NE

Omaha World-Herald, Saturday, September 6, 1980

24

Power Group: Argo Hill Area Preferred Water Source Site

By Fred Thomas
World-Herald Staff Writer

About 60,000 acres in the Argo Hill area of Nebraska's Sheridan County may become the site of a wellfield to produce water to cool a $970 million power plant proposed by a Colorado utility.

Tri-State Generation and Transmission Association has identified an area about 40 miles east of Hemingford as the one in which it

but is looking for about 2,400 acres.

Upper Niobrara NRD board members and others said they don't think 30,000 acre feet can be removed each year without affecting water users.

"We have hydrological equilibria existing now," Williams said. "If you start removing 30,000 acre feet

Department of Agricultural Economics

Report No. 122
November 1981

Wise Use Needed of Both Surface and Underground Water

August 31, 1980

16-A

Nebraskans are increasingly aware water means to an agriculture- e. And all appear to agree d make the best longtime has been an abundant

ly among some of vation, there is

tion, but also raises water tables in those areas.

We do not disagree with this. We favor water storage where it is practical. But dams costs tons of money. They take years and years to build.

The political climate for dam building throughout the nation hasn't been too good in recent years. Each project, even if highly merited, takes extensive planning, cost justification, environmental statements, public hearings, court challenges and federal projects

Too much is at stake to try to depend on only one answer to protecting our most valuable resources, water and soil.

★

Those who say they most want to the Nebraska farmer continue to world should be wor fronts:

use of underg essary, finding water and ele employing su tillage to ising c new ir exce

Irrigators Claim, 'It's My Water' — Is It?

By A.J. McClanahan
WORLD-HERALD BUREAU

Lincoln — "It's my water." That's a phrase often heard from farmers who use ground water for irri

From T... to Neb...

Study Shows Center-Pivot Growth Is Off

WORLD-HERALD BUREAU

Lincoln — For the first time in seven years, the annual growth rate of center-pivot irrigation systems in Nebraska dropped below 1,000 — to 992 in the last full year of a University of Nebraska report indicates.

The previous

INITIAL PERSPECTIVES ON NEBRASKA'S STATE WATER PLANNING AND REVIEW PROCESS

by Paul H. Gessaman

Study C... In Alter...

By Fred Thomas
World-Herald Staff Writer

An alternative to the Narden project has been unveiled which a federal agency says, would cost less money but not provide as much wa to fly a Nebraska coun

alternative contains a declining under supplies, the U.S. Resources

by a feder ago, the a plan to crop pro Brown, unities over the

Revised F ing the slot of the dam other end ng the stru bay" ar proveme

Various Bills Address Water Use, Pollution

● Continued from Page 1.

ment and analysis.

Among issues the 1981 bills would touch upon:

ISSUE — Landowners and environmentalists in the Sand ...elsewhere have crit- ...ter-pivot ...ls and ...

able" future. Currently, supply problems are the only basis for requesting control measures. Local voters could approve such controls if the state refused to do so.

—LB 146, sponsored by the Public Works Committee, would permit the imposition of controls if pollution occurs or is likely to occur in the "reasonably foreseeable" future in proportions that it would ...hazard or impair the use of ...could cover the ...well as un-

until underground water shortages occur or are imminent.

—LB 222, a committee measure, would permit the state to approve district applications for "interim control areas," in which irrigation controls could be imposed up to five years on evidence of future underground water shortages. Voters could lift the controls during the five-year interim period.

—Lamb's LB 401 would permit voters to establish control areas if ...e refused.

...sored by Sens ...ra and

for state permission to impose controls in another natural resources district under certain conditions.

ISSUE — Laws governing the use of water from Nebraska streams and rivers for irrigation have caused confusion among users, charges by some that wildlife is being jeopardized, and conflicts among regional groups.

—LB 8, sponsored by Cullan, would require holders of riparian rights (historic landowner rights to use stream water) to register those rights with the state or lose them. The state would then appropriate ...er back to the holders, ...seniority, in the ...less the

water from one river basin to another. Such applications would have to be denied if the state found that the statewide benefits did not outweigh the detrimental effects. Beutler's bill, like Hoagland's, add... fish and wildlife to the benefici... uses of river water.

ISSUE: Conflicts have ari... over the large irrigation p... jects and between surface a... underground water users.

—LB 508, sponsored by Lin... Sen. Don Wesely, would pe... persons whose land would b... fected by an irrigation proje... vote on reclamation district... ters, as well as those who ... benefit from the project, wh... rently can vote.

—LB 348, sponsored by ... would establish a fram... in resolvi...

Thone to Support Water Use Plans

By A.J. McClanahan
WORLD-HERALD BUREAU

Lincoln — Gov. Thone pledg... ed strong support Tuesday for a ... bill developed by some Sand ... Hills resources districts that ... would allow for new irrigation ... controls.

Thone said his support was ... prompted by his concern for th... ...re of the Sand Hills ... in an interview, the gov... ...said "definitive legis... ...on water issues will not ... ...le until further reports ... ...developed as part of ... ...ater planning and ...

Studies ... that in the ... ...ve had our ... ...e said. ... ...lewing the ... ...tural Re... ...seems ... ...nto de... ...ve fo... ...ud...

cigarette tax for ha... ...sources funds and ... ...nor's staff, exe... ...for natural re...

Sunday World-Herald, April 12, 1981

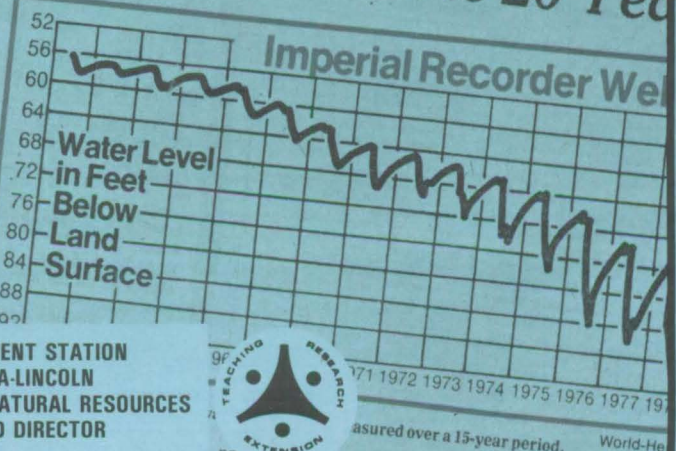
16-B

Critical Aquifer Problems Seen in 10 to 20 Yea...

area will revert to dryland farming.

Figures tend to be somewhat mind-boggling, but the Lubbock, Texas, area conservation ...rict expressed the problem ...simple terms in a booklet de... ...loped for use in schools:

"Unfo... ...y, most wells in ... ...already been ... ...of the aquifer ... ...will not find ...



Diversion Request Worries Irrigators

By A...

Lincoln ... irrigators ... fear that ... power company ... ...and transport w... ...ing could hurt ...

...the figure is crucial to ... ...n. The ...jected lowing ...

...others ... ...less water, Jess said. ... ...the state will not ... ...after ... ...districts) ... for the 1978 ... irrigation year ...

...asured over a 15-year period, World-He...

— Western Kansas Ground... ...41 feet."

this area is the rapidly ...

THE AGRICULTURAL EXPERIMENT STATION
UNIVERSITY OF NEBRASKA-LINCOLN
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
ROY G. ARNOLD, DEAN AND DIRECTOR

INITIAL PERSPECTIVES ON NEBRASKA'S STATE WATER PLANNING AND REVIEW PROCESS

By
Paul H. Gessaman

Department of Agricultural Economics
University of Nebraska-Lincoln
Lincoln, NE

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INITIAL PERSPECTIVES ON NEBRASKA'S STATE WATER PLANNING AND REVIEW PROCESS*

by PAUL H. GESSAMAN**

Late in the 1978 legislative session the Nebraska Legislature[1] found it not politically possible to take action on a number of proposals for water resource management legislation. Political forces were divided on water legislation issues in ways that prevented majority coalitions from forming. Proponents of legislation to increase public management options for groundwater and streamflows had substantial strength and visibility. Those opposed to increased public management plus those opposed to specific legislative bills before the 1978 session had roughly equivalent political power. Charges of legislative inaction were rife in the newspapers of the state.

At the same time, no one could reliably predict the long run consequences of the enactment of any one, or any group, of the proposals that were then before the legislature. Lack of information about present and anticipated future conditions was identified as a major barrier to legislative action.

The Legislature responded to this situation by enacting legislation requiring an integrated statewide water resource planning effort. This was done through two related items of legislation: Legislative Resolution 300 (LR300) and Legislative Bill 957 (LB957), the companion appropriation measure of LR300.

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* An earlier version of this paper entitled, "Nebraska's State Water Planning and Review Process: An Integrated Approach to Natural Resources Policy Analysis," was presented at the "International Conference on the University and Rural Resources Development: The Road Between Theory and Practice," Backasgog, Sweden, June 23-30, 1981. Financial support for participation in the Conference was provided by the Kellogg Foundation and is gratefully acknowledged.

** Extension Economist-Natural Resources and Professor of Agricultural Economics, University of Nebraska-Lincoln, Lincoln, Nebraska 68583.

1 Nebraska has a unicameral (single chamber) legislature. Its 49 members are elected to four year terms in nonpartisan contests. Members of the Legislature are given the title of Senator.

The "redirection and acceleration" of Nebraska's water resource planning activities was mandated in LR300. Redirection and acceleration were to occur through an integrated water planning effort. Compliance with the prescription for integrated planning was ensured by provisions in the resolution and appropriation bill that required seven administrative units and agencies to agree to a Work Plan for future water resource planning efforts.

The Work Plan was to be delivered to the Governor and the Clerk of the Legislature by November 15, 1978. It was to provide an overall design for water resource planning (including the analysis of policy issues), and was to bear signatures of the Directors of the seven entities indicating their agreement with its content. The Water Resources Center and the Conservation and Survey Division, both administrative units within the University of Nebraska-Lincoln, were among the signing entities. The other five entities were code agencies of state government or state commissions.

In its adoption of LR300 and LB957, the Legislature substantially revised the nature of state water planning in Nebraska. Previous rules and roles of planning participation had reflected provisions of Legislative Resolution 5 adopted in January, 1967, which mandated development by the Natural Resources Commission of a "State Water Plan." Under that resolution the Natural Resources Commission was designated as the state water planning agency. In its planning activities carried on between 1967 and 1978 a Framework Plan (1) was developed (portions were periodically updated) and numerous project or river basin studies were initiated. In the 11 years, 1967-78 very limited progress was made on a comprehensive "state water plan" that could serve as a definitive basis for water resource management decisions. In the revised system mandated in 1978, planning was to be an integrated process with the selection of planning approaches and the determination of recommendations

being multi-entity activities in which the Natural Resources Commission was to provide overall leadership.

This paper provides an overview of the context of natural resources management in Nebraska, and identifies a number of factors that interacted to produce the present State Water Planning and Review Process (SWPRP).[2] A discussion of the implementation of the SWPRP makes up the central portion of the paper. The closing discussion of inferences to be drawn from the Nebraska experience includes some perspectives on the potential for transfer of this planning approach to other situations of resource decision making.

The Context

Natural resource planning at any specific time must take as given the physical situations of resource endowment, prior utilization decisions, and the sequence of events and actions that have created the present conditions. Selected aspects of this planning context are briefly described here.

Agriculture

Nebraska is a predominately agricultural state located in the zone of transition between the subhumid Midwest and the semi-arid regions of the Western Great Plains. Approximately 93 percent of the state's 76,483 square miles (198,090 sq km) is directly used in agricultural production with an estimated 65,000 farms in operation in 1980 (2, 3). Slightly more than one-half of the land in agricultural production is classified as cropland (about 37,500 sq mi or 97,125 sq km). Nearly all the remaining agricultural land is grassland, with less than 3 percent in forest or other uses (3).

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[2] The reader who already has a high level of familiarity with Nebraska may prefer not to closely read the context portion. The discussion of factors that interacted to produce the SWPRP begins on page 8. For detailed information on the formal organization of the State Water Planning and Review Process, contact the Natural Resources Commission, Box 94876, Lincoln, Nebraska 68509.

Agriculture is Nebraska's largest industry. When ranked on the basis of cash receipts from farm marketings in 1979, Nebraska was fifth among the states of the U.S. with total cash receipts of more than $6 billion. About $3.9 billion of that total was cash receipts from livestock marketings with the $2.1 billion balance being cash receipts from sales of crops.[3] The 1980 value of farm real estate (including buildings and other improvements) was estimated to be $25.6 billion, resulting in a $394,000 per farm average value (4).

Climate

Nebraska's climate reflects both the extremes resulting from its interior-of-the-continent location, and the variability resulting from its position spanning the transition zone between subhumid and semi-arid regions of the country. Long run average annual precipitation is more than 36 inches (91.4 cm) in the extreme southeast of the state. In the extreme west, about 500 miles (805 km) from the extreme southeast, the long run annual average precipitation is less than 15 inches (38.1 cm). Year-to-year precipitation variability is great. Estimates of annual precipitation for years prior to the keeping of weather records and more recent historical data, when combined, indicate that in 37 of the 130 years, 1850-1979, annual precipitation averages for the state were more than five inches (12.7 cm) above or below the long term statewide average of 22.78 inches (58.0 cm) (5). Annual evapotranspiration (E-T) potential is two to three times annual average precipitation with periods of especially high E-T demand usually occuring during times of high temperatures and drouth. Winter season desiccation and summer drouth limit the species and variety choices for crops, forbs, and grasses. Improved

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[3] A large proportion of Nebraska's grain is fed to livestock and marketed as beef, pork, or poultry products. The value added through crop production is proportionately greater than is indicated by cash receipts data.

genetic stock, improved cultural practices, and scientific management approaches have mitigated the effects of climate and contributed to improved productivity. Irrigation has been widely adopted and serves to reduce drouth and temperature stress during the growing season.

Topography and Water Supplies

Wind, water, and glaciers have jointly determined Nebraska's topography. Soils deposited by glaciers and wind have been eroded by rivers flowing eastward from the Rocky Mountains. These same rivers and more ancient outwash streams have also deposited sediments and other earth materials of high porosity and transmissivity that now serve as aquifers making possible high capacity wells throughout a large proportion of the state. As a Central Great Plains state, the land surface generally slopes from west to east with average gradients of up to six feet per mile (1.05 m per km). Most rivers meander through level floored valleys (some are quite wide) with valley train aquifers and rich overlying farmlands (5).

Inflows to the state received through major rivers average about one million acre feet (12.33×10^8 cu m) per year. Total river discharges from the state average about seven to eight times that amount. Precipitation additions to the state's water supply average about 86 million acre feet (10.61×10^{10} cu m) per year with an estimated 88-98 percent of that amount returning to the atmosphere through evapotranspiration. The largest component of Nebraska's water supply is the stock of available (recoverable) groundwater estimated to be about 1.9 billion acre feet (23.44×10^{11} cu m) (1).

Irrigation Development

Surface water supplied irrigation started in 1859 when the first irrigation ditch was constructed. Subsequent projects in the late Nineteenth

Century and the Twentieth Century provide irrigation water to about 1.1 million acres (445,150 ha) of land (2). Large public investments in storage structures, diversions, distribution systems, and land preparation have been required for the large scale Twentieth Century projects. Irrigation water users make annual payments for the right to use water, but these payments are less than the annual costs of operations, maintenance, and debt service. Capital costs not paid by irrigators are charged off to power generation recreation, flood control, and wildlife. Ultimately they are paid for by the public sector.

Wells and irrigation systems for groundwater supplied irrigation are private investments funded by landowners from internal savings or borrowed funds. Some currently registered irrigation wells date back to the 1920's, 1930's, and 1940's, but most have been installed within the last 30 years. Advances in irrigation system technology, expecially improvements in the reliability of center pivot systems,[4] have made irrigation development feasible in many locations that were not previously considered irrigable. By January 1, 1980 an estimated 63,777 registered irrigation wells provided groundwater to an estimated 6 million acres (2.43 million ha) of irrigated land (5, 6). Withdrawals of ground and surface water for irrigation total to about 93 percent of all withdrawals of water in the state.

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[4] A center pivot system consists of a water distribution pipe and sprinklers supported by a series of self-propelled towers with capability of distributing irrigation water in a circular area around a central pivot point. Most are fully automatic, approximately 1280-1300 feet (390-400 m.) in length, and irrigate 130-152 acres (52.6-61.5 ha.) with the exact coverage determined by the presence or absence of attachments to distribute water into the "corners" created by imposing the circular distribution pattern on a square land holding. Plant nutrients and pesticides can be applied with the irrigation water by use of injection pumps that introduce these substances into the irrigation water. Recent estimates by manufacture indicate at least 27,000 center pivot systems have been installed in Nebraska.

Legal-Institutional Aspects

The Nebraska Constitution and state statutes dedicate surface water (water in natural streams) for use by the people of the state. Preferences for surface water use give domestic use preference over all other uses, and give agricultural use preference over manufacturing use. Since 1895, rights to use surface water have been established under the doctrine of prior appropriation and have been administered by the Nebraska Department of Water Resources and its predecessor agencies. An appropriative water right is a right to divert and use water from a stream, is specific to the tract of land specified in the original application, and must be used if it is to be maintained. The transfer of an appropriative water right can occur only as an adjunct to a transfer of ownership rights to real estate on which the appropriated water is used (7).

The nature of groundwater ownership rights is not addressed in the Constitution or statutes, and was undefined until a May, 1981 Supreme Court decision in which the Court ruled that ground water was public property that could be regulated by the state. In previous decisions, the courts have generally held that the owner of land has the right to make reasonable use of the groundwater beneath his/her land in ways consistent with groundwater preferences (domestic use is preferred above all other uses, and agricultural use is preferred over manufacturing use). The present local regulation of groundwater withdrawals was authorized in statutes enacted in 1975 and amended in subsequent legislative sessions (8, 9). Three Groundwater Control Areas have been authorized. Each has adopted regulations. Implementation actions are underway.

Rapid increases in water use over the last three decades have made evident a number of water resource management problems. Despite the large number of federal, state and local entities with water development and management

mandates, the legal-institutional bases for management have proven to be inadequate for many of these problems and concerns. At the same time, it has been evident that the plethora of entities with interest in water resources needed to be recognized in a coordinated planning process. The State Water Planning and Review Process was enacted as a response to this situation.

Factors Leading To The State Water Planning and Review Process

As noted in the Introduction section of this paper, legislative action mandating the "redirection and acceleration" of Nebraska's State Water Plan occurred near the end of the 1978 legislative session when the Legislature found it not politically possible to take action on proposed water resource management legislation. This legislative stalemate was a repetition of behavior that had occurred in many previous legislative sessions.[5] Some persons viewed the adoption of LR300 and LB957 as a move toward more rational decision making based on "facts" that would emerge from the redirected and accelerated planning effort. Others viewed these measures as delaying tactics intended to ensure that decisions on high priority issues would be delayed for a few to many years. Insights into factors that interacted and resulted in enactment of LR300 and LB957 can be gained by considering selected aspects of past decisions, the political system, and some perspectives on water issues.

Aspects of Past Decision Making

The continuing use by public figures of terminology identifying water as a public resource held in trust for use by people of the state even though

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[5] The Legislature meets each year alternating between 90 day sessions on odd numbered years and 60 day sessions on even numbered years. Bills can be carried over from 90 day sessions to the following 60 day sessions, with all unenacted bills being killed by the final adjournment of a 60 day session. Legislative sessions start in early January and continue until the end of business or the end of the allowable number of legislative days.

major decision making responsibility for that public resource is in the hands of water users goes back more than 85 years. The 1895 Legislative adoption of the doctrine of prior appropriation as the basis for management of rights to use surface water was the adoption of a management system developed by and for consumptive water users.[6] Priority dates of water rights established under the 1895 statutes give the administering entity (presently the Nebraska Department of Water Resources) a clear cut basis for administration of rights to divert and use streamflow. However, the interests of nonconsumptive or instream uses (and users) are not represented in the resulting decisions.

The consequences for streams and streamflow have been mixed. Flood crests have been reduced. Water releases and irrigation return flows have stabilized streamflows in some reaches of streams. Despite these beneficial aspects, the overall effects of storage structures and diversions have been substantially reduced annual stream discharges and total or near-total depletion of some reaches. Streamflow management has been and continues to be a major water resource policy issue with proposals for maintaining flowing streams a high priority of wildlife groups, environmental interests, rangeland livestock producers, urban residents, and municipal governments (many municipal well fields draw water from streambank aquifers). Despite many years of discussion and debate, the surface water management system remains as it first was, a system developed by and for consumptive water users.

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[6] Under the doctrine of prior appropriation, priority for the right to consumptively use surface water (to use water without returning it to the stream) is determined by the date of original filing for a water right on that stream. Once established, an appropriative right continues indefinitely if water is beneficially and regularly used for the purpose for which it was appropriated. In times of shortage (whenever streamflow is insufficient to fully supply all water right claims), the most senior water rights are supplied in order of seniority until streamflow is exhausted even if this means some junior water rights receive no water. Junior water right holders can be prevented from making withdrawals if this is necessary in order that more senior downstream rights will be supplied.

As the extent and economic importance of Nebraska's groundwater supplies has become evident, groundwater development has occurred with great rapidity. Irrigation is the dominant groundwater use with construction and management of wells and irrigation systems occurring through farmer and other landowner decisions. With very limited exceptions, groundwater resource management decisions in Nebraska occur only as the result of these individual decisions.[7]

Despite the magnitude of underground water supplies, major changes have occurred in the quantity of groundwater available in certain localities of the state. The extent of declines since the start of irrigation development has been estimated for several groundwater basins in Western, Southwest, Central, South Central, and North Central Nebraska. Areas with groundwater level declines through Fall 1979 of more than five feet (1.52 m) total to about 6216 square miles (16,100 km^2). Of that area about 820 square miles (2125 km^2) experienced declines of more than 20 feet (6.1 m) (10).

Areas of groundwater mounding (groundwater rises) are viewed as important benefits of the surface water supplied irrigation systems. Groundwater rises in South Central and Central Nebraska are attributed to deep percolation from the storage reservoirs, canals and distribution systems of surface water irrigation projects. Areas with rises of greater than 10 feet (3.05 m) total to about 2116 square miles (5479 km^2). About 393 square miles (1018 km^2) of that area have experienced rises of more than 50 feet (15.2 m) (10).

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[7] In 1975 the Legislature enacted the Groundwater Management Act (LB577 of 1975) as permissive legislation authorizing the creation of groundwater control areas through a combination of actions by Natural Resources Districts (NRDs) and the state Department of Water Resources. In these control areas, an NRD is authorized (subject to review by the Department of Water Resources) to develop and adopt groundwater management regulations intended to slow or reduce depletion of groundwater supplies. Three control areas have been delineated since 1975. Each has developed and adopted groundwater use regulations, but experience with these regulations is too brief for the overall effects to be evident.

Total groundwater supplies appear not to be changed significantly from amounts existing prior to development. However, the distribution of groundwater supplies has changed and irrigation withdrawals in several groundwater basins greatly exceed natural recharges. Continued declines in the Upper Republican, Upper Big Blue, and Upper Little Blue River Basins appear to be inevitable.[8] The consequences of groundwater development decisions are becoming more evident each year, while the management system remains almost entirely laissez faire.

The Political System

Political parties are most active and effective at the county and city levels, and in gubernatorial and congressional elections. The county and city political organizations are building blocks of the state political party network. However, that network is not linked directly to state or local decision making on water resource management.

Members of the Nebraska Legislature are elected in nonpartisan campaigns and serve without political party designation. In the absence of a political party based system of organization, Senators often are highly individualistic in their approaches to legislation. Voting blocs form and break up readily. Committees have major roles in the legislative process, but their approaches change from year to year as memberships change. No enduring coalition has emerged to support legislative proposals for change from the present situation where water resource management is dominated by consumptive water users.

Natural Resources Districts (NRDs) do not conform to the political system organizational structure. Most NRDs are not coterminous with counties or combinations of counties and thus are not aggregations of county political units.

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[8] Personal communication by Mr. Ray Bentall, hydrologist with Conservation and Survey Division, University of Nebraska-Lincoln.

With less than 10 years having elapsed since they were formed by forced merger of county and locality based units, NRDs are not well institutionalized and politically strong. Local political organizations are not major forces in Board of Directors elections. Candidates file to represent a specific sub-district of the NRD, but are elected by popular vote of all NRD residents voting in the election. Candidates with a high level of name recognition based on previous activities in the development of natural resources have high probability of being elected (or re-elected).

Thirteen of the 16 members of the Natural Resources Commission are selected by NRDs, with experience as a NRD Director required for Natural Resources Commission membership.[9] Casual observation of Commission activities over the past several years indicates members of the Commission usually have been approving of water development and have supported the continued economic utilization of water resources. This orientation is consistent with the generally positive views of water development held by NRD Boards of Directors. Voting patterns in NRC meetings appear to indicate that the three appointed members of the Commission (who represent surface water users, groundwater irrigators, and municipal water users, respectively), generally share this positive orientation. Local autonomy in management activities has been enthusiastically supported. But, NRDs have generally found it neither feasible nor desirable to vigorously implement regulatory activities.

Decision processes in the Legislature, the Natural Resources Commission, and at the local level in NRDs are not subject to the discipline that comes from strong political party affiliations. Most decisions appear to reflect the thinking of persons with vested interests in the consumptive use of water, and

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[9] Many NRD Directors have had previous experience as Soil and Water Conservation District Supervisors. The Soil and Water Conservation Districts were predecessor organizations of the NRDs.

do not necessarily reflect the preferences and concerns of all citizens of the state.

Perspectives on Water Issues

Newspaper editorials provide recent perspectives on water resources management issues. On April 8, 1979, the Omaha Sunday World-Herald, Nebraska's largest circulation newspaper with state-wide distribution, carried a lead editorial entitled, "After 40 years, Nebraska Water Policies Still Lag." Excerpts from this editorial are:

> Everyone seems to recognize the need. Talk is plentiful. So are the studies, committees, agencies, etc., devoted to the subject.
>
> But when it comes to taking the plunge, the legislators continue only to dip their toes into the controversial matter.
>
> What we have been hearing for years, during each legislative session is, "We need more data. Wait until next year." . . .

The editorial further notes that the World-Herald has "more than 50 bulging files with thousands of clippings that have appeared since 1940." It goes on to cite a sample of water resources management concerns and calls for responsible action. Included are quotations from two governors, two federal officials with major water resource management positions, news items about water rights conflicts, news items about declining groundwater levels, calls for action by university professors, and promises of action by state entities and the legislature (11).

On November 25, 1980, an Omaha World-Herald lead editorial entitled, "Why Wait on Crisis Impact?" called attention to legislative inaction since the April 8, 1979 editorial. After discussion of an irrigation equipment manufacturer's opinion column previously printed in the Omaha World-Herald and

entitled, "Why Hurry on Water Laws?" (12) the editorial concludes with these paragraphs:

> No one would argue against legislation that is "well done" and which meets the "needs of the situation."
>
> But after 40 years of study, including intensive data-collecting and sifting by state agencies during recent months, what's wrong with asking for some meaningful action by the Legislature in its forthcoming session?
>
> Nebraskans can debate endlessly whether we have a water crisis today or whether it will be here next summer or the summer after that.
>
> But we have had adequate warning by the experts that our water supply is in jeopardy.
>
> What's wrong with taking preventive action before the full effect of the crisis hits us? (13)

In this context of ineffective political party linkages, increasing citizen awareness of water problems and issues, and public outcry critical of legislative inaction, the implementation of LR300 and LB957 was undertaken.

Implementing the Planning and Review Process

A Work Plan containing the overall design for the redirected and accelerated state water planning activities was developed during the summer of 1978. Its preparation was directed by a Work Plan Committee consisting of the chief administrative officers of 17 entities (code agencies, state commissions, federal agencies, and university units). The Work Plan Committee was divided into a Policy Work Group that identified policy issues and priorities and a Planning Work Group that developed the planning design. Task forces set up by the Work Groups met regularly and struggled with designing the intended approach to planning. Special urgency was given to these efforts by the legislative directive that the Work Plan be completed and accepted by the seven signatory entities before November 15, 1978.

In the early weeks of the summer, meetings of the Work Plan committee and of the task forces often were divisive and acrimonious as participants

attempted to gain jurisdiction over major portions of planning activities that had previously been exclusively Natural Resources Commission responsibilities. A draft version of the Work Plan was circulated for review and comment by political subdivisions, individuals, and statewide organizations with interest in water. Revisions based on this review were developed and incorporated into the draft, and on November 15, the completed document was transmitted to the Legislature and the Governor. In accordance with LR300, letters indicating approval of the Work Plan were prepared by chief administrative officers of: (1) the Department of Water Resources, (2) the Game and Parks Commission, (3) the Department of Environmental Control, (4) the State Office of Planning and Programming (now the Policy Research Office), (5) the Conservation and Survey Division of the University of Nebraska-Lincoln, (6) the Water Resources Center of the University of Nebraska-Lincoln, and (7) the Natural Resources Commission. The letters of the Director of the State Office of Planning and Programming and of the Director of the Water Resources Center were rewritten after the State Attorney General provided an opinion indicating their earlier letters of qualified concurrence were inadequate.

Five major thrusts identified in the Work Plan as the means of implementing a redirected and accelerated state water planning effort were described with these words:

> Policy Issue Analyses and Recommendations are studies of Legislative and administrative policy problems. They are given emphasis and a high priority in meeting needs of the Legislature and Governor.
>
> State Initiated Problem Analyses and Area Planning activities are more flexible and extensive planning studies. They will replace the present Basin studies, with more emphasis on providing timely information to address urgent resource problems on a selective, priority basis.
>
> Project and Program Reviews as recommended are not a new major activity, just better organization and formal inclusion of current

reviews into the Process. Systematic utilization of the planning/management support base and related components from the Base Activities will contribute most to increased effectiveness.

State Project Planning and Design represents a new initiative in the state's water resources planning program, though some related activity has taken place in the past under other programs. Its inclusion provides the final step in the Process, providing the required capability when and if needed.

Base Activities are intended to provide support for water planning and management generally and for the other four major activities particularly. Primarily, this support will be provided by an authoritative, current, readily accessible information base containing both basic data and current plans (14, pp. 2-1 & 2-2).

In addition to the identification of these major thrusts, the Work Plan contained recommendations on management and organization of the planning process. Three of those recommendations are of particular interest to this discussion. These recommendations are briefly summarized below with a description of the actual implementation following each summary.

Recommendation for IWCC

The creation by the Legislature of an Interagency Water Coordinating Committee (IWCC) consisting of the chief administrative officers of entities signing the Work Plan plus several other state agencies was recommended. The IWCC was to serve as a coordinating body without having direct authority over the activities of individual agencies. However, its recommendations on planning, budget allocations, and contractual arrangements, if accepted by the Legislature, would have considerable impact on agency activities (14, pp. 3-5 & 3-6).

On March 1, 1979, recently inaugurated Governor Charles Thone by executive action created the IWCC with himself as chairman. Membership of IWCC included the Directors of the Department of Agriculture, the Department of Health, and the State Budget Office plus the seven administrative officers who signed the Work Plan. Time requirements for IWCC responsibilities exceeded

the time available to committee members for that purpose, so a working group of personnel from the same entities was formed and designated as the Interagency Liaison Committee (ILC). The ILC prepares reports, reviews studies and plans of state and federal agencies and entities, and prepares recommendations for IWCC consideration and action. Subsequent to his 1981 appointment as Governor Thone's natural resources coordinator, Mr. Jack Hart became chairman of both the IWCC and the ILC.

Recommendation for Lead Agency

It was recommended that the Natural Resources Commission (NRC) should continue as the lead agency for planning. In this capacity, the NRC was identified as being responsible for day-to-day coordination of planning activities of whatever entities and individuals were involved in the various planning thrusts. In addition, the NRC was to be the contracting agency for studies or planning funded under lump sum appropriations (14, p. 3-6).

Intent legislation for the SWPRP (LB595 of 1979) legitimized implementation of this recommendation. The NRC carries on the principal coordinating role, though each study in the policy issue analyses is headed by the entity with greatest interest or expertise in the issue.[10]

Recommendation for Public Participation

The establishment of a Public Advisory Board (PAB) intended to function as the mechanism for public participation in the SWPRP was recommended. It was to have 11 members representing water users in congressional districts and citizens of the state (at-large representatives). Not more than one member

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[10] Examples are: The Game and Parks Commission heads up the Instream Flows policy issue study. Conservation and Survey Division of the University of Nebraska-Lincoln heads the Groundwater Reservoir Management policy issue study.

was to be from any one river basin (there are thirteen river basins). A wide range of recommended responsibilities for the PAB were identified including problem (issue) identification, review of SWPRP output, dissemination of information and the obtaining of additional public input. Members were to be appointed by the Governor from lists of potential members submitted by the Legislature (14, pp. 3-6 & 3-7).

In LB595 the Public Advisory Board (PAB) was authorized as an eleven member board. Eight members were to represent (have a demonstrated expertise in) each of eight water interest areas: municipal, domestic, groundwater irrigation, surface water irrigation, livestock production, environmental, industrial and commercial, and wildlife, fish and recreation. Three citizen members were to represent the three congressional districts (one from each district). Members of the PAB were appointed by the Natural Resources Commission from lists of recommended persons compiled by the Executive Committee of the Legislature. The PAB was given no specific authority in the planning process, but was charged with providing the opinion of the public and voter interest groups by, as a body, providing inputs and comments on SWPRP activities. In addition, functions of the PAB were identified as: (1) policy issue identification, (2) review of alternative solutions to policy problems, (3) recommending problems for SWPRP problem analysis activities, (4) disseminating information and materials from the SWPRP, and (5) determining mechanisms for public input.

These actions of the Governor and the Legislature provided legitimation and official standing for the State Water Planning and Review Process. In the more than two years since LB595 was adopted, work has moved ahead on studies and activities of the SWPRP. Informal working arrangements that pre-existed the SWPRP have been amplified and formalized and new linkages have been

developed. The IWCC and the PAB are actively carrying out their respective roles.

Perspectives on SWPRP Activities

Prior to the initiation of the SWPRP Nebraska had many years of experience with cooperative efforts involving entities with water resource management interests. The Framework Study (1) was directed by the Natural Resources Commission with contributions of staff time by state agencies and commissions, federal agencies and University units as important parts of the planning effort. A subsequent river basin study, the Platte Level B Study was directed by the Missouri River Basin Commission, a multi-state entity of the federal government, with working committee memberships drawn from a statewide "pool" of interested experts.

Studies and Planning

As the SWPRP has evolved, attention and interest has focused on the Policy Issue Analyses and Recommendations as identified in the Work Plan (hereafter called the Policy Issue Studies). Each of these studies is to identify and delineate the water policy alternatives related to the subject policy issue and to analyze the expected consequences of each alternative. Dates for these studies as reported in the 1981 Annual Report of the SWPRP (16) were:

Policy Issue Study	Actual or Anticipated Date Starting	Completion*
Water Quality**	March 1979	December 1979
Instream Flow	March 1979	September 1981
Groundwater Reservoir Management	March 1979	October 1981
Selected Water Rights Issues	March 1979	June 1982
Supplemental Water Supplies	January 1980	December 1982
Municipal Water Supplies	July 1980	January 1983
Water Use Efficiency	July 1980	June 1984
Interbasin Water Transfers	July 1981	June 1984
Weather Modification	January 1983	June 1984
Water-Energy	Not scheduled or budgeted	
Water-Decision Funding Policy Study	Not scheduled or budgeted	

* Completion dates are dates by which the reports are to be delivered to the Natural Resources Commission. Transmittal to the Governor and the Legislature will be at least 90 days subsequent to the completion date of each report.

** The Water Quality Study was based on the State Water Quality Plan developed under Section 208. P.L. 92-500 and was substantially completed by January 1979.

SOURCE: (16, p. 11)

These studies and work carried on under the other four categories of SWPRP activities have been supported by special state appropriations commonly referred to as accelerated planning funds and by funds from other sources including the diversion or transfer of funds appropriated to the various entities for general program support. The Policy Issue Studies have placed and will continue to place heavy claims on financial resources and professional time of the participating units.

Expenditure records for Fiscal Years 1980 and 1981 (15, p. 38 and 16, p. 47) and projected budgets for Fiscal Years 1982 and 1983 (16, pp. 48 & 49) indicate all nine of the principal entities involved in the SWPRP[11] have been

[11] Department of Agriculture, Natural Resources Commission, Department of Water Resources, Department of Environmental Control, Department of Health, Game and Parks Commission, Conservation and Survey Division of the University of Nebraska-Lincoln, Water Resources Center of the University of Nebraska-Lincoln, and the Policy Research Office.

(and are projected to be) expending funds for the Policy Issue Studies. If projected budgets are realized, the presently budgeted Policy Issue Studies will receive funding of $1.13 million over the four fiscal years (Table 1). The same expenditure records and projected budgets indicate all nine of these principal entities are projected to expend $387,863 over the four fiscal years for Coordination, Administration, and Management. Problem Analyses and Area Planning expenditures have been made by both the Water Resources Center and the Natural Resources Commission (NRC). Of the four-year estimated and projected total of $1.78 million in this category of activities, about 6 percent ($106,819) was expended by the Water Resources Center. All funds for Project and Program Reviews and for Base Activities are reported as expenditures by or projected budgets of the NRC. The four-year total is estimated and projected to be $577,332.

Table 1: Estimated expenditures FY1980 and FY1981, projected budgets FY1982 and FY1983, four-year totals of estimated and projected amounts, by type of State Water Planning and Review Process activities.

Type of activities	Estimated Expenditures		Projected Budgets		Four-Year Total
	FY1980	FY1981	FY1982	FY1983	
	Dollars				
Policy Issue Studies	189,446	382,793	397,800	160,500	1,130,539
Problem Analyses and Area Planning	10,000	669,589	533,820	566,250	1,779,659
Project and Program Reviews	3,000	22,237	20,000	20,000	65,237
State Project Planning and Design	No Activity	No Activity	None Budgeted	None Budgeted	--
Base Activities	4,000	38,034	121,386	348,675	512,095
Coordination, Administration and Management	31,700	83,625	147,188	125,350	387,863
Total	238,146	1,196,287	1,220,194	1,220,775	3,875,402

SOURCE: Compiled from "Annual Report and Plan of Work for the Nebraska State Water Planning and Review Process" for 1980 and for 1981 (15, p. 38) and (16, pp. 47-49).

Amounts expended by or budgeted for the NRC during the FY1980 through FY1983 period totaled to about $2.80 million of the $3.88 million indicated to be for SWPRP purposes. A high proportion of the NRC funding other than that designated for Policy Issue Studies supports the continuation of responsibilities that predate the SWPRP. These activities do not receive the publicity or recognition that has been accorded to the Policy Issue Studies, but they make up the "basic foundation" of long term water planning in Nebraska. Most work carried out by the NRC and the other eight entities under the Policy Issue Studies is new or additional activity that probably would not have occurred at this time without the SWPRP. No work has been carried out or is budgeted under the SWPRP category, State Project Planning and Design, though future activity is possible (16, p. 41).

Working Arrangements

The Interagency Water Coordinating Committee meets regularly in sessions well attended by the press to perform its coordination and oversight roles. Participation in committees and study groups by professional employees of agencies, commissions, and university units is authorized through official action or informal agreements. Communication is facilitated through both the IWCC meetings and the work activities of the Interagency Liaison Committee.

As the Policy Issue Studies have gone forward, participants have been generally responsive to the wording of LR300 indicating that all alternatives are to be considered and evaluated. Efforts to restrict the range of alternatives have emerged from within the Study Task Forces on some occasions, but have been generally dealt with through interaction within the Task Forces. The Natural Resources Commission staff has consistently acted to protect the integrity of the studies while working within the study development process. In this process, the lead agency for each policy issue study prepares a study

design which must be approved by the Natural Resources Commission. Progress reports on each study are received by the Commission. Within the framework of the study design, continuing interactions between the Study Task Force, the Natural Resources Commission Staff, and the Natural Resources Commission determine the specifics of the study. The lead agency for the study prepares the draft report which must be approved by the Commission before it is released to the Governor, the Legislature and the Public Advisory Board.

Public Advisory Board roles and functions are still being defined, and will become more fully evident as study results and reports become available. Review comments and recommendations by the PAB have been important in the dynamics of the SWPRP to this time. As reports and findings of the Policy Issue Studies are developed, Public Advisory Board reviews will have major influences on the perceived legitimacy of these documents.

Political Activity

The Water Quality Issue report was issued in December, 1979 with very little political response. This quiet acceptance was not surprising. Most of the political activity related to water quality planning had occurred some years previously and the report reflected the political compromises of that time.

In LB595 of 1979 the Legislature directed that a preliminary report of the Instream Flow Policy Issue Study be completed by June 30, 1980 (the final report completion is to be in 1981). Intense political activity resulted as statewide attention was focused on a major issue at a time prior to that expected by most interested parties. A draft of the report was sent out for review on November 20, 1979. It contained discussion of five alternative approaches. Each was intended to provide temporary protection to remaining streamflows (17). A final preliminary report dated January 24, 1980 (18) was

transmitted to the Natural Resources Commission. It contained discussion of present state policy on instream flow and uses of water (only power generation uses are protected), and seven alternatives for interim protective measures including a "no action" alternative.

In a February 15, 1980 letter to the Members of the Legislature, the Public Advisory Board offered these comments:

--The Board recognizes the importance of the retention and utilization of water within the state.

--The Board was also strongly in favor of alternative #7-the interim no actions alternative. (19)

In a February 21, 1980 letter to the Governor and the Members of the Legislature, the Natural Resources Commission reported it was forwarding the preliminary report based on a nine to six vote that was identified as " . . . evidence of the controversy that has attended its writing and review." The letter went on to indicate the Commission favored Alternative #7 (no action) as the other policy issue studies were needed for appropriate decision making (20).

The Interagency Water Coordinating Committee letter of comments to the Members of the Legislature sent over the signature of Governor Charles Thone expressed appreciation for public concern over maintenance of streamflow and recommended the "no action alternative on an interim basis" (21).

Many observers believe that the pattern has been set, and similar episodes of political activity will emerge as each Policy Issue Study report nears completion. In the interim, members of the Legislature, the Public Advisory Board, the Interagency Water Coordinating Committee, and the Natural Resources Commission continue to monitor the activities of the Policy Issue Study groups. The level of scrutiny has increased in intensity as the Water Preferences Report (part of the Selected Water Rights Study) and the Instream Flows final report have neared completion.

Legislative Responses

Despite having enacted the legislative basis for the SWPRP and being responsible for the yearly appropriations of funds that supports its activities, the Legislature has shown limited interest in waiting for the results of the Policy Issue Studies. Numerous bills intended to modify the legal basis for water resources management were introduced in the 1980 Legislative session. A larger number (nearly 50) were introduced in the 1981 session. Several bills were enacted in the 1981 session, with the most significant being LB56 (requires permits for large scale industrial use of groundwater), LB146 (amends the Groundwater Management Act to authorize groundwater control areas for control of groundwater pollution), and LB252 (identifies considerations to be included in decisions on interbasin surface water transfers). In part, LB146 may have been based on the Water Quality Policy Issue Study Report of the SWPRP.

In each session since 1978 the SWPRP has been cited by some observers as a reason to defer action on legislative proposals (wait for the study results), and by others as an exercise in futility that will not produce the needed bases for legislative action (act now as the SWPRP is useless). As is always the case in legislative bodies, compromises and redefinitions of "the truth" are principal forces in legislative actions and decisions not to act. The extent to which legislative actions would be based on SWPRP reports if these were available at this time is not presently evident.

Effects on University Units

Water study acceleration under the SWPRP has provided a substantial infusion of funding for University research programs. This funding has been accompanied by corresponding claims on the time and talents of university faculty and staff. Through their participation in the Work Plan development

and in the Interagency Water Coordinating Committee, the Directors of the Water Resources Center and of Conservation and Survey Division have been placed in continuing situations of conflict of interest (funding allocation recommendations of the IWCC help determine research funding available for their units). Also, these Directors are acquiring political identities that compete or conflict with their academic identities. Long-run implications for the academic integrity of these units (and the integrity of the university as a whole) are not yet evident, but are a cause of continuing concern to members of the academic community.

Concluding Perspectives

The conceptual model of the State Water Planning and Review Process is one that has great intuitive appeal. It brings together the expertise of the university; the organizing, coordinating, and funding powers of government; and formalized public participation in analysis of alternatives and policy formulation. The products of this process are intended to provide alternatives for legislation on policy issues, and (through the combined efforts of agencies, commissions and university units) the data base for short and long term water resource management. The entire process is based upon the presumption that inadequate information and lack of appropriate models for management are the limiting factors preventing effective water resources management.

The realities of Nebraska in the latter decades of the Twentieth Century are more complex. Lack of information and limited perspectives regarding approaches to management are important factors in the ongoing processes of decision making. But, they are secondary to the continuing struggle between agricultural water users (and the associated industries whose economic well being is linked to irrigation), and other citizens of the state who are claiming management and use rights with respect to Nebraska's water resources.

The struggle will not be easily resolved as its roots lie in the conflict between social and cultural values that condone the short term economic exploitation of natural resources, and values that support the preservation or enhancement of aesthetic considerations, wildlife, recreation, and the "use no more than the amount replaced" approach to management of renewable resources. Those in the first group correctly point out that their economic well being depends on the development and use of water resources. Those in the second group may or may not depend on consumptive uses of water for their economic well being, and argue that economic considerations should not prevail over aesthetics and the needs of future generations. Meanwhile, as noted in newspaper stories and editorials, each year brings new evidence of problems and continued predictions of crisis. The outcome of this struggle lies in the future. It is not yet evident whether modifications in water management and use will occur in time to prevent many situations of crisis for persons who are directly affected.

The situation is not entirely gloomy. The SWPRP has opened up access to a number of information assembly and decision processes that otherwise would be much more restricted. Constituencies that previously had no access to policy formulation now participate in discussion and study of physical situations and policy alternatives. Though they have no official participation in decision making, they are now a part of the system of management. Widespread publicity accompanying legislative actions, IWCC meetings, and reports to the Natural Resources Commission have enhanced public consciousness of water resource management concerns. Public awareness and public involvement, foundation stones of a democratic society, have been enhanced, though only time will disclose the total significance of that enhancement. Based on experience thus far, it appears the integrated approach

specified in LR300 and LB957 will produce useful results. It also appears to provide a useful model for bypassing situations where political stalemates prevent resource management decisions. Despite the continuing difficulties of implementation, the SWPRP appears to be an asset to Nebraska.

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