated.

A Florida statute purports to regulate all sources of water including diffused surface water.<sup>29</sup> Florida statutes, however, merely give the state Department of Environmental Regulation discretion as to whether or not a permit will be required for particular consumptive uses of water. Consequently, certain classes of water can be exempted from the permit requirement entirely. Florida law, as would many commentators, exempts from the permit requirement water used for individual domestic consumption.<sup>30</sup> Domestic consumption by individuals commonly is excluded because of the impracticality of regulating a large number of small users, the existence of vested common law rights, the relatively small amount of water consumed by individuals, and the ability to monitor and control large scale domestic consumption by regulating municipal and other public suppliers.<sup>31</sup>

In addition to giving authority to the Department of Water Resources or some other state agency to require permits when and if the need arises, several other alternatives are available. A statute might, for instance, require that a report be filed if an impoundment of diffused surface water would exceed a certain size. These reports would enable the state to monitor large scale capture of diffused surface water. Or a statute might go further and require that a permit be obtained before impoundments of a specified minimum size could be constructed. Care must be taken in drafting the statute so that a permit is not inadvertently required before basic conservation measures, such as terraces, could be constructed. On the other hand, reports of such activities might aid long term water management. A wide range of implementing options exist, including the development of criteria that would guide the administrator in granting or denying a permit, if a permit was required.

Requiring a permit before a landowner can capture and use diffused surface waters, however, raises a constitutional question. Does the new requirement constitute a "taking", particularly where a permit is denied, or is the permit requirement merely permissible regulation under the state's police powers? Generally, regulation that does not destroy or prohibit an existing use of diffused surface water will be upheld against constitutional attack if reasons for regulating future use are legitimate. To the extent existing uses are not grandfathered, however, a "taking" issue is squarely presented.

#### **Socio-Economic Impacts**

**Alternative Nine** would enhance efficiency only if present or expected future users of water are, or will be, deprived of water that they would value more highly than those who currently are given an unlimited right to capture and use

diffused surface water. Such higher value users could be public or private, or the public generally.<sup>32</sup> An additional potential economic benefit of this alternative is a reduction in the information costs facing water planners who are concerned with state-wide water uses and supplies. Potential economic benefits, however, must be weighed against the additional economic costs that would accompany an administrative permit system. The magnitude of these costs would depend on whether all users of diffused surface water or only large scale users would need a permit.

From an equity perspective, this alternative would give the state greater power to retain public wealth or to distribute it to downstream individuals or public entities. The actual equity effect would depend on how and whether the state exercised this greater power.

#### **Physical-Hydrologic and Environmental Impacts**

Since landowners currently have an essentially unlimited right to capture and use diffused surface water found on their land, any impact of **Alternative Nine** would depend on the degree to which this right was restricted by the permit requirement. Quite possibly, any effect would be limited to changing the location of water use, but not the quantity of water use. Thus, **Alternative Nine** may have no effect on water use or it might have a discouraging effect depending on how the permits were used.

Since the effect of this alternative on water use is indeterminate, it is impossible to assess accurately the physical/hydrologic and environmental impacts of its implementation. To the extent that capture and use of diffused surface water was discouraged, negative environmental impacts, including soil erosion and other non-point source water pollution, might increase. On the other hand, if the permit process resulted in better state wide water management, negative environmental impacts such as reduced streamflows might be reduced. Assessing the impacts from these changes, however, is impossible without more knowledge of the specifics of the alternative such as types of definitions and standards that would be adopted.

*Alternative #10:* Adopt a comprehensive soil and water conservation statute which requires landowners to adopt practices that will bring soil and water erosion losses within acceptable limits.

#### **Description and Methods of Implementation**

A variety of state and federal programs encourage landowners to adopt soil and water conservation practices.<sup>33</sup> Since uncontrolled flows of diffused surface water are responsible

for much erosion, most soil and water conservation practices, - including the construction of terraces, grassed waterways, and farm ponds - also result in the capture and use of a greater percentage of diffused surface water. Mandatory soil and water conservation standards would, therefore, create a quasi-duty to capture and use diffused surface water. Such a duty would be consistent with evolving federal law in the area of non-point source pollution.<sup>34</sup>



Mandatory soil conservation standards are not without state precedent. Iowa, for instance, has a statutory requirement that landowners "establish and maintain soil and water conservation practices or erosion control practices" as required by the commissioners of soil conservation districts.<sup>35</sup> Specifically, Iowa law empowers commissioners to promulgate soil loss regulations, investigate signed complaints from landowners injured by sediment from lands not in compliance with the limits, require landowners to adopt soil conservation practices on lands exceeding the soil loss limits, and in certain circumstances specify which soil conservation practices shall be adopted.<sup>36</sup> The Iowa system also requires that state cost sharing funds be made available to anyone required to adopt a conservation practice and in an amount not less than seventy-five percent of the total cost of adopting permanent measures.<sup>37</sup> The most stringent provisions of the Iowa statutes have withstood a constitutional challenge charging that they constituted a "taking without just compensation."<sup>38</sup> The *Ortner* court held that the Iowa regulations were within the permissible bounds of the state's police powers.

A soil conservation statute need not be as

broad or far reaching as the Iowa statute, however. South Dakota, for instance, also requires conservation districts to adopt standards setting tolerance limits for soil losses.<sup>39</sup> In South Dakota, however, districts lack the power to require specified conservation standards. If landowners are found to be in violation of the promulgated standards, however, they are required to submit an erosion and sediment control plan, which can be accepted or rejected by the District. Many variations on the general theme are possible.

Adoption of **Alternative Ten** would entail creation of an administrative system to promulgate standards, hear complaints, issue orders, and otherwise implement the substantive provisions of any such statute. If natural resource districts were to be charged with implementing such a statute, no new administrative agency would be required. Expanding the duties of existing districts would, however, likely create a need for additional personnel. Finally, stringent requirements would be subject to constitutional challenge although *Ortner* indicates that a state has great latitude in regulating in this area.

#### **Socio-Economic Impacts**

**Alternative Ten** will enhance economic efficiency if two conditions are present. One, water conservation and soil erosion controls must, themselves, be efficient in that total benefits derived from the activities must exceed the costs of the activities and, two, landowners must currently be purchasing a smaller than optimal amount of soil erosion control measures. In theory, landowners will purchase a sub-optimal amount of soil erosion control measures only if some of the benefits of soil conservation practices accrue to individuals other than directly affected landowners. In fact, soil erosion controls reduce erosion not only on the land containing the controls but also on lower lands that benefit from the decreased upper land runoff. Furthermore, soil erosion controls also benefit future generations and society generally. Thus, landowners left to their own means likely would purchase less than an economically optimal amount of soil erosion controls. Existing subsidies to adopt soil erosion control measures undoubtedly increase the number of such measures that are adopted. Whether or not an optimum quantity is purchased voluntarily, however, is very much open to question.

To the extent that landowners are forced to purchase more soil erosion controls than they would do willingly, they are being forced to pay for a benefit that accrues to others. While this result may be efficient, it raises important equity concerns. If all landowners are required to adopt controls, the problem of free rider landowners is

eliminated.<sup>40</sup> The public, however, will continue to get a free ride unless the magnitude of available public subsidies approximates the public benefit received. If **Alternative Ten** were adopted, additional subsidies might be mandated by considerations of “fairness”.

### **Physical-Hydrologic and Environmental Impacts**

This alternative would encourage conservation practices as defined by the statute. Potentially, it could result in more efficient use of runoff for plants and for groundwater recharge.

Using diffused surface water more efficiently would reduce runoff. Physical-hydrologic impacts would include reduced streamflows, more groundwater recharge, and more evapotranspiration. It is also likely that soil erosion would be reduced.

The environmental impacts of **Alternative Ten** would be mixed and depend in large measure upon the specific soil erosion control practices that would be implemented. Generally, decreased surface runoff would be expected to have a positive effect on water quality by reducing soil erosion and other non-point sources of water pollution. On the other hand, reduced streamflows may have an adverse environmental impact. Finally, some of the mandated erosion control practices that would be implemented could lead to improvements in wildlife habitat.

*Alternative # 11:* Amend Nebraska statutes to codify the common enemy doctrine of liability for interference with the flow of diffused surface water.

### **Description and Methods of Implementation**

A codification of the common enemy rule might read as follows:

Landowners may engage in any activities on their own land to fend off surface water, except surface water contained in a watercourse, without concern for the consequences to other landowners who have a similar right and duty to protect themselves as best they can.

The chief advantage of a pure common enemy rule is its ease of application. Landowners have an absolute right to collect, discharge, and bank against any surface water not in a watercourse as long as their actions are limited to operations on their own land. There is no second guessing a landowner's actions by a court of regulatory agency. On the other hand, a landowner discharging surface water onto a lower estate should expect that defensive measures will be taken by the owner of the lower estate if the discharge is injurious. The owner of the lower estate also is absolutely privileged to take such

measures. Thus, the pure common enemy rule is predictable as to the legal consequences of actions taken by a landowner on his own land, but is not necessarily predictable as to the effectiveness of that landowner's efforts since his efforts can be thwarted by another landowner with impunity.<sup>41</sup>

In a perfect economic world, the common enemy rule would create a situation conducive to achieving an optimal solution through bargaining among affected parties. Actually, however, bargained solutions would be achieved only rarely and, as a consequence, the rule could lead to some particularly harsh results. For this reason, the pure common enemy rule no longer is applied in any state. Those states still claiming adherence to a version of the common enemy rule have grafted a wide variety of exceptions onto it. Examples of the exceptions include a requirement that the landowner exercise due care to avoid unnecessary injury to another, that the landowner not collect diffused surface water and discharge it in large or unusual quantities, and that the landowner may not overtax the capacity of a receiving watercourse.<sup>42</sup>

It may well be that the exceptions have conquered the rule in most jurisdictions. Massachusetts, the state generally given credit for establishing the common enemy rule in the first instance, has recently announced a prospective abandonment of the common enemy rule in favor of a reasonable use rule.<sup>43</sup> Thus, the general trend is away from the common enemy rule and any attempt to adopt it as the rule in Nebraska probably would fail unless some of the widely recognized exceptions also were adopted. Any codification of drainage rules, however, necessarily involves a compromise between the competing interests of the owners of upper and lower estates and elements of the common enemy rule, or the philosophy underlying it, are likely to be a part of any statutory scheme. Perhaps the most important implication of the common enemy rule, or the common enemy approach, is that the presumption of permissible conduct is with a landowner who makes changes on his land, while the burden of rebutting the presumption is on the injured party.

### **Socio-Economic Impacts**

In a perfect economic world, liability rules would have no effect on efficiency.<sup>44</sup> Individuals would establish an optimum allocation of rights and duties through bargaining. The perfect economic model assumes that private transfers of rights and duties can be accomplished without cost. In the real world, however, such costs, known as transaction costs, are extremely significant. The existence of transaction costs often makes the initial allocation of rights and duties

determinative of economic efficiency since part of the potential gains from contractually modifying the rights and duties will be offset by the costs of negotiating and securing the transaction, thereby reducing the incentive to contract. Friction in the transfer process thus means that the initial assignment of rights and duties impacts strongly on economic efficiency.

Economic efficiency can be enhanced in two ways through the adoption of liability rules. First, rights and duties can be assigned so that the economic need for further transfers of the rights or duties is minimized. Second, the system can be designed to reduce the costs of modifying the liability rules by contract. Either action will enhance the opportunity for achieving greater economic efficiency.

The initial assignment of rights and duties also has important equity, or wealth distribution impacts. The person in possession of rights possesses a positive item of wealth. If efficiency dictates a reallocation of rights to another party, the party granted the initial assignment of rights will be paid to transfer the rights.

The pure common enemy rule described in **Alternative Eleven** would likely reduce economic efficiency over the current situation no matter how accurately rights and duties were assigned initially. High information costs would accompany the rule since a landowner could never be sure that the actions he took to fend off diffused surface water would not be defeated by countermeasures taken by another landowner. Consequently, every drainage activity would have to be individually negotiated at high cost before a landowner could proceed with certainty.

The common enemy rule may be more efficient in a developing region, however, than in one that is largely developed. During settlement, giving landowners an absolute right to fend off surface water promotes land development. In a developing area, the efforts of one landowner are less likely to adversely impact on another landowner than would be the case after a region was fully settled or developed. Thus, the common enemy rule initially may hasten the process of developing land for productive use. Once major development has taken place, however, further development likely will impact adversely on other landowners who will attempt to protect their developed lands by taking permitted countermeasures. At that point in time, if not before, the common enemy rule probably becomes less efficient than other alternatives.

The equity impacts of adopting a pure common enemy rule are far from clear. Since all landowners are equally free to fend off or defend against diffused surface water, it is impossible to determine who benefits and at whose expense.

At early stages of development the rule probably favors developers but, as described in the preceding paragraph, at later stages of development the consequences of the rule become indeterminate. At most, the rule favors those who have some natural advantage in fending off or protecting against diffused surface water, often one would suspect, upper landowners.

### **Physical-Hydrologic and Environmental Impacts**

**Alternative Eleven** would encourage development of land having a diffused surface water problem that could be resolved through remedial action. Ease of drainage may tend to discourage activities that would make greater use of water on land where it was found. The degree or extent of water use changes cannot be determined with any measure of accuracy, however.

Similarly, environmental impacts cannot be determined with any degree of confidence. To the extent that adoption of this alternative would increase runoff and decrease the incentive for landowners to retain diffused surface water, negative environmental impacts such as soil erosion and other non-point source water pollution also would increase.

*Alternative #12:* Amend Nebraska statutes to codify the civil law natural flow doctrine of liability for interference with the flow of diffused surface water.

### **Description and Methods of Implementation**

A codification of the civil law natural flow rule might read as follows:

A landowner may not interfere with the natural flow of surface water. A lower estate is under a natural burden to accept surface water that naturally drains onto it and an upper estate can do nothing to increase the burden on the lower estate.

Strict application of the civil law or natural flow rule would result in the legal enforcement of natural drainage patterns. Since natural drainage patterns generally are apparent to prospective landowners, land values presumably would reflect those patterns. Furthermore, landowners presumably would adapt to natural drainage patterns and develop a stable pattern of land use over time. Like the pure common enemy rule, the pure civil law rule is easy to apply. In either case, the result of such simplicity should be a minimization of litigation. Under a pure common enemy rule one landowner's rights cannot be invaded legally by another and, hence, a basis for litigation does not exist. Under a pure civil law rule a landowner is prohibited from making any physical alterations to his land and, hence, one landowner can never be the cause of another's injury.

Although the civil law rule is simple to apply, this simplicity has not been deemed enough of an advantage to outweigh the adverse effect it has on improvement and development of lands. Consequently, the civil law rule also has been modified extensively by those states ostensibly adhering to it. Exceptions to the rule permit upper owners to improve natural drainage as long as a lower owner is not injured or not injured unreasonably.<sup>45</sup> The chief disadvantage of a pure civil law rule is that it would prohibit those improvements in land that could be made without injury to another party or where the gains are clearly in excess of any losses and could be used to compensate any parties suffering losses. To some extent this result could be mitigated by contractual arrangements among upper and lower landowners but practical considerations would make it difficult to secure an effective agreement.

The civil law rule, like the common enemy rule, may have been conquered by its exceptions. Yet, to the extent that any proposed statute incorporates portions of the civil law rule or its underlying philosophy, its presumptions become important. In contrast with the common enemy rule, the civil law rule presumes that any interference with natural drainage patterns is legally suspect and, hence, the burden is on the party instituting the change to demonstrate its legality.

Finally, it should be noted that both the civil law rule and the common enemy rule are ostensibly rules of property. Although their modern adaptations have blended into tort, the origins of the rules in the law of property indicates some danger of a "taking" in any attempt to modify existing rules. Because of the clear tort connection, however, the probability of "taking" problems does not appear to be great.

#### **Socio-Economic Impacts**

A strict natural flow or civil law rule is economically efficient only if the highest and best use of land normally can be accommodated without any alteration in natural drainage patterns. To the extent that some drainage or alteration of natural flow is economically desirable, the rule is inefficient since express agreement would have to be reached with other landowners, an agreement involving high transaction costs. The existence of transaction costs is largely responsible for the many exceptions to the civil law rule that have developed in jurisdictions that ostensibly adhere to it. The one "advantage" of the pure civil law rule is that it is very predictable; no alteration of natural drainage patterns is permitted without securing private agreements.

The equity impact of the civil law rule is to give landowners a valuable property right in natural drainage patterns. Consequently any economic

benefit that results from altering natural drainage patterns must be shared with those landowners who have a property right in natural drainage patterns, whether or not such landowners are in anyway injured by the alteration of natural patterns.

#### **Physical-Hydrologic and Environmental Impacts**

The codification proposed in this alternative would discourage land development in areas where diffused surface water poses an occasional problem. Whether use of diffused surface water would be increased or decreased depends upon the nature of the development that is discouraged. Consequently, it is impossible to assess the overall physical/hydrologic or environmental impact of this alternative. In some situations it might lead to decreased flows, increased retention, and, hence, reduced pollution. In other situations flows would be accelerated, retention reduced, and soil erosion and other non-point source water pollution problems increased.

*Alternative #13:* Amend Nebraska statutes to codify the reasonable use rule of liability for interference with the flow of diffused surface water.

#### **Description and Methods of Implementation**

A codification of the reasonable use rule might read as follows:

A landowner is privileged to make reasonable use of his land even though the flow of surface water is altered causing some injury to others, but a landowner is liable for such injury if his interference with the flow of surface water is unreasonable and causes substantial damage.

The reasonable use rule originated in the law of New Hampshire and Minnesota. Many states formerly adhering to the common enemy rule or the civil law rule have held that the many exceptions to those rules resulted in the creation of a new rule of reasonable use.<sup>46</sup> The chief advantage of the reasonable use rule is its flexibility to meet a variety of different fact patterns without distortion of its general principle. The chief disadvantage is the lack of a hard-line rule; a landowner or a trier of fact must determine just what kind of conduct is reasonable or unreasonable.

Casting liability questions in terms of reasonable or unreasonable conduct results in a tort analysis rather than a property analysis which must be followed under the traditional common enemy or civil law rules. Since a property analysis often requires a knowledge of historic physical features of the land, switching the analysis to tort law avoids what can be complex evidentiary

problems in proving up such items as the historic "natural flow". Consequently, most commentators feel that the reasonable use rule is a desirable trend even though the final result often will be the same as would be achieved under the traditional rules with their various exceptions. The American Law Institute also supports the reasonable use rule.<sup>47</sup>

Adoption of a reasonable use rule would result in litigation framed as a private nuisance action. Nuisance imposes liability on a person for unreasonably interfering with another person's use and enjoyment of land. To be actionable as a private nuisance, conduct must be either intentional and unreasonable or negligent, reckless, or abnormally dangerous. Typically, in a drainage dispute, the conduct is intentional in that the actor creates or continues the condition causing the nuisance knowing that harm to another party is substantially certain to follow.<sup>48</sup> Thus, the essential issue is whether the conduct is reasonable, a question of fact determined by weighing the gravity of the harm against the utility of the conduct.<sup>49</sup>

Determining the gravity of the harm involves consideration of the extent and character of the harm involved, the social value of the conduct, the suitability of the conduct to the character of the locality, the burden on the person harmed to avoid the harm, and other relevant factors.<sup>50</sup> Determining the utility of the conduct involves consideration of the purpose of the conduct and the social value attached to it, the suitability of the conduct to the character of the locality, and the impracticality or impossibility of avoiding the invasion.<sup>51</sup> Finally, even if conduct is otherwise reasonable, it is unreasonable if the harm resulting from the conduct is greater than the injured party should be required to bear without compensation.<sup>52</sup>

The law of nuisance, which underlies the reasonable use rule, has the advantage of applying to a variety of conflicts other than drainage disputes. Thus, the rule incorporates general law that likely is more familiar to lawyers than specialized drainage rules. Furthermore, the concept of reasonableness allows for differences in application between rural and urban areas or over time as needs and conditions of society change. While this flexibility is at the expense of some certainty when compared with pure traditional rules, exceptions to the traditional rules probably make results under them even less certain than results under the reasonable use rule.

Finally, it should be noted that phrasing the right to **use** surface water in terms of tort principles is also possible. The American Law Institute has taken the position that a possessor of land should not be liable for a use of surface water on

his land that interferes with another person's use of water unless the use is made with the primary purpose of causing the harm.<sup>53</sup>

### **Socio-Economic Impacts**

The reasonable use rule is a flexible one. In many respects it is an embodiment of the economic efficiency criterion. In nearly all cases, if it is economically efficient to modify natural drainage patterns, such modifications likely would be reasonable conduct under the rule. Landowners are liable, however, if their conduct seriously injures another. On its face, the rule therefore promotes economic efficiency.

The reasonable use rule does, however, suffer from a lack of certainty. While a landowner generally can be confident that an action that will be economically profitable to him and that will have minimal effect on others will be deemed reasonable, a potential always exists for expectations to be defeated by an adverse judicial ruling. On the other hand, the rule permits judicial mandating of efficient solutions, thus avoiding the problem of a recalcitrant landowner exploiting a monopoly position. Furthermore, since "reasonable" is a legal term of art, more uniform decisions should be reached in cases that are litigated. On balance, adoption of **Alternative Thirteen** should enhance economic efficiency in the long run.

The equity impacts of this alternative are somewhat unpredictable. In abstract, no particular group is favored at the expense of another group. When compared with existing law, however, there might be some transfer of wealth away from those who would preserve natural drainage patterns and to those who would develop land in ways that modified natural patterns. The magnitude of any transfer would not be great, however.

### **Physical-Hydrologic and Environmental Impacts**

This alternative would encourage more changes in land and water use than likely would occur under existing law. In an urban setting this alternative could cause increased surface water discharge and frequency of flood flows which could necessitate bank stabilization in drainways and result in accompanying negative environmental impacts such as degradation of habitats.

This same alternative, however, could encourage retention of water in either rural or urban settings depending on particular economic incentives. Increased retention would result in such impacts as increased groundwater recharge, increased evapotranspiration, and reduced streamflow. Possibly, increased groundwater recharge could help maintain dry-weather streamflows.

*Alternative #14:* Amend Nebraska statutes to codify the common law rule of liability for interference with the flow of diffused surface water that is currently expressed in Nebraska case law.

#### **Description and Methods of Implementation**

Since case law is not uniformly consistent, any codification of existing Nebraska drainage law necessarily involves a degree of conjecture. The major advantage of codifying existing law would be to express clearly in one place those principles that currently are scattered throughout numerous cases and a few relevant statutes. The result should make the law easier to understand for lawyers, judges, and lay people alike. Furthermore, such a codification would clear up existing ambiguities. On the other hand, codifying existing law would opt for retention of rules of law that are unique to Nebraska, at least in terminology and method if not in result, making it difficult to gain vicarious experience through precedent established in other jurisdictions. Furthermore, the result would be a rather inflexible system made more inflexible by the process of codification.

The following is an attempt to show how such a codification of existing law might be drafted. It is not intended to be a final or comprehensive effort. It should, however, serve as a useful approximation of what such a statute might contain. The following effort incorporates the definitions suggested in **Alternative Two**.

1. Except as otherwise provided, a landowner can dam, divert, repel, or otherwise fend off diffused surface water without regard to the consequences to other landowners, provided that the landowner's conduct does not constitute negligence.
2. Notwithstanding section 1 above, a landowner cannot divert diffused surface water onto land of another in other than a watercourse or natural drainway.
3. To the extent that an upper landowner acting without negligence diverts water into a watercourse or natural drainway, lower landowners are required to accept such water without obstructing the flow in any way.
4. Notwithstanding section 2 above, a landowner in an urban area shall not be liable for alterations in natural drainage patterns that occur consequent to normal development as long as he acts without negligence.

The proposed codification encompasses only the broad rule of liability for attempts to ward off diffused surface water. A comprehensive effort

would involve restating rules of property and restating drainage rights for categories of water other than diffused surface water.

#### **Socio-Economic Impacts**

The major economic advantage of codifying existing Nebraska law would be to enhance predictability and uniformity of application. To the extent that occurs, economic efficiency would be enhanced without change in substantive rules. Existing law, if clearly understood, would probably lead to relatively efficient economic decisions. Potential inefficiency would remain, however, in the somewhat arbitrary protection given all natural drainways and in the restrictions on diverting diffused surface water in other than natural drainways. If present rules were clearly articulated, however, transaction costs would be reduced and it would be easier to negotiate a solution when a "natural drainways" solution proved inadequate. Finally, however, it must be recognized that the complexity of existing law could lead to a complex statute which, even if clearly drafted, might not facilitate clear understanding. Uncertainty and information costs then would remain barriers to economic efficiency.

No new equity impacts would result from adopting this alternative. Existing law, however, favors landowners who have access to natural drainways over those who do not.

#### **Physical-Hydrologic and Environmental Impacts**

This alternative might tend to encourage land development because the potential for litigation relating to acceptance, use, and disposal of diffused surface water could be assessed more readily. Adoption of **Alternative Fourteen** probably, however, would result in a continuation of present physical/hydrologic and environmental impacts as related to drainage. Present impacts are determined by flow and degrees of retention of diffused surface water. Negative environmental impacts now include soil erosion and other non-point source water pollution.

*Alternative #15:* Amend Nebraska statutes to codify a reasonable use drainage statute that incorporates most substantive principles of existing law.

#### **Description and Methods of Implementation**

This final liability alternative recognizes that most traditional rules have evolved in the direction of reasonable use by virtue of the many exceptions which have been grafted onto traditional rules. By restating existing law in reasonable use terms, a degree of flexibility can be added while preserving the general direction of existing law. In addition, the restatement would

recognize the national trend in favor of an evolving reasonable use standard. Finally, adoption of a reasonable use standard should make it easier to articulate a rational basis for decisions reached in particular cases, thereby adding to the clarity and predictability of existing drainage law.

The following example is an attempt to merge existing Nebraska substantive law with the reasonable use rule. Essentially, this draft adopts the general rule of reasonable use presented in **Alternative Thirteen**, while adding a set of presumptions derived from existing substantive law. Consequently, the discussion of reasonable use contained in **Alternative Thirteen** is relevant to this alternative as well. The following effort incorporates the definitions suggested in **Alternative Two**.

1. A landowner is privileged to make reasonable use of his land even though flows of diffused surface water are altered thereby causing some injury to another, but such landowner is liable for such injury if he acts negligently or if his interference with surface flows is unreasonable and causes substantial damage.
2. Diverting diffused surface water into a watercourse or natural drainway will be presumed to be reasonable, and the burden is on an injured party to show that such action is not reasonable.
3. Diverting diffused surface water onto the land of another in other than a watercourse or natural drainway will be presumed to be unreasonable and the burden is on the diverter to demonstrate that such actions are reasonable if the diversion causes substantial damage to another party.
4. A landowner may not obstruct the flow of water in a watercourse and may not dike against overflows or flood water if the effect is to cause an increased volume of water to flow onto the land of another to his injury.
5. A landowner who obstructs the flow of water in a natural drainway or who fills or otherwise destroys such natural drainway will be presumed to be acting unreasonably and the burden will be on the landowner to demonstrate the reasonableness of his actions.
6. In an urban area, any non-negligent change in drainage patterns resulting from development shall be presumed to be reasonable, and the burden is on an injured party to demonstrate the unreasonableness of the change.

As was the case for **Alternative Fourteen**, no attempt has been made to restate Nebraska law comprehensively. Specifically, the drainage of

lakes and natural wetlands has not been considered.

Normally, this formulation of the law would have nearly the same effect as would result from current Nebraska law. The introduction of reasonable use language and the reliance on tort principles rather than on rules of property, however, changes substantive law and, in some circumstances, could lead to a different result than that expected under existing law.

#### **Socio-Economic Impacts**

**Alternative Fifteen** has most of the efficiency advantage discussed for **Alternative Thirteen**. In addition, it clarifies the type of conduct that will be presumed reasonable by incorporating existing Nebraska law with respect to natural drainways. Rather than establishing an absolute rule, however, this alternative would retain the flexibility of the reasonable use rule. Flexibility would increase the potential for rights to get into the hands of those most likely to make economically efficient use of them. Incorporating many substantive principles of existing law would highlight those circumstances where private agreements would need to be reached thereby reducing transaction costs. Finally, greater clarity and predictability generally would reduce information costs that otherwise would inhibit landowner conduct.

Since the general thrust of this alternative is similar to existing law little equity impact would be expected from implementing it. Any equity impact would be in the direction of reducing the value of land containing natural drainways and increasing the value of land with potential for further development. Any measurable effect would be extremely modest, however.

#### **Physical-Hydrologic and Environmental Impacts**

Land and water use changes within the set of standards developed by this alternative would be encouraged. This alternative probably would result in a continuation of present physical/hydrologic and environmental impacts, however, as it incorporates many principles of existing substantive law. Assessing the impacts of changes that would occur is impossible without specific knowledge of how often the reasonable use provisions would be used to overcome the presumptions of existing substantive law.

## **URBAN RUNOFF**

### **Introduction**

Most problems of urban runoff are of two types. The first type involves disputes between two urban landowners where a change of grade or

reduced infiltration consequent to development of one parcel of land results in increased flow or altered flow patterns of diffused surface water across another parcel of land. This problem is particularly acute near shopping centers, apartment buildings, office buildings, and other developments that include large paved areas.

The second type involves increased stream-flow due to intensive urbanization, which necessarily reduces the surface area available for infiltration of water. While storm sewers carry away much of the water from local areas, the water eventually reaches watercourses. Further-



more, runoff from developments on the outskirts of urban areas may flow directly into adjacent natural drainways and hence immediately into watercourses. Thus, the effect of urban runoff is to increase the probability of downstream flooding, often in rural areas. Whether the conflict is between adjacent landowners or between urban developers and downstream landowners, the crucial issue is who ought to bear the cost of drainage problems associated with urban development.

Historically, public policy favored development and improvement of land in urban areas and drainage law incorporated this preference. Thus, in Nebraska, the "common enemy" rule is applied in purer form in urban areas than in rural areas.<sup>54</sup> The discussions of alternative rules of liability in the previous section generally posited a single rule for rural and urban areas alike. Urban areas have different problems than rural areas, however, and consideration should be given to a special rule of liability developed solely for disputes between adjacent urban landowners. In addition, consideration should be given to a rule

that would increase developer's liability for injury done to downstream landowners by increased peak flows of water that occur as a consequence of development. The final alternative in this section is a comprehensive regulatory scheme to manage and control stormwater runoff in urban areas.

*Alternative # 16:* Amend Nebraska statutes to adopt a unique urban rule of liability for interference with the flow of diffused surface water.

#### **Description and Methods of Implementation**

The general advantages and disadvantages of the traditional and modern rules of liability have been developed in earlier alternatives and will not be repeated here. The following discussion, instead, focuses on those different characteristics of rural and urban environments that might justify separate liability rules for urban areas.

Urban development typically results in the creation of large areas of impervious surface that greatly decrease the potential for infiltration of storm water. Such development also generally is accompanied by drains and storm sewers to collect surface water and discharge it into natural drainways or watercourses. Rural development typically does not create large impervious areas nor result in construction of drains and storm sewers. Furthermore, urban tracts of land under unitary ownership are generally smaller than rural tracts, thus increasing the complexity of the water management problem in urban areas and decreasing the likelihood that potential disputes will be resolved by private agreement. Finally, from an historical perspective, public policy has encouraged intensive development of land in urban areas. In contrast, only "extensive" development has been actively encouraged in rural areas. One way of promoting intensive development is to make the initial cost of such development as low as possible, hence the popularity of the "common enemy" rule in urban areas. Today, however, there seems to be a trend away from intensive development, even in urban areas, and a growing recognition of the public value of preserving natural and open areas. Moreover, jurisdictions that have adopted a version of the "civil law" rule, a rule arguably imposing high initial costs of development, have not experienced a lack of urban growth. Consequently, different rules of liability for rural and urban areas may be unnecessary. Furthermore, to the extent that a single rule is appropriate for all areas, clarity of the law and predictability of application is enhanced. Despite the above, however, drainage problems in rural and urban areas differ enough to merit consideration of separate liability rules.

### **Socio-Economic Impacts**

This alternative would be economically efficient only if a uniform assignment of rights and duties would result in higher transaction costs of reaching efficient solutions in urban areas than in rural areas. Then, an alternative urban rule would increase efficiency provided that the urban rule reduced urban transaction costs. Since existing drainage law in rural areas favors natural drainage patterns to some degree, an alternative urban rule may be efficient if it can be shown that efficient urban development generally requires alteration of natural drainage patterns.

The greater number of individuals that are likely to be affected by an alteration of drainage patterns in urban areas is an additional problem that may justify an alternative urban rule. Intensive development increases the potential for land use conflicts. The greater the number of individuals involved, the higher the transaction costs if a negotiated solution is required. In many cases, high transaction costs may preclude deviations from the initial assignment of rights and duties. If so, the initial assignment is of critical importance.

The equity impact of this alternative depends on the nature of any unique urban rule adopted. If such a rule favored drainage changes in urban areas, developers of urban land would benefit at the expense of existing landowners. The extent of the benefit to developers would depend on the effectiveness of urban subdivision controls and other regulatory activity.

### **Physical-Hydrologic and Environmental Impacts**

**Alternative Sixteen** likely would encourage land development and water use changes by establishing known liabilities. The physical/hydrologic and environmental impacts of this alternative are unpredictable. Possibly, overland runoff to streams would increase, but an accurate assessment of impacts would depend on the structure and construction of the unique urban rule.

*Alternative #17:* Amend Nebraska statutes to provide that urban and suburban developers are liable to downstream landowners for any injury resulting from increased peak streamflows consequent to the development.

### **Description and Methods of Implementation**

**Alternative Seventeen** would make developers strictly liable to downstream property owners for damage traceable to increased streamflows brought about by urban runoff. Indirectly, such a rule would impose increased costs on those who purchase developed property. Downstream

flooding or scouring is always a possible consequence of urban development since, no matter how sophisticated a drainage system is adopted by a subdivision or shopping center, a greater part of any precipitation eventually will reach a watercourse, either through storm sewers or through direct overland runoff.

Ostensibly, this alternative would give rural landowners a cause of action for injury resulting from upstream urban development even if the developer seemingly had taken adequate precautions to prevent adverse consequences from surface water runoff. Under existing law, a developer would be liable only for negligence. Implementing a rule of strict liability, however, poses several problems, many of which also apply to actions based on negligence. Of these, the most significant problem probably is one of showing causation. Tracing the cause of flood damage to a particular upstream developer would be very difficult. Furthermore, upstream rural landowners who have not adopted recommended soil and water conservation methods might be viewed as equal causes of the injury. To the extent that several causes could be identified, assessing the relative contributions to the problem would lead to further litigation. In fact, while the lack of administrative costs is an attractive feature of this alternative, extensive litigation expense is a serious negative feature.

Finally, this alternative would impose liability without regard to the cost of alleviating the injury by, for instance, construction flood retention structures. If the cost of preventing the injury greatly exceeds the cost of the injury, a strong argument can be made that compensation should be denied the injured landowner, or that a landowner should be limited to damages rather than injunctive relief. A developer who has acquired the right to continue to inflict injury by paying damages, however, has in essence been granted a private right to condemn an easement from the injured property owner.

### **Socio-Economic Impacts**

Implementing this alternative potentially would increase economic efficiency provided transaction costs would not prove excessive. Developers would be forced to negotiate runoff agreements with downstream property owners. If the cost of these negotiations prevented otherwise efficient development from taking place, this alternative would be inefficient. Assuming these costs would not be excessive, however, forcing developers to consider all costs of their development would enhance efficiency. If development in a particular location would not generate enough revenue to pay injured downstream landowners, the development would be inefficient and should not occur. Excessive trans-

action costs could be prevented by limiting a landowner's remedy to damages. A downstream landowner, then, would not be able to exploit a monopoly position that he would have if a development could be stymied by injunctive actions.<sup>55</sup>

Assuming that developments would continue unabated whether or not this alternative was adopted, the major consequence of adopting this alternative would be an equity impact. Downstream landowners would benefit at the expense of upstream developers. The magnitude of the benefit would be equivalent to the amount of damage done to downstream lands by increased runoff consequent to the development. Perhaps, the equity impact of this alternative can be characterized more accurately in negative terms. Downstream landowners would be given the power to block involuntary transfers of wealth from the landowners to the developers. Such a forced wealth transfer would otherwise occur if developers were permitted to shift some of the cost of their project onto downstream landowners.

#### **Physical-Hydrologic and Environmental Impacts**

The resulting increase in land development costs from this alternative would tend to discourage land development that would intensify the drainage of diffused surface water. By discouraging land development, this alternative probably would encourage retention of water on the land. The resulting physical/hydrologic and environmental impacts could include a decrease in total runoff and an increase in evapotranspiration. Negative water quality impacts would be small.

*Alternative #18:* Adopt a comprehensive statutory scheme relating to management and control of storm water runoff that gives due regard to the interests of downstream landowners.

#### **Description and Methods of Implementation**

**Alternative Eighteen** would require that plans be submitted to an administrative agency for approval before development of a tract of land could commence. Requiring advanced administrative review of storm water management plans would impose an additional regulatory cost on developers who would be required to devise such plans and submit data to the agency. On the other hand, the burden in many instances would be slight given the amount of information that must be supplied in a subdivision application. In any event, the effect of such a requirement hopefully would be to limit future litigation costs and confine any litigation expenses to the period preceding actual development of the land. In addition, litigation costs would be borne by

developers appealing an adverse determination of their permit application rather than by landowners subsequently injured because drainage plans were inadequate. Any such regulatory scheme would, of course, be subject to constitutional scrutiny on equal protection, due process, and takings grounds.

Given the localized impacts of most drainage decisions, a comprehensive regulatory scheme probably should be administered by local governmental units. In Nebraska such administration probably would be centered in municipalities, counties, or natural resource districts. On the other hand, to protect the interests of downstream landowners who may lie outside the political boundaries of a local reviewing authority, some means should exist for projects of a specified magnitude to be reviewed at the state level, presumably by the Department of Water Resources or the Natural Resource Commission.

A properly drafted permit scheme for urban drainage would have to be based on one or more of the liability alternatives discussed previously. Again with proper planning, a comprehensive management scheme for urban runoff could be drafted to satisfy requirements of the Federal Water Pollution Control Act relating to non-point sources of pollution.<sup>56</sup>

A wide variety of provisions necessarily would have to be incorporated into such a regulatory scheme. An existing model storm water runoff ordinance might serve as a starting point.<sup>57</sup> This ordinance requires submission of a water management plan to a regulatory agency and approval of the plan before most developments can be approved for construction.

Contents of the water management plan are detailed by the model ordinance with appropriate procedural safeguards included to meet the requirements of due process of law. The model law requires water management plans to demonstrate that the proposed development has been planned and designed to meet certain specified performance standards. Design standards also are specified by the act. Additional sections of the model ordinance require the regulatory agency to publish a guide manual to help persons in the selection of appropriate management techniques, provide for the allocation of maintenance costs between public and private sectors, and establish enforcement mechanisms.

The model ordinance highlights the many considerations that must go into the development of a comprehensive scheme for controlling urban runoff. If the important implications of the Federal Water Pollution Control Act are ignored, the chief policy issue needing to be addressed is whether urban runoff should be regulated and controlled

from the inception of land use changes or whether urban runoff should be controlled by private litigation once clear liability rules are established.

### **Socio-Economic Impacts**

The efficiency impact of this alternative depends on whether or not the management scheme fosters economically efficient solutions. Any management scheme necessarily would have to incorporate one or more of the previous alternatives as operating principles. The economic implications of those alternatives apply with equal force here. Additional efficiency gains are possible if information and transaction costs are reduced because the permit process increases certainty. Confining dispute resolution to the predevelopment period also would minimize those costs since plans could be altered before work progress makes alteration exceedingly costly.

The permit system would not be without costs of its own, however. To the extent that administrative costs, including the costs of permit applications, exceeded the gains in efficiency discussed above, this alternative would not be economically efficient. Furthermore, regulators may not be in a good position to assess economic efficiency. To the extent that a permit system merely supplements rules discussed in earlier alternatives, however, the possible negative effects of regulation are minimized.

The equity impacts of this alternative depend entirely on which of the principles enumerated in previous alternatives would be incorporated into the comprehensive statute. Previous discussions of equity impacts therefore apply with equal force to this alternative.

### **Physical-Hydrologic and Environmental Impacts**

Complying with a regulatory scheme would tend to increase land development costs and thereby discourage land developments that would intensify the drainage of diffused surface water. By discouraging land development this alternative probably would encourage retention of water on the land. The resulting physical/hydrologic and environmental impacts could include a decrease in total runoff and an increase in evapotranspiration. Negative water quality impacts would be small.

## **LAKES**

### **Introduction**

Lakes, as well as wetlands discussed in the next section, appear only as an afterthought in Nebraska law. Small lakes may be drained at the



will of landowners. Permits are required only to drain lakes exceeding twenty acres and then only if the lake or land used for drainage construction is located on the property of two or more landowners.<sup>58</sup> Statutory provisions to protect critical wetlands do not exist. Apparently, Nebraska law treats wetlands as diffused surface water for purposes of drainage. This section considers whether changes should be made in the manner in which one acquires property rights in lakes or in the right to drain natural lakes. The next section considers a variety of incentive and regulatory alternatives that could be adopted to preserve existing wetlands. The no change alternative, listed below, applies to wetlands as well as lakes.

*Alternative #19: Make no change in existing law relating to property rights or drainage rights in natural lakes or wetlands.*

### **Description and Methods of Implementation**

This alternative would preserve the status quo.<sup>59</sup> It would continue existing law which does not specifically address property rights in lake water. It also would continue existing rules that permit, and perhaps encourage, the drainage of lakes and wetlands. Finally, it should be noted that the federal government has asserted authority over many wetlands.<sup>60</sup> Therefore, this alternative would leave the development of wetland preservation measures largely to the federal government.

### **Socio-Economic Impacts**

To the extent that wetlands and lakes yield public benefits in addition to private benefits, existing law is inefficient since, generally, only

private costs and benefits are considered in the decisionmaking process. If, however, private benefits of drainage always exceed public benefits provided by wetlands and lakes, the current system is efficient. Existing law contains no means of evaluating or estimating the nature or quantity of those public benefits and that is its chief economic shortfall. Lacking such an evaluative mechanism, a public good often will be underproduced because private individuals cannot capture the benefit of its production.

The equity impacts of existing law are to favor private landowners over the public generally but the magnitude of the impacts cannot be readily determined.

### **Physical-Hydrologic and Environmental Impacts**

Since this alternative contemplates no change, water use and land development would not be affected. Present physical/hydrologic and environmental impacts would be continued. Long range impacts of existing law include the possible loss of wildlife habitat and associated meadows as well as the potential for reduced water quality.

*Alternative #20:* Amend Nebraska statutes to provide that a prior appropriation permit must be secured before a landowner can divert water from a lake exceeding a specified minimum size.

### **Description and Methods of Implementation**

Adoption of this alternative would establish a consistent system of surface water property rights in the state. It also would clear up a current anomaly in Nebraska law that authorizes a supplemental appropriation from natural lakes while not authorizing an initial appropriation. An appropriation permit requirement probably should be limited to lakes which exceed a particular size since at some point the impact of lake diversions on other water users is probably **de minimus**. Exempting lakes of less than ten acres would be consistent with federal dredge and fill requirements under § 404 of the Federal Water Pollution Control Act.<sup>61</sup>

To the extent that some lakes and streams are hydrologically interrelated, incorporation of lakes into the prior appropriation system would protect the interests of both diverters of stream water and diverters of lake water. To the extent that lakes feed streams, a system of lake water. To the extent that lakes feed streams, a system of prior appropriation would protect downstream appropriators. Conversely, to the extent that lakes are fed by streams, the system would protect lake diverters from subsequent upstream diversions.<sup>62</sup>

Given the fact that lakes are not currently

subject to prior appropriation requirements, however, bringing them into the system raises the same issues that are raised by proposals to integrate riparian rights to streamflow into the prior appropriation system. Such problems are of constitutional dimension and are the subject of another study. It may be that the benefits of incorporating lakes into the system of prior appropriation may not exceed the costs of meeting constitutional requirements. The supplemental appropriation anomaly, however, would remain.

Some of the constitutional difficulties might be avoided by drafting a statute that would distinguish carefully between rights to consume lake water and rights to use lake water in place. With the exception of Nebraska and Colorado, the western states all include lakes within the definition of water subject to prior appropriation. If the appropriation statutes do not apply, however, property rights in lakes probably are defined by the common law of riparian rights. Thus landowners are free to divert only a reasonable amount of water from the lake, reasonable being defined in relation to the needs of other littoral landowners. Consequently, consumptive diversions that reduce lake levels below some minimum level are probably unreasonable, at least where more than one landowner has land abutting the lake.

Some lakes in Nebraska can, however, be drained completely by permitted drainage discussed in the next alternative. If property rights in lakes are changed, they must be consistent with established drainage rights. Consideration of common law littoral rights, statutory drainage rights, and the existing system of prior appropriation rights indicates that any right to appropriate waters in a natural lake should be limited by the amount of water in the lake deemed to be "excess", or at least above some minimum lake level. Appropriation rights, therefore, would be limited to consumptive uses of lake water, and the amount of water available for consumptive use would be limited to the amount above some minimum lake level. The right to use lake water "in place" would continue to be governed by riparian principles subject to any drainage rights conferred by statute. Limiting appropriation rights to consumptive use together with limiting the amount of water available for consumptive use would minimize the opportunity for conflicts of constitutional dimension to arise.

### **Socio-Economic Impacts**

Potentially, this alternative could increase economic efficiency by making more certain the property rights of lake water users and stream water users who divert downstream from the lake. Information costs also would be reduced since confusion that results from placing lakes

under a riparian property rights system while placing streams under a prior appropriation system would be eliminated. Furthermore, incorporating lakes into the existing prior appropriation system would facilitate area wide and state wide water management decisions. Finally, granting permits subject to a "public interest" test would allow public costs and benefits of lake diversion to be explicitly considered. On the other hand, property rights in lakes may be a minor problem in Nebraska, making any potential gains in efficiency negligible, particularly if the issues of lake drainage would be resolved as in the following alternative.

There would be very little equity impact from adopting this alternative as the major benefit seems to be in certainty of a right rather than in quantity of a right. The only potential losers under this alternative are those property owners who would be denied an appropriation permit to divert on the grounds that denial was mandated by the public interest.

#### **Physical-Hydrologic and Environmental Impacts**

This alternative would result in no significant changes in existing land development or water use patterns. The impacts of any minor changes in water use patterns cannot be assessed without more knowledge of the specific way in which this alternative would be implemented, including whether or not minimum lake levels would be protected and how any minimum lake level would be established.

*Alternative #21:* Amend Nebraska statutes to provide that a permit must be secured before draining a lake having a surface area exceeding ten acres.

#### **Description and Methods of Implementation**

A Nebraska statute creates a permit requirement that prohibits drainage of certain lakes having greater economic value in their natural state than the lakebed would have as productive agricultural land.<sup>63</sup> As interpreted by the Nebraska Supreme Court, however, this statute rarely applies to drainage of lakes in Nebraska.

**Alternative Twenty-One** would increase the frequency of the statute's application and would eliminate the current exception for lakes located solely on the land of a given landowner. The ten acre limitation would bring Nebraska law into parallel construction with federal law relating to dredge and fill permit requirements.<sup>64</sup> Federal regulations issued provide that a permit generally is not required for discharges into natural lakes, including wetlands, that are less than ten acres in surface area or into similar lakes that are fed by or which feed watercourses above the headquarters of the stream.<sup>65</sup> By drafting a lake

drainage statute to be consistent with federal dredge and fill regulations, eventual state administration of the § 404 program would be facilitated.<sup>66</sup> Consideration also should be given to requiring a permit to drain any natural lake that is not isolated from a stream or is not located above the headwaters of a stream, irrespective of lake size, in order to maximize the consistency between state and federal law.<sup>67</sup>

The chief disadvantage of this alternative appears to be the increased administrative cost of processing a greater number of permit applications. The major advantage is in assuring that natural lakes of particular public value will not be destroyed and in helping to put the state in a position to administer the federal § 404 program directly. Finally, this alternative could be merged into the wetland regulatory program described in **Alternative Twenty-Seven** should that alternative be adopted.

#### **Socio-Economic Impacts**

The existing statute adopts economic efficiency as the criterion for approving drainage of a lake in that approval will be granted only if the lakebed has greater economic value when drained than it has economic value when left in its natural state.<sup>68</sup> If additional administrative costs would not be prohibitive, this alternative would enhance economic efficiency by applying the efficiency test to a greater number of situations. It would allow greater consideration of the public value of lakes in their natural state. Furthermore, to the extent that state law was made consistent with federal law it would reduce the economic burden of complying with two sets of regulations.

The equity impact of this alternative would be to favor the general public somewhat more than is done currently. A landowner's right to drain a lake could be restricted more often under this alternative, a restriction that confers a benefit on the public. On the other hand, a strong argument can be made that the existing lake drainage statute has been misinterpreted by the Nebraska Supreme Court. If an earlier case were overruled, the present statute would prohibit drainage of lakes that exceed twenty acres in surface area and the economic value test and permit requirement would be applied to all smaller lakes. The equity impact of this alternative, then, might be reversed since landowners might have greater economic rights under **Alternative Twenty-One** than under what would become existing law.

#### **Physical-Hydrologic and Environmental Impacts**

Given the limited magnitude of the problem, no significant changes in land development or water use patterns would be expected under this al-

ternative. To the extent that this alternative resulted in greater preservation of lakes in their natural state, wildlife habitat would be sustained. Generally, however, impacts of this alternative cannot be accurately assessed without a study of the number and location of Nebraska lakes that would be impacted by this alternative.

## WETLANDS

*Alternative #22:* Expand existing state programs and/or develop new programs authorizing the state to acquire wetlands by purchase or otherwise, where preservation of such wetlands would serve an important public purpose.

*Alternative #23:* Expand the wetlands acquisition portion of the habitat programs currently administered by the Nebraska Game and Parks Commission.

*Alternative #24:* Establish a broad program of wetlands acquisition to be administered by an agency that has broader responsibilities than the Nebraska Game and Parks Commission.

### Description and Methods of Implementation

**Alternatives Twenty-Two through Twenty-Four** would encourage state purchase of wetlands. **Alternative Twenty-Two** raises the broad policy issue of whether or not a more active state role in wetlands purchase is necessary. **Alternatives Twenty-Three and Twenty-Four** embody more concrete suggestions on how a wetlands acquisition-program might be structured.

Currently, Nebraska has no organized plan to make systematic purchases of wetlands from willing sellers. A wetland acquisition mechanism should involve a means for identifying critical wetlands and should address the question of how far the state should go in trying to strike a bargain between willing buyers and sellers. Identifying critical wetlands on an individual basis would be difficult, though not impossible. Cumulatively, however, wetland habitat is critical for wildlife. Consequently, implementing **Alternative Twenty-Two** would require that a systematic procedure be developed and implemented to establish general priorities for wetland acquisition. The priority scheme would have to consider total wetland acreage in a particular geographic area, the relative importance of particular wetland areas, and threats of wetland loss by drainage or other land use changes.

Consideration also should be given to the question of whether the state should be authorized to use eminent domain powers to secure

wetlands if landowners prove unwilling to sell. To the extent that buyers and sellers enter into willing transactions, constitutional impediments to preservation in the form of "compensation requirements" are avoided. On the other hand, wetlands preservation by acquisition is clearly within the eminent domain authority of the state should the state choose to exercise its power.

**Alternative Twenty-Three** offers one possibility for expanding an existing program which has been used to acquire wetlands. The Game and Parks Commission currently uses a portion of the monies it collects from the sale of habitat stamps for the purchase of wetlands that constitute



critical wildlife habitat. This alternative would expand funding for the program and provide specifically for the acquisition of wetlands according to some prearranged plan as discussed above. A particular level of funds could be earmarked for the wetlands acquisition program with funds generated through the present habitat stamp program, through public appropriation, or through a combination of sources. Gifts could be encouraged. Finally, it would be necessary to decide whether the power of eminent domain could be used to acquire wetlands or the program could rely solely on purchases from willing sellers.

A similar program exists in Minnesota. Minnesota statutes empower the Commissioner of Natural Resources to acquire wildlife lands by gift, lease, or purchase. Preference in the acquisition of such lands is given to certain designated types of wetlands.<sup>69</sup> The program is funded by a surcharge on small game hunting licenses and by the issuance of migratory waterfowl stamps which must be purchased by hunters of

migratory waterfowl and which may be purchased by nonhunters interested in the preservation and development of waterfowl habitat.<sup>70</sup> The Minnesota purchase program has been criticized, however, since county boards, under certain circumstances, have the power to disapprove the purchase by the state. Furthermore, even after purchase, a wetland may be drained if a majority of property owners in the area so desire.<sup>71</sup>

**Alternative Twenty-Four** is identical to **Alternative Twenty-Three** except that it recognizes that wetlands serve a variety of public benefits in addition to wildlife preservation. Given benefits such as groundwater recharge, flood control, and water purification, there may be broader interests served by wetland preservation than those of hunters and fishermen.<sup>72</sup> Therefore, it can be argued that an agency having a broader constituency than the Game and Parks Commission should be charged with wetland acquisition. It also can be argued that acquisition funds should come from the general public, and not from hunters alone, or that both sources should be used. Finally, any wetlands program should consider whether private uses are compatible with public uses and, if so, which private uses should be permitted and under what circumstances.

#### **Socio-Economic Impacts**

**Alternatives Twenty-Two** and **Twenty-Four** directly address the issue of wetlands as public goods and how an optimal supply of those goods can be developed. These alternatives would be efficient if the amount of public funds currently allocated to wetland purchase is too low to secure an optimal supply. Public purchase of wetlands from willing sellers offers some assurance that wetlands have greater public than private value. Ultimately, however, whether such a program is efficient depends on the degree to which the political process correctly assesses the public value of wetland preservation and the degree to which it accordingly funds purchase programs.

The equity impacts of a wetland purchase program depend on which public constituency is assessed the costs of the purchases. If the only purchase program is an expanded version of the current habitat stamp program administered by the Game and Parks Commission, hunters and sportsmen would subsidize the general public to the extent that wetlands performed beneficial functions other than as a source of critical wildlife habitat. Similarly, however, a program funded from the general treasury may benefit a constituent group like hunters and sportsmen disproportionately to the cost they pay. The recreational activities of one group would then be subsidi-

dized by the general public. Various equitable "splits" could be institutionalized, of course, by combining funding from several sources. Finally, owners of wetlands would benefit by the ability to capture through sale the economic value of wetlands that provide public benefits.

#### **Physical-Hydrologic and Environmental Impacts**

Expanded wetland purchase programs would help to preserve wetlands and sustain wildlife habitat and associated meadows. These alternatives could result in physical/hydrologic and environmental impacts that would arise over time from wetland preservation and maintenance. Such impacts could include sustained wildlife habitat and associated meadows. In addition, water quality might be improved.

*Alternative #25:* Encourage landowners to preserve wetlands by offering cooperators a tax credit.

#### **Description and Methods of Implementation**

Minnesota statutes authorize tax credits for wetland preservation. Landowners who own qualifying wetlands are given a tax credit equal to  $\frac{3}{4}$  of 1 percent of the average estimated per acre value of tillable land in the township if they agree not to drain their qualifying lands during a particular year.<sup>73</sup> Minnesota law also compensates local taxing units for the lost revenue.

The major advantages of a system of tax credits is that the program is voluntary and therefore avoids the constitutional takings questions and that the program is probably cheaper than outright purchase of the fee, at least in the short run. On the other hand, the voluntary feature of the plan is probably also the major disadvantage of tax incentives. A landowner is free to drain his land on one year's notice. Furthermore, no way to identify and preserve only the most critical wetlands exists since participation is solely at the landowner's option. Finally, there are administrative difficulties in determining the appropriate size of the credit and, if the size of the credit is tied to land values, in determining those values. The administrative costs of implementing the program probably would, be modest, however.

#### **Socio-Economic Impacts**

Tax credits proposed in this alternative would promote economic efficiency only to the extent that they would encourage landowners to preserve an optimal amount of wetlands. This will occur only if the amount of the tax credits available plus the value of wetlands to the individual landowners equals the incremental value of wetlands to society. Thus, the tax credit must reflect the marginal public value of wetlands. If the total tax loss from the credit exceeds the total public benefit from preserving additional wetlands, the

tax credit is set at an inefficiently high level.

Unfortunately, tax credits can be captured by landowners who would preserve their wetlands in natural state without the incentive of a tax credit. Consequently, a disproportionately high tax cost may have to be paid to get an additional increment of wetlands preserved. Furthermore, under a system of tax credits, the public will have no incentive to make long run improvements in wetland management since a landowner is free to give up the credit and drain the wetlands on one year's notice, thereby depriving the public of an opportunity to recover its investment. For these reasons, tax credits are inherently inefficient.

The equity impact of tax credits is to transfer wealth from the taxpaying general public to private landowners who agree to preserve wetlands. The precise equity effect thus depends on the progressive or regressive nature of the tax system to which the credit applies. The burden of the tax credit will fall mainly on the economic group that pays the greatest share of taxes. Whether or not that economic group receives comparable benefits from wetland preservation is subject to conjecture.

#### **Physical-Hydrologic and Environmental Impacts**

Tax credits would encourage preservation of wetlands by the private sector. Physical/hydrologic and environmental impacts would arise over time from this wetland preservation and maintenance. Impacts could include sustained wildlife habitat and associated meadows as well as improved water quality.

*Alternative #26:* Adopt a state water banking act to encourage the withdrawal of wetlands from development for a predetermined number of years.

The federal water banking program is briefly described in Chapter One. This alternative would result in adoption of a similar program by the state. An owner of designated wetland properties would be eligible to enter into an agreement wherein he agrees to preserve the wetland character of his land for a designated number of years, ten years under the federal program. Payments could be fixed by statute or could be a matter for negotiation between the state agency and the landowner. In inflationary times, some provision for periodic adjustments in contract rates may be necessary to attract landowners. Minnesota administers a state water banking act in addition to its other wetland preservation program.<sup>74</sup>

Many advantages and disadvantages of this alternative relate to its voluntary feature. The advantages and disadvantages of voluntariness have been discussed previously.<sup>75</sup> The inter-

mediate term of the contractual commitment involved in this alternative, however, is an attractive feature since public wetland management options would be enhanced over what would be available under, for instance, an annual tax credit program. Furthermore, an intermediate term commitment might be attractive to landowners who would be willing to participate in a wetlands preservation program but who would be unwilling to sell their land. The major disadvantage of this alternative is probably related to the cost of a program that would generate enough interest by landowners to have a meaningful impact on wetland preservation.

Finally, a wetland preservation program could be based on a wide variety of alternative voluntary options. In addition to the three alternatives mentioned, other less-than-fee acquisitions might be authorized where some private use would be consistent with the realization of public benefit.<sup>76</sup> A variety of options likely would enhance participation by landowners, and hence, the effectiveness of the program. On the other hand, multiple options necessarily would increase administrative costs. Furthermore, care must be taken with multiple options to ensure that landowners cannot compound benefits by participating in several distinct programs simultaneously.

#### **Socio-Economic Impacts**

The efficiency impacts of this alternative are similar to the impacts of public purchase of wetlands.<sup>77</sup> The only significant difference is that a water banking act involves a contractual obligation extending over a finite number of years while a fee purchase is a permanent transfer of rights. Thus, certain long run public improvements in wetland management that would be efficient may not be made because the costs cannot be recovered over the period of the contract. This alternative makes it possible to reach a higher state of economic efficiency than can be reached under current law, but without assurance that such a higher state will be reached. Potential efficiency gains are limited by the ability of the contracting agency or political process to accurately evaluate the social value of wetlands. The voluntary nature of this alternative, however, would help ensure that a proper mix of wetlands and drainage would occur, particularly if preservation payments were a matter of negotiation between the state agency and the landowner. If land would be more valuable to private individuals when drained than to the public as a wetland, a freely negotiated price would not be high enough to encourage preservation.

The equity impacts of this alternative are similar to those discussed earlier. If financed out of the general treasury, the cost of wetland

preservation would be borne by those on whom the tax incidence would fall most heavily. To the extent that specific public (or private) constituencies would gain a disproportionate benefit from wetland preservation, their gains would be subsidized by the members of the taxpaying general public who do not benefit to as great an extent.

### **Physical-Hydrologic and Environmental Impacts**

State adoption of a water banking act would discourage drainage of wetlands and thereby encourage changes in the use of diffused surface water, specifically retention of diffused surface water in wetlands. Over time, wetland preservation and maintenance could result in significant physical/hydrologic and environmental impacts. Potential impacts include sustained wildlife habitat and associated meadows and improved water quality. The magnitude of the impacts would depend on the location, type, and quantity of wetlands that would be preserved under the act.

*Alternative #27:* Adopt a comprehensive regulatory program designed to identify, preserve, and protect critical wetland areas.

### **Description and Methods of Implementation**

Unlike the previous alternatives, all of which were based on securing the voluntary participation of landowners to preserve wetlands,<sup>78</sup> this alternative contemplates direct state intervention in the form of land use control as the chief means of preserving critical areas. Several states have adopted comprehensive wetland preservation statutes.<sup>79</sup>

Comprehensive wetland preservation statutes include statements of public policy justifying preservation of wetlands, definitions of those wetlands eligible for protection, procedures for inventorying protected wetlands, activities permitted or prohibited in wetland areas, and procedures for obtaining permits to undertake a regulated activity. In addition, such statutes provide for appeals of adverse decisions by the regulatory authority and establish penalties for failure to comply with terms of the act.

Statutes prohibiting development without offering compensation are, of course, especially prime targets for constitutional scrutiny. This problem can be alleviated somewhat by offering partial compensation in the form of tax reductions to a landowner whose request for relief from regulation is denied.<sup>80</sup> In general, however, a wetlands preservation statute will create regulations that clearly pose the "taking" issue.

It is difficult to predict precisely how the Nebraska Supreme Court would resolve the

"taking" issue. Much probably would depend on the precise language of the statute, including how closely the regulation was tied to protecting public health, safety, or welfare. The argument in favor of finding a compensable taking is that regulations preserving wetlands, as a practical matter, restrict use of the land to wildlife preservation, recreation, and flood control, all activities of prime public as opposed to private benefit. On the other hand, the famous decision in *Just v. Marinette County*<sup>81</sup> upheld a regulation without compensation where the effect was to prohibit development in wetlands adjacent to navigable lakes. The *Just* court distinguished between "natural and artificial" use of wetlands, upholding the police power of states to protect the natural character of wetlands notwithstanding that the land would be of greater economic value to its owner if developed for artificial use. The *Just* analysis seemingly adopts a comparison between value to an owner and harm to the general public in permitting an artificial use of wetlands. If potential public harm exceeds potential private gain, the state is justified in using the police power to preserve natural uses of wetlands.

To date, several comprehensive wetland preservation statutes lacking compensation provisions have withstood constitutional attack.<sup>82</sup> Other courts have avoided the constitutional issue by resting decisions on procedural grounds.<sup>83</sup> Finally, analogies can be drawn to cases upholding flood plain regulations that lack compensation provisions.<sup>84</sup>

Special note should be made of a New York law which ensures that the New York comprehensive wetland statute will never be held unconstitutional on taking grounds.<sup>85</sup> The New York statute grants a property owner judicial review of adverse permit decisions. The reviewing court is authorized to determine whether denial was proper and, if so, whether the regulation is so onerous as to constitute a taking without payment of just compensation.<sup>86</sup> In the event the Court finds a taking, the statute requires that the Court direct the regulating authority to issue the permit or institute condemnation proceedings. Thus, the statute itself will pass constitutional scrutiny.

Should this alternative be selected, the following considerations would need to be addressed by the implementing statute:

1. A litany of public purposes served by the regulation.
2. The process by which wetlands are to be identified and which particular wetlands should be subject to regulation.
3. Assuming that an inventory is made, whether maps should be drawn and, if so,

whether they should be filed among the land records.

4. The due process rights of affected landowners to participate in and seek judicial review of any classification of their lands. Provision should be made for actual notice to affected landowners and for the opportunity for such landowners to participate in a hearing.
5. The activities, if any, that will be permitted in a designated wetland without a need to secure a permit. To this end, wetlands may be subclassified to distinguish between identifiable types of wetlands, such as marshes or wet meadows, with permissible uses varying by subclass.
6. The activities that will be prohibited in a wetland absent grant of a permit and the criteria and procedures to be used in evaluating a permit request.
7. Whether any compensation should be paid to landowners whose request for a permit is denied, and if so, how such compensation should be calculated.
8. Appellate procedures and whether a New York style review should be included.
9. Penalties and sanctions to be applied for failure to comply with terms of the statute.
10. The administrative agency that should be responsible for making the inventory and maps of critical wetlands, and the agency that should be responsible for ruling on permit applications.

The major advantage of a comprehensive wetland preservation statute is that, in theory, management decisions should be better than under the various incentive programs. Decisions as to the value of particular wetlands can be made according to best scientific evidence without any concern that voluntary compliance of a landowner will not be forthcoming. A second advantage is that a comprehensive preservation statute would be consistent with the state assuming the primary implementation responsibility under § 404 of the Federal Water Pollution Control Act.<sup>87</sup> The major disadvantages of comprehensive regulatory statutes include the cost of identifying and classifying affected wetlands, the cost and complexity of the required administrative superstructure, and the fact that "takings" issues may result in increased litigation, especially in the early years of the statute's operation.

Finally, it should be noted that a policy decision to protect and preserve selected wetlands is subject to defeat if pumping of groundwater or drought conditions lower the water table that supports the wetland. Thus, to the extent possible a comprehensive regulatory scheme

should provide a mechanism for preventing groundwater drainage of the wetland.<sup>88</sup> In the case of wet meadows, such a provision could mean that the traditional source of a ranch's hay crop would be protected from interference by groundwater irrigators, at least absent the grant of a permit to pump which might be conditioned on paying compensation to an adversely affected owner of a wet meadow. In any event, it must be remembered that complex surface water problems cannot be solved without considering the implications of the entire hydrologic cycle, including the hydrologic interrelationship between groundwater and surface water.

#### **Socio-Economic Impacts**

This alternative differs markedly from the previous wetland preservation alternatives as it substitutes regulation for market transfers as a means of preserving wetlands. Economically, this alternative will increase efficiency if the state can determine an economically optimal amount of wetlands to be preserved. Since the cost of preserving such wetlands is limited to the administrative cost of the regulatory system, however, there may be a tendency to preserve a greater amount of wetlands than is optimal. Incorporating an economic justification test into the statute could help alleviate this problem.

Much of the economic impact of this alternative would be equitable in nature. To the extent that regulations require landowners to use land in a way that limits economic benefit to the landowner in order to preserve a greater public benefit, the landowner is being asked to subsidize the general public. If, for instance, a landowner can profitably drain and improve a wetland, regulations that limit his activity to preserve perceived public benefits can be justified on efficiency grounds if the total public and private benefits of wetlands exceed the total public and private benefits of drainage. As a matter of equity, however, regulation that does not have a compensation feature results in the private landowner bearing the cost of an activity that produces largely public benefits.

#### **Physical-Hydrologic and Environmental Impacts**

This alternative would prohibit land development in critical wetland areas. Preserving and maintaining wetlands could result in physical/hydrologic and environmental impacts which would arise over time. Impacts could include sustained wildlife habitat and associated meadows and improved water quality.

#### **NON-UNIFORM PROVISION GOVERNING POLITICAL SUBDIVISIONS**

*Alternative #28: Specify a uniform set of drainage powers for cities and villages*

and eliminate obsolete or unnecessary provisions relating to counties.

#### **Description and Methods of Implementation**

Duplicate, similar, and at times conflicting drainage authority for cities and villages is scattered throughout the Nebraska statutes.<sup>89</sup> This alternative would establish a uniform set of drainage powers that would apply to all cities and villages. It should be possible to specify uniform rules with regard to the authority to provide storm water and sanitary sewer service, the power to cause lots to be drained and to assess costs, the power to dike against surface waters, and liability for the accumulation of surface waters. These provisions, and any that might be developed concerning urban runoff, could be incorporated into a comprehensive system of urban drainage rights and duties. The comprehensive system also could incorporate those provisions concerning sanitary drainage districts and sanitary improvement districts. Again, the major advantage of such a system would be the ease of understanding the legal superstructure, a development which should improve overall management of water resources.

Duplicate and conflicting drainage authority also has been conferred on counties by a variety of Nebraska statutes.<sup>90</sup> Much of this authority is apparently obsolete as witnessed by provisions authorizing appointment of lay appraisers who are paid three dollars a day.<sup>91</sup> To the extent that counties should retain a measure of drainage authority, the authority could be consolidated into a single, comprehensive statute that would replace current authority. As above, the major advantage of what would essentially be a house-keeping measure, would be an enhanced ability to comprehend the legal superstructure.

#### **Socio-Economic Impacts**

Adopting uniform drainage powers for cities and municipalities and eliminating obsolete county drainage powers would increase economic efficiency by reducing information costs, in this case the cost of ascertaining the controlling rules. Furthermore, in the process of adopting uniform rules or consolidating existing authority, consideration could be given to the equity and efficiency impacts of the particular rules. Additional efficiency gains, for instance, might result from removing the incentive to establish unique drainage powers for particular classes of cities, a practice that may result in duplicate legislative effort as other classes of cities eventually seek similar authority. Finally, equity impacts of this alternative would depend on the precise set of powers adopted. If no substantive changes were made in existing law, no equity impacts would be attributable to this alternative.

#### **Physical-Hydrologic and Environmental Impacts**

The physical/hydrologic and environmental impacts of this alternative would depend on the nature of the powers adopted. If no change in substantive law occurred, no impacts would follow. If drainage powers were significantly enhanced, land development would be encouraged to the extent that flood damage was reduced. Any increased land development likely would increase peak flows and total discharge into streams, thereby leading to drainway degradation.

#### **ADMINISTRATIVE JURISDICTION OVER DISPUTES**

*Alternative #29:* Clarify the jurisdictional authority of the Department of Water Resources to hear disputes involving drainage of diffused surface water.

#### **Description and Methods of Implementation**

Nebraska statutes currently give the Department of Water Resources jurisdiction over all matters relating to drainage in the state. If the Legislature intended that the Department should hear private disputes among landowners the statute should say so directly. If not, Nebraska law<sup>92</sup> should be amended to reflect that fact.

The advantage of vesting the Department of Water Resources with administrative authority to resolve drainage disputes is that disputes might be resolved more expeditiously and at less cost before an agency with particular expertise in drainage matters than by a court. Such authority might reduce the number of drainage disputes resulting in litigation. A right of appeal, however, clearly would be required so litigation would not be eliminated. It is also clear that giving the Department a charge to hear drainage disputes would be a significant increase in current Departmental duties.

Finally, a third possible alternative would be to give the Department of Water Resources the power to hear drainage disputes in binding arbitration actions. Whether the demand for arbitration would justify the creation of a formal mechanism is, however, problematical.

#### **Socio-Economic Impacts**

This alternative would enhance economic efficiency only if transaction costs or information costs were reduced. Presumably, in the long run, similar results would be reached whether the dispute was initially resolved in a court or in front of an administrative agency since the same substantive law would be applied in either event. Whether or not results could be reached faster or with greater consistency in front of an administrative agency than in a court is a matter of some

conjecture. In any event, any efficiency gains would be partially offset by increased administrative costs within the agency. Clarification of existing law is necessary, however, since actual practice does not conform to statutory language, a condition which raises the potential for needless litigation.

This alternative would have no independent equity effect. Assuming the decisions of an agency generally would parallel the decisions of a court, any equity impact would be totally attributable to the underlying substantive law that would be applied.

#### **Physical-Hydrologic and Environmental Impacts**

This alternative would not be expected to result in any change in water use or land development. Consequently, present physical/hydrologic and environmental impacts related to drainage likely would continue. Present impacts are determined by flow and degrees of retention of diffused surface water. Negative environmental impacts now include soil erosion and other non-point source water pollution.

### **PUBLIC DRAINAGE PROJECTS**

*Alternative #30:* Amend Nebraska statutes to provide a single statutory mechanism for organizing and operating public drainage projects in Nebraska.

Existing authority for public drainage projects was reviewed in Chapter One. That review highlighted a wide variety of conflicting, overlapping mechanisms, each designed to facilitate public drainage projects in the state. Little justification exists for the myriad of applicable provisions. Therefore, consideration should be given to establishing one uniform procedure for creating and operating public drainage projects. The authorizing legislation for Natural Resource Districts already contains a procedure for establishing public drainage projects.<sup>93</sup> Furthermore, Natural Resource Districts seem to be an appropriate unit to administer public drainage projects. Consequently, consideration should be given to forcing a merger of existing drainage districts into Natural Resource Districts so that legislation granting operating authority to special drainage districts could be repealed.

The existing drainage authority of Natural Resource Districts should be reviewed to make sure that the scheme is complete. If any alternatives suggested earlier are adopted, care should be taken to see whether changes in public drainage project authority are required. Some alternatives, such as wetland preservation, would impact on existing authority.

The major advantage of consolidating drainage authority into one mechanism is administra-

tive convenience and clarity of authority. The only disadvantage to consolidating districts and procedures is that those familiar with the specific procedures or operations in specific districts would be subjected to new procedures. Existing interests need not be prejudiced by consolidation, however, and the simplifications would seem to offer many advantages of administration and clarification.

#### **Socio-Economic Impacts**

This alternative likely would enhance economic efficiency by reducing the information costs of undertaking a particular drainage project. Furthermore, it would make area-wide and state-wide management decisions less difficult since the task of inventorying and monitoring drainage districts would be eased. Finally, administrative cost savings could be accomplished by eliminating overlapping jurisdictional authority over public drainage projects.

With the exception of efficiency gains from simplifying the statutory scheme, no efficiency or equity impacts would be attributable to this alternative. The equity impact of drainage districts in general is to apportion the cost of drainage benefits among the holders of the lands benefited.

#### **Physical-Hydrologic and Environmental Impacts**

Consolidating public drainage authority into a single statutory mechanism probably would result in no change in water use or land development patterns. Potentially, however, this alternative could discourage land development if drainage powers were vested in too geographically large a jurisdiction. Absent such an occurrence, however, present physical/hydrologic and environmental impacts likely would continue. Present impacts are determined by flow and degrees of retention of diffused surface water. Negative environmental impacts now include soil erosion and other non-point source water pollution.

### **CONCLUSION**

The thirty alternatives suggested could be combined into literally thousands of permutations. Adoption of certain alternatives mandates adoption of others and precludes the adoption of still more. Some dominant tensions and themes permeate all of the alternatives, however, namely the tension between development and preservation, the need for cooperation among landowners to achieve optimal solutions, the interrelationships of the hydrologic cycle, and the ever present constitutional questions concerning the line between permissible police power regulation and public takings. It should be possible, however, to select and implement alternatives

that respond to most of the unmet drainage needs of the state, that will pass constitutional scrutiny, that are internally consistent with each other, and that strike a delicate balance between using and preserving water resources. Furthermore, existing law can be simplified and clarified greatly, merely by collecting, organizing, and restating the law without making significant substantive changes.

Finally, most of the concerns discussed in this study could be addressed by a single comprehensive drainage code. A comprehensive statute would specify individual and public property rights in diffused surface water, would establish clear rules of liability for interference with the flow of diffused surface water in rural and urban water areas, and would consolidate and simplify existing public drainage authority. It would also

resolve issues of jurisdiction over drainage disputes and could incorporate provisions for wetland preservation. Finally, a comprehensive code could establish links to other parts of the hydrologic cycle through its operative definitions.

Developing a comprehensive drainage code probably would enhance economic efficiency as well. First, the cost of obtaining information as to legal rights and responsibilities should be reduced. Second, the process of drafting a comprehensive statute should help to eliminate inconsistencies and ambiguities in the law since attention would be directed to the linkages between various rules. Finally, existence of a comprehensive drainage code would make it easier to integrate the law of drainage and diffused surface water with other areas of water law.

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## FOOTNOTES

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1. Economics is the science of human choice in a world where resources are limited and wants are insatiable. In addressing the economic impact of various water policy alternatives it is necessary to focus both on the problem of resource utilization and on the problem of want satisfaction, topics subsumed within the broad label of economic efficiency. Economists commonly distinguish between productive efficiency and allocative efficiency. Productive efficiency is achieved when resources are combined to create the most output for the least cost. Thus, a change is productively efficient if it allows society to produce more goods at the same cost or the same amount of goods at a lower cost. Allocative efficiency, in contrast, relates to the distribution of produced goods among the members of society, whether presently living or yet to be born. A change is allocatively efficient if it will increase the satisfaction of at least one member of society without decreasing the satisfaction of another (Pareto superiority), or if it will increase the satisfaction of some members of society more than it will decrease the satisfaction of other members of society (Kaldor-Hicks efficiency). An economic system is thus said to be efficient if it allocates existing resources so as to maximize the production derived from them, and if it distributes the goods produced in a manner that maximizes consumer welfare.
2. Equity refers to how society's wealth is distributed among the members of society. Changes in equity are reflected in changes in the distribution of wealth. Evaluation of equity impacts is difficult, however, as equity is essentially a philosophical concept, not an economic one.
3. An efficient transaction, for instance, could be thwarted if an individual was required to negotiate with several parties, each of whom would be negligibly impacted by the proposed conduct. Efficiency gains often can be offset by such transactions, thereby effectively blocking the efficiency gain.
4. **See generally** Calabresi, **Transaction Costs, Resource Allocation, and Liability Rules - A Comment**, 11 J LAW & ECON 67 (1968).
5. This is a particular problem where legal rules are unclear making completely accurate information available only at the cost of **ex post** litigation.
6. Historically, for instance, heavy industry was free to pollute the atmosphere with little regard to the costs that such pollution imposed on adjacent landowners.
7. **See generally, e.g.,** Krupp, **Analytic Economics and the Logic of External Effects**, 53 AM. ECON. REV. 220 (1963); Scitovsky, **Two Concepts of External Economics**, 62 J. POLIT. ECON. 143 (1954). "Positive externalities" exist where production or consumption benefits others in addition to those actually engaged in the activity. These others are known as "free riders". "Negative externalities", in contrast, impose costs on persons other than those engaged in a particular productive or consumptive activity. Since negative externalities impose costs on those who do not benefit from an activity, they are known as "spillover effects". Much governmental activity is justified as an attempt to internalize external-

- ities, that is, to impose spillover costs on the producers or consumers who produce the costs and benefit from the production or consumption. Other governmental activity is designed to apportion the costs of producing positive externalities among potential free riders, often by treating the product as a public good to be produced with public dollars.
8. The relationship between efficiency and equity must be understood. Efficiency gains are independent of equity impact. Thus, if A can make more efficient use of water owned by B than can B himself, it is efficient to transfer the water to B. A need not pay for the water for the transfer to be efficient. Whether A is required to pay for the water or is merely free to take it has an important equity impact, however, since in one case B is compensated for his loss and in the other he is not.
  9. Although original plans were to treat environmental impacts separately, strong interrelationships with the physical-hydrological impacts soon became apparent. The two types of impact analyses, therefore, have been combined in the discussions which follow.
  10. **See generally** Chapter One, *supra*.
  11. Other barriers to efficiency such as high transaction costs or externalities may remain. Ultimately, efficiency rests on the underlying system of substantive property rights.
  12. The problem of irrigation waste water may need to be separately considered by the legislature. The flow of some watercourses consists merely of irrigation waste water.
  13. NEB. REV. STAT. # 31-202 (Reissue 1978).
  14. RESTATEMENT OF TORTS § 842 (1939). **See also** RESTATEMENT (SECOND) OF TORTS § 842 (1979).
  15. **See** *Block v. Franzen*, 163 Neb. 270, 129 N.W.2d 527 (1964).
  16. **See** 33 C.F.R. § 323.2(c) (1980). **See also** Chapter Two, *supra*.
  17. The relative efficiency of various alternative systems of property and liability is discussed in the socio-economic analyses of alternatives found under the heading **Alternative Rules of Property and Liability**, *infra* Chapter Four.
  - 17A. **See, e.g.**, *Eunice Harrington Investments, Ltd. v. Wallace*, 207 Neb. 373, 299 N.W.2d 174 (1980).
  18. Prescriptive rights arise when a landowner, charged with notice that the conduct of another interferes with his property rights, fails to object to the interference for a specified statutory period. At the end of the period, a right to continue the interference is created and given legal protection. **Cf.** NEB. REV. STAT. § 25-202 (Reissue 1979) (adverse possession).
  19. **See generally** Chapter One, *supra*.
  20. **See** Alternative #11 and accompanying discussion, *infra*.
  21. Prescription refers to the acquisition of right or title by virtue of long-continued enjoyment of specific conduct.
  22. The economic problem is caused by the total control exercisable by the possessor of the right. The party wishing to contract has no one else to negotiate with.
  23. Existing law is described in detail in Chapter One, *infra*.
  24. **See generally** Chapter One, *infra*.
  25. **See, e.g.**, *Miller v. Letzerich*, 121 Tex. 248, 254, 49 S.W.2d 404, 456 (1932).
  26. Both the constitution of the state of Nebraska and the constitution of the United States provide that private property cannot be taken for a public purpose without payment of compensation. The line between permissible regulation and a constitutional taking is not a clear one. **See generally** Berger, **A Policy Analysis of the Taking Problem**, 49 N.Y.U. LAW REV. 165 (1974).
  27. **See, e.g.**, MALONEY, AUSNESS & MORRIS, A MODEL WATER CODE § 2.01(1) (1972); MODEL WATER USE ACT § 402 in UNIVERSITY OF MICHIGAN LAW SCHOOL, WATER RESOURCES AND THE LAW 533, 572 (1958).
  28. For many years, the Soil Conservation Service has been promoting land use practices that hold diffused surface water on the land and prevent its reaching a drainway or watercourse. **See generally** Chapter Two, *supra*.
  29. **See generally** FLA. STAT ANN. §§ 373.013 **et seq** (West 1974 and 1981 Supp.).
  30. **See generally** *Id.* §§ 373.019(10) & 373.219(1) (West 1974 and 1981 Supp.).
  31. **See** MODEL WATER CODE § 2.01(1), Comment at 177-78.
  32. Potential higher value public users would include municipal water districts and potential higher value private users would include downstream holders of prior appropriation permits. In addition, the public generally might put more value on augmented streamflows or aesthetics than private users of diffused surface water would place on the water captured.
  33. **See generally** Chapter One and Two, *supra*.
  34. **See generally** Chapter Two, *supra*.

35. **See generally** IOWA CODE ANN. §§ 467A.42 - 467A.53 (West 1971 & Supp. 1980).
36. **Id.**
37. **See** IOWA CODE ANN. § 467A.48 (West Supp. 1980).
38. **See** *Woodbury County Soil Conservation District v. Ortner*, 279 N.W. 2d 276 (Iowa 1979).
39. **See** S.D. Compiled Laws Ann. §§ 38-8A-1 **et seq** (1977 & 1980 Supp.).
40. Without mandatory controls, some landowners receive significant economic benefits as a consequence of soil erosion controls adopted by other landowners. This reduces everyone's incentive to adopt such measures. In economics, individuals who benefit from the conduct of another and who do not have to pay for that benefit are known as free riders.
41. Defensive measures would include such methods as diking at the borders of one's property, obstructing or damming drainways, or diverting back onto another's property at a lower point.
42. **See generally** 5 WATERS AND WATER RIGHTS § 451 (R. Clark ed. 1974 & 1978 Supp.).
43. **See** *Tucker v. Badoian*, 376 Mass. 907, 384 N.E.2d 1195 (1978).
44. **See** Coase, **The Problem of Social Cost**, 3 J. LAW & ECON. 1 (1960).
45. **See generally** 5 WATERS AND WATER RIGHTS § 452 (R. Clark ed. 1972 & 1978 Supp.).
46. **See generally** 5 WATERS AND WATER RIGHTS § 453 (R. Clark ed. 1972 and 1978 Supp.).
47. **See** 4 STATEMENT (SECOND) OF TORTS § 833 (1979).
48. **Cf. id.** § 825.
49. **See id.** § 826(a).
50. **See id.** § 827.
51. **See id.** § 828.
52. **See id.** § 829(a).
53. **See id.** § 864.
54. **See generally** Chapter One, **supra**.
55. If a single landowner has the power to halt development through injunction, he can hold out in the negotiation process until he is offered a sum substantially in excess of expected injury. Limiting remedies to damages allows the development to go forward with the understanding that parties adversely affected will be compensated eventually for their actual injuries.
56. **See generally** Federal Water Pollution Control Act § 208, 33 U.S.C. § 1288 (1976 & Supp. II 1978).
57. **See** Maloney, Hamann, & Canter, **Stormwater Runoff Control: A Model Ordinance for Meeting Local Water Needs**, 20 Nat. Res. J. 713, 741-63 (1980).
58. **See generally** Chapter One, **supra**.
59. **See generally** Chapter One and Chapter Two, **supra**.
60. **See** discussion of Federal Water Pollution Control Act § 404, Chapter Two, **supra**.
61. 33 U.S.C. § 1344 (1976 and Supp. III 1979).
62. It might be necessary to establish minimum lake levels. On the other hand, to preserve a minimum lake level would require that lake diverters and junior stream diverters be shut off once the minimum level was reached. But lake levels might be lowered because of low runoff in winter and spring rather than because of inadequate summer inflows. A prior appropriation system for lakes that would be perfectly consistent with the system for streams would have to consider inflow and outflow that would occur but for the lake diversions.
63. NEB. REV. STAT. § 46-801 (Reissue 1978) (quoted in Chapter One, **supra**). Most of the economic evaluation techniques utilized, however, are narrowly concerned with market or simulated market values. Consequently, the value of important ecological functions of a lake, such as spring migration habitat for waterfowl, may not be recognized under existing law.
64. **See generally** Federal Water Pollution Control Act § 404, 33 U.S.C. § 1344 (1976 and Supp. III 1979).
65. **See** 33 C.F.R. § 323.4-2(a) (1980).
66. **See generally** Federal Water Pollution Control Act § 404(g)-(i), 33 U.S.C. § 1344(g)-(i) (1976 and Supp. III 1979).
67. Small lakes located on a stream generally are not exempt from the individual permit requirements of § 404. **See generally** 33 C.F.R. § 323.4-2(a) (1980).
68. This assumes that the statute will be broadly interpreted to consider all public and private advantages of draining a lake and all public and private advantages of maintaining the lake in its natural state. Narrowly construed, the statute would only require consideration of the value of the lakebed as agricultural land and the value of the lake for fishing, hunting, and similar purposes. **See** NEB. REV. STAT. § 46-801 (Reissue 1978).
69. **See** MINN. STAT. ANN. § 97.481(1) (West Supp. 1981).
70. **Id.** §§ 97.482; 97.4841 (West 1977 and Cum. Supp. 1981).
71. **See generally** **Id.** § 97.481 (West Cum. Supp. 1981); *Kasch v. Clearwater Co.*, 289

- N.W.2d 148 (Minnesota 1980).
72. On the other hand, the principal value of Nebraska wetlands may be for the production of hay and as wildlife habitat. If so, wetlands acquisition programs may be better administered by narrow scope agencies.
73. **See** MINN. STAT. ANN. § 273.115 (West Cum. Supp. 1981).
74. **See** MINN. STAT. ANN. § 105.392 (West 1977 & Cu. Supp. 1981).
75. **See generally** Alternative #25, *supra*.
76. **See, e.g.**, CAL. PUB. RES. CODE §§ 5810 *et seq* (West Cum. Supp. 1980).
77. **See generally** Alternatives #22-24, *supra*.
78. **See generally** Alternatives #22-26, *supra*. The only non-voluntary feature of previous wetland alternatives was the possibility that the power of eminent domain would be invoked to acquire land from unwilling sellers.
79. **See, e.g.**, CONN. GEN. STAT. ANN. §§ 22a-36 *et seq* (West 1975 & Cum. Supp. 1980); MASS. GEN. LAWS ANN. ch. 131, § 40 (West Cum. Supp. 1981); N.Y. ENVIRON. CONSERV. LAWS §§ 24-0101 *et seq* McKinney Cum. Supp. 1980); R.I. GEN. LAWS §§ 2-1-19 *et seq* (1976 & Cum. Supp. 1980).
80. **See** CONN. GEN. STAT. ANN. § 22a-45 (West 1975) (providing for the revaluation of wetlands upon denial of a permit to reflect the fair market value of the land in light of restrictions placed upon the property by denial of the permit). **Cf.** R.I. GEN. LAW. § 2-1-21(v) (1976) (if permit denied landowner can elect to have the state acquire the land if a reviewing court finds that the proposed alteration would not essentially change the natural character of the land).
81. 56 Wis.2d 7, 201 N.W.2d 761 (1972).
82. **See, e.g.**, *Sibson v. State*, 115 N.H. 124, 336 A.2d 239 (1975); *Just v. Marinette County*, 56 Wisc. 7, 201 N.W.2d 761 (1972).
83. **See, e.g.**, *Spears v. Commissioner of Environmental Conservation*, 48 N.Y.2d 254, 422 N.Y.S.2d 636 (1979); *State v. A. Capuano Bros., Inc.*, 384 A.2d 610 (Rhode Island 1978).
84. **See, e.g.**, *Maple Leaf Investors, Inc. v. State*, 88 Wash.2d 726, 565 P.2d 1162 (1977); *Turner v. County of Del Norte*, 24 Cal. App.3d 311, 101 Cal. Rptr. 93 (1972).
85. **See**, N.Y. ENVIRON. CONSERV. LAW § 24-0705 (McKinney Cum. Supp. 1980).
86. *Id.* § 24-0705 (7).
87. 33 U.S.C. § 1344 (1976 and Supp. III 1979).
88. No scheme will prevent lowering of a water table if drought conditions are the cause of the lowering.
89. **See generally** Chapter One, *supra*.
90. *Id.*
91. **See** NEB. REV. STAT. § 31-219 (Reissue 1978).
92. *Id.* § 46-209.
93. **See generally** NEB. REV. STAT. §§ 2-3252 to 3255 (Reissue 1977).

## CHAPTER 5

### RELATIONSHIP OF THIS STUDY TO OTHERS

No matter how determined the effort, it is impossible to separate water policy issues into ten, twenty, or fifty separate and distinct issues for analysis purposes. Water policy is complex with many overlaps in issues when any system of categorization is used. In designing the original nine policy issue studies for the State Water Planning and Review Process in 1978, an attempt was made to separate issues in as logical a fashion as possible. Still, numerous problems are encountered because of this separation. For example, the Selected Water Rights Issues Study of which this report is a product was renamed and totally redesigned in 1980 because of overlap problems with other studies. One-half of the subissues originally scheduled for analysis as a part of this study were dropped and several others were added because of refinements in other study designs resulting in either previously unanticipated overlaps or, in some cases, voids.

It is still impossible to specify with any degree of certainty what issues will be addressed in most of the policy issue studies. Three of the studies have been completed: Water Quality, Instream Flows, and Groundwater Reservoir Management. Five others: Interbasin Transfers, Weather Modification, Water/Energy, Water Decisions Funding Alternatives, and Surface/Groundwater Integration have not yet been started. The other three studies, including the Selected Water Rights Issues Study, are in varying stages of development. Until policy alternatives are finalized for those studies and the impacts of those alternatives are assessed, the full relationship of one study to another will not be known. Therefore, the relationships which are identified in this chapter are based upon the best information available at the time this report was being prepared.

It is important that the relationships between policy issues be identified. Such identification promotes awareness of the fact that any particular water policy action will have greater impact

upon overall water policy than just the resolution of the immediate issue at hand. The result of this awareness should not be to delay automatically what may otherwise appear to be a favorable action, although that may be appropriate in some cases. However, such awareness should at a minimum discourage actions that will prevent consideration of new information at a later date.

Based upon the information available at the time of this writing, significant relationships can be identified between drainage and some of the other policy issue studies being conducted. To a large degree, the relationships that exist depend upon whether the alternative is one that encourages or discourages retention of diffused surface water on the land. While individual applications will result in different impacts, there are several alternatives that in general would appear to encourage retention of water. They are as follows:

*Alternative #7:* Amend Nebraska statutes to explicitly recognize a landowner's absolute right to capture and use diffused surface water present on his land.

*Alternative #8:* Amend Nebraska statutes to explicitly recognize a landowner's right to capture and use diffused surface water present on his land, provided the captured water is used for reasonable or beneficial purposes.

*Alternative #10:* Adopt a comprehensive water conservation statute which requires landowners to adopt practices that will bring soil erosion losses within acceptable limits.

*Alternative #17:* Amend Nebraska statutes to provide that urban and suburban developers are liable to downstream landowners for any injury resulting from increased peak streamflows consequent to the development.

*Alternative #18:* Adopt a comprehensive statutory scheme relating to manage-

ment and control of storm water runoff that gives due regard to the interests of downstream landowners.

*Alternative #21:* Amend Nebraska statutes to provide that a permit must be secured before draining a lake having a surface area exceeding ten acres.

*Alternative #22:* Expand existing state programs and/or develop new programs authorizing the state to acquire wetlands by purchase or otherwise, where preservation of such wetlands would serve an important public purpose.

*Alternative #23:* Expand the wetlands acquisition portion of the habitat programs currently administered by the Nebraska Game and Parks Commission.

*Alternative #24:* Establish a broad program of wetlands acquisition to be administered by an agency that has broader responsibilities than the Nebraska Game and Parks Commission.

*Alternative #25:* Encourage landowners to preserve wetlands by offering cooperators a tax credit.

*Alternative #26:* Adopt a state water banking act to encourage the withdrawal of wetlands from development for a predetermined number of years.

*Alternative #27:* Adopt a comprehensive regulatory program designed to identify, preserve, and protect critical wetland areas.

Other alternatives would appear to have the opposite result, discouraging retention of the water on the land by making disposal of that water more attractive. Those alternatives are:

*Alternative #9:* Amend Nebraska statutes to provide that a landowner can capture and use diffused surface water present on his land only after securing a permit from a designated regulatory authority.

*Alternative #11:* Amend Nebraska statutes to codify the common enemy doctrine of liability for interference with the flow of diffused surface water.

*Alternative #19:* Make no change in existing law relating to property rights or drainage rights in natural lakes or wetlands.

For the remaining alternatives, they either appear to have no effect on water retention or the effect will be so variable that no overall trend could be expected. Those alternatives are:

*Alternative #1:* Make no change in the scope or content of definitions currently found in the drainage sections of the Nebraska Statutes.

*Alternative #2:* Amend Nebraska statutes to define those terms that are crucial to a proper classification of water given the substantive law of drainage and diffused surface water in Nebraska.

*Alternative #3:* Amend Nebraska statutes to provide that natural drainway is to be defined solely with reference to historical drainage patterns that pre-date man-made changes.

*Alternative #5:* Amend Nebraska statutes to provide that natural drainway is to be defined with reference to historical drainage patterns unless it is demonstrated that rights to current drainage patterns have been acquired by prescription.

*Alternative #6:* Make no change in Nebraska law concerning property rights in or liability for the avoidance of diffused surface water and continue to rely on the evolution of the common law to resolve disputes.

*Alternative #12:* Amend Nebraska statutes to codify the civil law natural flow doctrine of liability for interference with the flow of diffused surface water.

*Alternative #13:* Amend Nebraska statutes to codify the reasonable use rule of liability for interference with the flow of diffused surface water.

*Alternative #14:* Amend Nebraska statutes to codify the common law rule of liability for interference with the flow of diffused surface water that is currently expressed in Nebraska case law.

*Alternative #15:* Amend Nebraska statutes to codify a reasonable use drainage statute that incorporates most substantive principles of existing law.

*Alternative #16:* Amend Nebraska statutes to adopt a unique urban rule of liability for interference with the flow of diffused surface water.

*Alternative #20:* Amend Nebraska statutes to provide that a prior appropriation permit must be secured before a landowner can divert water from a lake exceeding a specified minimum size.

*Alternative #28:* Specify a uniform set of drainage powers for cities and villages and eliminate obsolete or unnecessary provisions relating to counties.

*Alternative #29:* Clarify the jurisdictional authority of the Department of Water

Resources to hear disputes involving drainage of diffused surface water.

*Alternative #30:* Amend Nebraska statutes to provide a single statutory mechanism for organizing and operating public drainage projects in Nebraska.

How these groups of alternatives relate more specifically to the other studies being conducted is noted below.

### **STUDY #1: INSTREAM FLOWS**

The alternatives that encourage the retention and use of more water on the land could in some instances reduce instream flows, especially average flows. Alternatives encouraging release of the water could increase those flows. However, on an overall basis, it is doubtful that any of the alternatives, if enacted, would be primarily responsible for either achieving or defeating instream flow objectives. Significant effects would be noticed only in some isolated areas. The alternative with perhaps the greatest impact in this regard would be **Alternative Ten**. If implemented on a regional or statewide basis, the alternative could measurably reduce annual streamflows in some locations. However, it is



unlikely that impacts would be noticeable on base flows. Base flows might even be increased because of additional groundwater recharge which in turn might increase discharges.

Base flows could be affected more significantly by alternatives relating to the drainage of natural lakes and wetlands. The specific effects of such water bodies often are unknown, but many do help to naturally stabilize base flows by regulating groundwater discharges. Alternatives en-

couraging drainage of these water bodies would tend to increase instream flows at times of precipitation but decrease such flows during times of drought.

### **STUDY #2: WATER QUALITY**

The realization of water quality objectives could be affected by a number of the alternatives. Generally, activities which allow more diffused surface water to reach watercourses have detrimental water quality impacts, largely because of the sediment and associated agricultural chemicals which also enter the watercourse. Alternatives encouraging such activities would have adverse water quality effects. Alternatives designed to hold more water on the land could be expected to result in an overall improvement in water quality.

### **STUDY #3: GROUNDWATER RESERVOIR MANAGEMENT**

Drainage policies can affect the management of groundwater supplies in at least two ways: (1) Drainage activities may reduce the amount of water that is recharged naturally to the water table, and (2) to the extent that drainage activities encourage conversion of high water table areas to irrigated crop land, an additional demand is placed upon the available groundwater supplies. In some areas of the state, the alternatives found in this report could have different effects. Lowering water tables which are too high to allow the most efficient use of the land is a form of groundwater management. Alternatives which favor drainage would also favor realization of those types of management objectives.

### **STUDY #4: WATER USE EFFICIENCY**

One of the overall purposes of the water use efficiency study is to assess alternatives for the most efficient use of the water which is available. For agricultural purposes, an assessment of how efficiently available water is being utilized must include an assessment of how well the water naturally available through precipitation and otherwise is being utilized. The alternatives designed to encourage the retention of water on the land should have the effect of encouraging more efficient use of water by reducing the need for artificial application of water.

### **STUDY #5: SELECTED WATER RIGHTS ISSUES**

No significant relationships have been ident-

ified for any of the subissues being considered as a part of this study.

### **STUDY #6: MUNICIPAL WATER NEEDS**

The municipal water needs study deals with water supply for municipal needs, not with dis-



posal of water from precipitation. However, drainage policies can affect stream flows, and several municipalities do depend upon stream flows for water supply, either for direct diversions or for recharge of aquifers supplying municipal well fields.

### **STUDY #7: SUPPLEMENTAL WATER SUPPLIES**

Relationships also exist with this study. To the extent that alternative drainage policies encourage use on the land, water will not be available for use to supplement supplies elsewhere. To the contrary, policies that discourage retention of water on the land could mean more water available for use in other locations.

The Supplemental Water Supplies study also considers unused on - farm precipitation to be a source of supplemental water to that farm. Alternatives like **Alternative Ten** which encourages optimum retention of that water on the land are related directly to the Supplemental Water Supplies study.

### **STUDY #8: INTERBASIN TRANSFERS**

The relationship with the Interbasins Transfer Study is essentially the same as part of that identified above for the supplemental water study. Retention of water on the land reduces supplies for use elsewhere, including uses dependent upon interbasin transfers.

### **STUDY #9: WEATHER MODIFICATION**

No significant relationships with this study have been identified.

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### **STUDY #10: WATER-ENERGY**

### **STUDY #11: WATER DECISIONS FUNDING ALTERNATIVES**

### **STUDY #12: SURFACE-GROUNDWATER INTEGRATION**

These three studies are identified in the September 15, 1981 Annual Report and Plan of Work. Work has not begun on any of them, however, and no attempt was made to identify possible relationships with this study.

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## Appendix A

# SUMMARY OF HEARING REPORT #2, DRAINAGE OF DIFFUSED SURFACE WATER

3:30 P.M.

JANUARY 5, 1982

Kearney, Nebraska

Holiday Inn

## PUBLIC NOTICE

Legal notice of this hearing was published in twelve newspapers across the state of Nebraska. In addition, press releases were sent to every newspaper and radio station in the state.

## HEARING PROCEDURE

Henry Reifschneider presided over the hearing and Jim Cook summarized the contents of the report prior to the receipt of the testimony. All present were given an opportunity to testify. An informal question and answer period was then conducted, and opportunity for additional testimony was granted prior to the conclusion of the hearing.

## TESTIMONY OFFERED

1. **Mr. Bill Shreffler, Assistant City Attorney, Grand Island, Nebraska.** Mr. Shreffler indicated that his comments would be based upon personal experience in drainage law and drainage problems. He suggested that the biggest problem facing the Commission in arriving at a recommendation on the alternatives would be to

decide who should benefit and who should suffer from changes in drainage law. Testimony was offered in favor of alternatives #2, #18, and #28. Specifically opposed was alternative #17. Mr. Shreffler suggested in an overall sense that the Commission should recommend alternatives that (1) clarify existing policy, (2) allow flexibility for reasonable drainage, and (3) allow for drainage of all lands. He did question whether the report adequately addressed the issue of where unwanted diffused surface water could be discharged. In this regard he suggested that any natural or man-made drainageway could be used.

2. **Robert Warrick, Sierra Club.** Mr. Warrick's testimony was directed toward the portion of the report dealing with wetlands. He testified in favor of alternative #27, suggesting that other programs like section 404 of the Clean Water Act have been of little value in the protection of wetlands. He also stated that alternatives 22 through 26 have some value, but are either too expensive or would fall too far short of achieving the desired goals. He noted that any regulatory program should exclude normal farm and ranch operations that do little or no damage to wetlands.