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SUMMARY
OF
ABSTRACTS, OUTLINES AND TIME SCHEDULES
FOR THE
NEBRASKA WATER PLAN
CURRENT
AS OF
OCTOBER, 1969

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Natural Resources Commission

NEBRASKA
SOIL AND WATER
CONSERVATION COMMISSION

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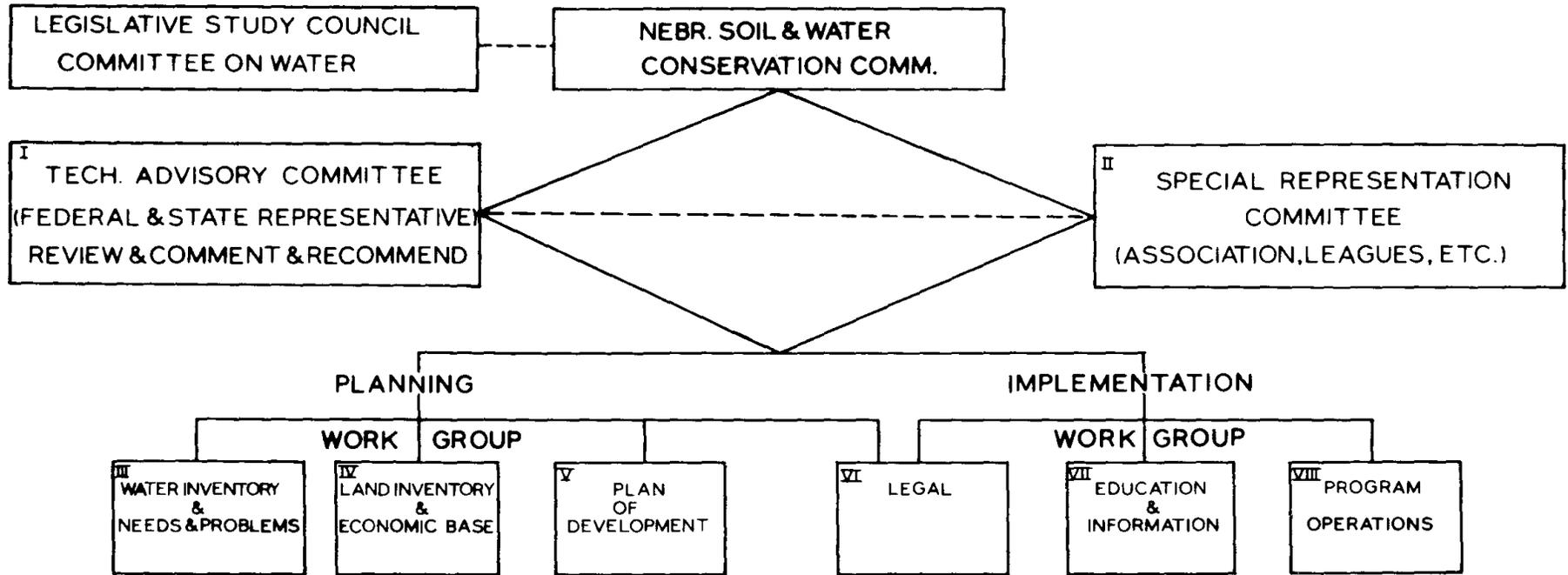
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STATE WATER PLAN



- I**
N.S.W.C.C.
U.S. DEPT. OF AGRICULTURE
U.S. DEPT. OF DEFENSE
U.S. DEPT. OF INTERIOR
NEBR. DEPT. OF ECONOMIC DEVELOPMENT
NEBR. DEPT. OF HEALTH
NEBR. DEPT. OF ROADS
NEBR. DEPT. OF WATER RESOURCES
NEBR. GAME & PARKS COMM.
U. OF N. BUREAU OF BUSINESS RESEARCH
U. OF N. AG. EXPERIMENT STATION
U. OF N. CONS. SURVEY DIV.
NEBR. IRRIGATION ASSN.
NEBR. RECLAMATION ASSN.
U. OF N. AG. EXTENSION SERV.
U. OF N. COLLEGE OF AGRICULTURE

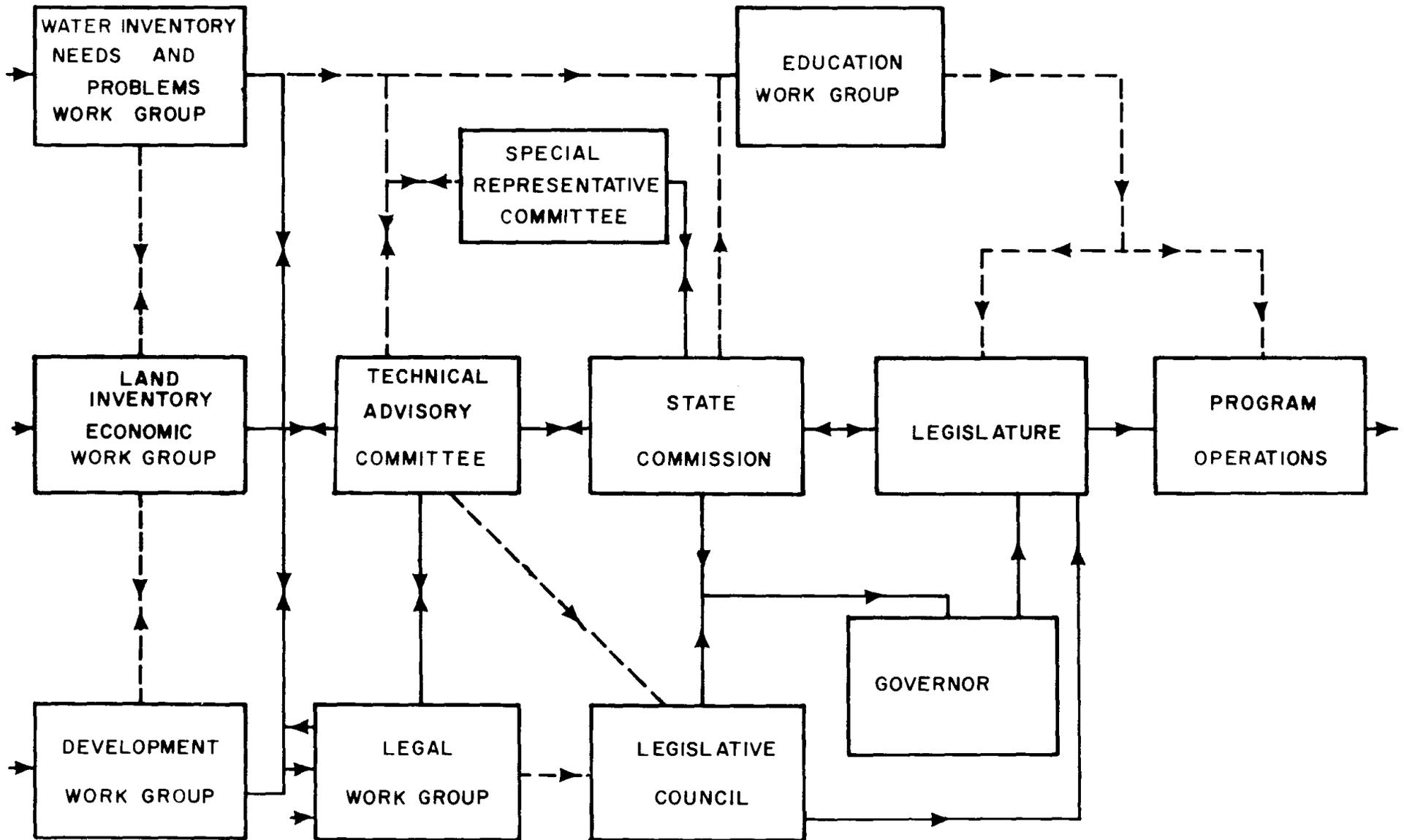
- II**
N.S.W.C.C.
NEBR. LEAGUE OF MUNICIPALITIES
NEBR. LEAGUE OF WOMEN VOTERS
NEBR. RECLAMATION ASSN.
NEBR. IRRIGATION ASSN.
NEBR. ASSN. OF COMMERCE & INDUSTRY
NEBR. ASSN. OF S.W.C.D.'S
NEBR. FARM BUREAU FEDERATION
FARMERS UNION OF NEBR.
STATE GRANGE
NEBR. PETROLEUM COUNCIL
NEBR. PRESS ASSN.
NEBR. RURAL ELEC. ASSN.

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- V**
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U. OF N. COLLEGE OF ENGINEERING

STATE WATER PLAN INFORMATION FLOW CHART



SECTION I
OF
THE NEBRASKA WATER PLAN

THE FRAMEWORK STUDY

APPENDIX A - THE LAND INVENTORY

This report was prepared as an appendix to the Framework Study section of Nebraska's State Water Plan. Information summarized in this volume will be used as input data to other volumes of the Nebraska Water Plan; such as, the volume on Land and Water Resource Problems and Needs, the Plan of Development volume and the individual basin plans.

The four primary objectives of this report are to:

1. Inventory the existing land use,
2. Analyze the capability of the land resource;
3. Present data relating to the ownership of lands; and
4. Project future land use requirements.

These items were dealt with on a generalized or reconnaissance basis, with the intent of assisting the planners in the initial stages of framework plan development.

Agriculture utilizes some 95 percent of the total land area and for this reason the volume deals extensively with the agricultural aspects of land use in Nebraska. Land Resource Areas and hydrologic basins were used as the basis for the lands data presented in this report.

The major sources of data for this report are the 1958 Conservation Needs Inventory, the preliminary 1966 Conservation Needs Inventory, the preliminary Appendix of the Land Resources Availability Work Group of the Missouri River Basin Interagency Committee, and file information made available by various state and federal agencies.

APPENDIX B - THE WATER INVENTORY

Appendix B is an inventory of the water resources of the State. The primary objectives of this volume are to:

1. Summarize those climatic factors related to water resource development;
2. Inventory and determine the location, quantity, quality, and present use of the State's surface water; and
3. Inventory and determine the location, availability, quality and present use of the State's ground water.

Only data already available were used in preparation of this report. However, all available sources were contacted and use made of both published and unpublished data from federal, state and local sources. No attempt is made in the report to present detailed basic data, but references are included for sources of such information. Summaries of information and data are presented to provide the planner with readily usable materials.

When necessary to describe certain features of the water resource, estimates were made if no specific data were available.

Most of the information contained in this report was contributed or collected by federal and state agencies.

APPENDIX C - WATER AND LAND RESOURCES PROBLEMS AND NEEDS

- I. Municipal Water Supply Health
 - A. Use Rates by Subbasin (SWCC, FWPCA)
 - B. Total State Usage (SWCC)
 1. Surface Water
 2. Ground Water
 3. Net Depletion
 4. Shortage Areas (present and future)
 - C. Water Quality Problems (FWPCA)
 1. Existing
 2. Future (1980, 2000, 2020)

- II. Industrial Water Supply Health
 - A. Use Rates by Subbasin (BOM, FPC, FWPCA)
 - B. Total State Usage (FWPCA, SWCC)
 1. Surface Water
 2. Ground Water
 3. Net Depletion
 4. Shortage Areas (present and future)
 - C. Water Quality Problems (FWPCA)
 1. Existing
 2. Future (1980, 2000, 2020)

- III. Rural Domestic and Livestock U.S. Department of Agriculture
 - A. Use Rates by Subbasin
 - B. Total State Usage
 1. Surface Water
 2. Ground Water
 3. Net Depletion
 4. Shortage Areas (present and future)
 - C. Water Quality Problems
 1. Existing
 2. Future (1980, 2000, 2020)

VIII. Navigation U. S. Corps of Engineers

- A. Existing Needs and/or Problems
- B. Potential

IX. Electric Power Soil & Water Cons. Comm. (FPC, FWPCA)
(Local Dist.)

- A. Energy Requirements
 - 1. Peak - KW
 - 2. Total Energy - KWH
- B. Water Requirements
 - 1. Hydro
 - 2. Steam Cooling

X. Fish and Wildlife Game & Parks Commission

- A. Total Water Habitat
 - 1. Streams
 - 2. Lakes
- B. Water Quality
- C. Future Needs
 - 1. Recreation
 - 2. Commercial
 - 3. Location Map

XI. Recreation Game & Parks Commission

- A. Present Use
 - 1. Streams
 - 2. Lakes
- B. Water Quality
- C. Future Needs
 - 1. Surface Area
 - 2. Stream Miles
 - 3. Location Map

- D. Future Agricultural Production
 - 1. Production to Maintain Nebraska's Share of National Production Requirements
 - 2. State's Maximum Production Capabilities
 - 3. State's Level of Production Consistent With MRB Production
- E. Analysis of Future Agricultural Situation
 - 1. Farm Size
 - 2. Farm Numbers
 - 3. Farm Income
 - 4. Agricultural Employment

III. Manufacturing U of N Bureau of Business Research (NSWCC)

- A. Past and Present (including regional and national relationships)
 - 1. Employment (including recent changes and locational factors)
 - 2. Productivity
 - 3. Markets
 - 4. Raw Materials (sources and locational aspects)
 - 5. Heavy Water-Using Industries
 - a. Food and kindred products
 - b. Petroleum refining
 - c. Chemical products
 - d. Primary metals
 - e. Paper and allied products
 - f. Textile mill products
- B. Projections of the Manufacturing Industry
 - 1. Employment
 - 2. Productivity
 - 3. Heavy Water-Using Industries (location in relation to pollution problems)

IV. Other Commodity Producing Industries NSWCC (Bureau of Mines)

- A. Mineral Resources
 - 1. Past and Present (production and employment)
 - 2. Projected Production

V. Noncommodity Producing Industries

- A. Recreation and Tourism Game & Parks Commission
 - 1. Availability
 - 2. Use - Including Impact on Economy
- B. Retail and Wholesale Trade, Finance, Real Estate U of N
Bureau of
- C. Professional Services and Personal Services Business Research
(NSWCC)
- D. Education, Government, Armed Forces
- E. Contract Construction

VI. Social and Economic Impact of Water Resources Development

APPENDIX E - SURVEY OF NEBRASKA WATER LAW, AGENCIES AND PROGRAMS

- I. Introduction
- II. State Law
 - A. Introduction
 - B. Legal Classification of Water
 1. Surface Water
 - a. Water in Watercourses
 - b. Water in Lakes and Ponds
 - c. Diffused Surface Water
 2. Ground Water
 - C. Water Rights
 1. Watercourse Law
 - a. Short History of the Nebraska Rules
 - b. The Riparian Doctrine
 - c. The Appropriation System
 - d. Relative Status of the Riparian and Appropriation Rights
 - e. Typical Problem Situations
 2. Ground Water Law
 - a. Ground Water Rules - Generally
 - b. The Nebraska Rule
 - c. Statutes
 - d. Typical Problem Situations
 3. Relation of Ground and Surface Water Laws
 - D. Drainage Law
 1. Common Law
 2. Statutes
 3. Typical Problem Situations
 - E. Miscellaneous
 1. Recreation Access to Lakes and Streams
 2. Interbasin Water Transfers
 3. Interstate Water Compacts and Court Decrees
 4. Preference System
 5. Water Quality and Waste Disposal

III. State Administrative Agencies and Programs

A. Introduction

B. Department of Water Resources

(Organization, functions, powers and duties will be discussed under each listed agency or program.)

C. Soil and Water Conservation Commission

D. Department of Health

1. Water Pollution Control Council

2. Bureau of Environmental Health

E. Clean Waters Commission

F. Game and Parks Commission

G. Department of Economic Development

H. State Office of Planning and Programming

I. University of Nebraska

1. Conservation and Survey Division

2. Agriculture Experiment Stations

3. Agricultural Extension Service

4. Water Resources Research Institute

IV. Federal Law

A. Introduction

B. The Commerce Clause

1. The Navigation Power

2. The Navigation Servitude

C. The Property Clause and The Proprietary Power

D. The War Power

E. The Treaty Power

F. The General Welfare Power

G. Jurisdiction of the United States Supreme Court and Sovereign Immunity of the United States

H. Constitutional and Non-Constitutional Limitations Upon the Federal Government

V. Federal Administrative Agencies and Programs

A. Introduction

B. Department of Interior

1. Bureau of Reclamation
2. Geological Survey
3. Bureau of Sport Fisheries and Wildlife
4. Federal Water Pollution Control Administration
5. Office of Water Resources Research
6. Bureau of Land Management
7. National Park Service
8. Bureau of Outdoor Recreation
9. Bureau of Indian Affairs

C. Department of Agriculture

1. Soil Conservation Service
2. Agriculture Stabilization and Conservation Service
3. Forest Service
4. Farmers Home Administration
5. Economic Research Service

D. Department of the Army - Corps of Engineers

E. Department of Transportation - The Coast Guard

F. Department of Housing and Urban Development

G. Department of Health, Education and Welfare

H. Independent Commissions and Councils

1. Water Resources Council
2. Federal Power Commission
3. National Water Commission

VI. Federal-State Organizations

- A. Introduction
- B. Interstate Compact Commissions
- C. Missouri Basin Inter-Agency Committee
- D. Missouri Basin States Committee

VII. Subdivisions of State Government

- A. Introduction
- B. Counties
 - 1. Powers Pertaining to Water Development
 - 2. Financial Capabilities
- C. Cities
 - 1. Powers Pertaining to Water Development
 - 2. Financial Capabilities
- D. Water Districts
 - 1. Introduction
 - 2. Nebraska Districts
 - a. Reclamation Districts
(Purpose, powers and duties, finances, and governing framework will be discussed under each district.)
 - b. Irrigation Districts
 - c. Public Power and Irrigation Districts
 - d. Drainage Districts
 - e. Ground Water Conservation Districts
 - f. Rural Water Districts
 - g. Sanitary Drainage Districts
 - h. Sanitary and Improvement Districts
 - i. Natural Resources Districts

VIII. Trends in Water Resources Development

- A. Types of Projects
- B. Financing Projects
- C. Federal Agencies

THE MAIN REPORT

Transmittal Letter

Synopsis

Nature of Plan

Summary of Alternatives

Summary of Recommended Plan

Introduction

Description of the State Water Plan

Authority

Initiation

Parts

Description of the Framework Study

Purpose

Scope (Including description of use of basin approach
and selection of basins)

Related Studies

Appendices

Planning Guidelines

Planning Procedures

Organization of Participants

Group Structure

Group Membership

The Review Procedure

Acknowledgements

Description of Nebraska

► Physical

Topography

Geology

Climate

Natural Resources

Development (general physical)

Economic

Population

Employment

Income

Economic Structure

The Land Resource and Its Use

Capability

Ownership and Administration

Present Use

The Water Resource and Its Use (Ground and Surface)

Availability by Location

Seasonal Variation

Present Use

Quality

Appropriations

(Description of Nebraska - continued)

Needs, Problems, and Opportunities

Water Supply (M&I)

Flood Control

Irrigation

Water Quality Control

Recreation

Fish and Wildlife

Erosion Control

Navigation

Power

Drainage

Planning by Basins (Cover Item in More Detail Than in Proceeding Sections)

Existing Resource Development (Detailed Physical Summary with Lesser Treatment of Economic Development)

Land Base

Water Available (Gross and Net above requirements for Selected Points)

Problems and Needs

Presently Proposed Developments

Multiple Purpose

Single Purpose

Future Development

Statewide Framework Plan

Alternatives

The Recommended Alternative (Including Effect on Basins in Terms of Increased or Decreased Output for Certain Functions)

Implementation Recommendations

Legal

Institutional

Financial

Further Study (Including Data Collection)

SECTION 2
OF
THE NEBRASKA WATER PLAN

THE BASIN STUDIES

COOPERATIVE PROGRAM FOR
COMPREHENSIVE BASIN PLANNING REPORTS

Introduction

The 1967 Legislature directed the preparation of a comprehensive State Water Plan by the Nebraska Soil and Water Conservation Commission. As one section of this statewide plan, a Basin Planning Report will be prepared for each of the eleven major river basins in Nebraska. These reports are in general only a continuation of the past basin planning efforts undertaken in response to requests from basin-wide Water Resources Associations, Planning Boards and specific requests from the Legislature.

The Commission Role

The Commission will coordinate the study activities of the various state and federal agencies and integrate individual agency findings into an overall basin plan. Contact will be maintained by the Commission with local groups during the planning program and upon completion the Commission will assist as requested in the objective consideration of the plan by basin groups and individuals.

Description of Report

The Planning Report will utilize the information available from state and federal agencies to present a summary of the basin resources. This summary will consider present land and water resources, population, industry, agriculture and wildlife. Projections, where available, will be used to determine future needs of the basin.

From the potential projects developed by the various participating agencies, a general plan of basin development will be proposed along with a time schedule for completion.

The Planning Report will also include recommendations for action by local entities and state and federal agencies which would enhance the water and land resource development of the basin.

Assistance Requested

The agencies from whom help is anticipated, and the specific items of assistance requested of them are listed on the following pages. The Commission recognizes the need and desirability of complete individual agency reports and does not intend that reports be limited to the specific information requested in this outline.

Extension Division and Agricultural Extension Service

1. Development of a program of education and information to explain the proposed basin plan to basin residents, basin organizations and officials.
2. Determination of local interest in proposed water resources development through questionnaires, local meetings and investigation by local staff members.
3. Development of a program of education and information for County Extension Agents to prepare them to disseminate the proposed plan and interpret the facts to basin residents.
4. Analyze irrigation water management in the basin and suggest methods for improvement.
5. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

Game and Parks Commission

1. Summary of available recreational areas in basin including relation of current use to carry capacity.
2. Summary of fish and wildlife areas in basin including relation of current use to carry capacity.
3. Discussion of future recreational demands including preference of types of activity and location of demand.
4. Land and water needs to meet future demands in recreation and fish and wildlife.
5. Effect of presently proposed projects on present and future demands.
6. Discussion of relation between pollution abatement and increased recreational use of streams including economic considerations.
7. Discussion of historical recreation use and development within the basin.
8. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

Department of Water Resources

1. Physical description of the basin drainage system including parameters such as stream length, slope, and valley shape.
2. Summary of water sources for basin streamflow (precipitation, groundwater, pumping waste).
3. Description of records available including location of gages of various types.
4. Summary of streamflow data available including period of record, annual runoff at selected locations (max, min, mean), instantaneous flow maximums.
5. Summary of power rights existing in the basin including date of priority, location and extent of right, current use and conclusion of right.
6. Summary of rights assigned to divert and use streamflows including date of right, extent of right, location of right, acres irrigated, total acres so irrigated in basin, current use of rights.
7. Summary of rights to store water in the basin including condition of storage reservoir.
8. Summaries of seven day, ten year low flows at all stations in the basin where sufficient records exist for reasonably reliable analysis.
9. Make appropriate recommendations concerning the network of hydro-logic data gathering stations, and the effect on streamflow of the currently proposed projects.
10. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

Conservation and Survey Division

1. In general terms describe the topography of the basin.
2. In general terms describe the soils of the basin including general types.
3. Discuss the relation of ground and surface water in the basin.
4. Discuss the occurrence of groundwater including:
 - (a) general subsurface geologic description.
 - (b) location and description of commonly used aquifers.
 - (c) depth to water table.
 - (d) aquifer characteristics such as porosity, transmissibility, permeability and thickness.
 - (e) quality of groundwater including, total dissolved solids, salinity, potassium, calcium, magnesium, sulfur, boron, nitrates, etc.
5. Discuss the use of groundwater including:
 - (a) the importance of groundwater to the basin economy.
 - (b) irrigation well concentration.
 - (c) water table fluctuations.
 - (d) water in storage available for withdrawal.
 - (e) economics of present and future withdrawal.
6. Discuss recharge including:
 - (a) natural recharge rates and areas.
 - (b) potential artificial recharge means and rates.
 - (c) sites suitable for artificial recharge.
7. Make recommendations as appropriate concerning investigation and use of the groundwater resource.
8. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

Health Department

1. Discuss surface water chemical quality including pH, dissolved oxygen, alkalinity, hardness, phosphates, nitrates, carbonates, syndets, chlorides, iron, manganese, copper, fluoride, chromium, sodium, potassium and boron. The relationship between chemical quality and the Water Quality Standards should be discussed.
2. Discuss the surface water bacteriological quality including BOD, coliforms and other appropriate indicators. The relation between bacteriological quality and the Water Quality Standards should be discussed.
3. Discuss the surface water physical quality with emphasis on the Water Quality Standards.
4. Discuss municipal and industrial use of water distinguishing between them as possible. Discussion should include:
 - (a) present sources.
 - (b) present treatment and adequacy of treatment facilities.
 - (c) present quality of treated water.
 - (d) future needs.
5. Discuss municipal sewage systems including:
 - (a) location.
 - (b) adequacy of treatment facilities.
 - (c) adequacy of treatment (BOD reduction)
 - (d) future needs.
6. Discuss stream pollution
 - (a) summary of sources of pollution loads:
 - (1) fertilizers.
 - (2) pesticides.
 - (3) other agricultural operations.

Nebraska Health Department (con't)

- (4) industrial pollution.
 - (5) municipal pollution.
 - (b) water requirements necessary to provide streamflows to meet Water Quality Standards.
7. Discuss solid waste disposal:
- (a) current urban problems.
 - (b) future urban problems.
 - (c) rural solid waste disposal problems.
8. Make recommendations as appropriate.
9. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

Nebraska Department of Economic Development

1. Discuss basin population including:
 - (a) historical distribution of population by sex, age, location type of residence.
 - (b) rural, urban shifts.
 - (c) population density.
 - (d) comparison of growth rates to state, region and nation.
 - (e) analysis of trends.
 - (f) employment and income.
2. Discuss manufacturing as an industry including:
 - (a) historical development of manufacturing in the basin.
 - (b) present situation of manufacturing regarding labor, location markets, etc.
 - (c) potential for expansion of industrial activity in basin.
3. Discuss economic importance of mineral resources.
4. Describe specific problems including those of short duration which may be foreseen as a result of resource development.
5. General discussion of economic impact of various types of development in the basin such as flood control, drainage, irrigation, pollution abatement, recreation, and water supply.

U. S. Department of Agriculture - Soil Conservation Service

1. In general terms describe the vegetation of the basin including type and distribution.
2. Describe the land resource of the basin including:
 - (a) area and location of basin.
 - (b) current land use.
 - (c) location and description of major land resource areas.
 - (d) comparison of productivity of differing land resource areas.
 - (e) anticipated future land use.
3. Locate and describe in general terms the need for land and water management in the basin including:
 - (a) relation between soil types and needed treatment.
 - (b) need for and value of irrigation water runoff management.
 - (c) irrigation techniques currently used.
 - (d) additional water that could be made available through good management.
4. Delineate project sized watersheds.
5. Estimate the reasonably attainable farm irrigation efficiency at the present and in the future.
6. Summarize the historical floodwater damage as an average annual loss for the basin with the information by reach for rural areas along the main stem and tributaries for drainage areas under 250,000 acres and for all communities of less than 2,500 population. Estimate the potential reduction of flood damages with projects.
7. Delineate erosion problems on the main stem and tributaries having a drainage area under 250,000 acres. Agency authorities applicable to correction of the situation should be described.

U. S. Department of Agriculture (con't)

8. Inspect all levees, rip rap or other works of improvement along main stem and tributaries having a drainage of less than 250,000 acres including identification of trouble areas and agency authorities applicable to correction of the situation.
9. Describe potential reservoir sites located to date in the basin.
10. Locate and describe upstream eroding areas including those that are considered to require project-type action and describe the type of project required.
11. Identify those watersheds where justification of works of improvement via P.L. 566 appears likely.
12. Determination of degree of needed land treatment achieved in the basin by watershed and by county. Describe basis of determination.
13. Analyze agricultural water management in the basin and needed improvements.
14. Locate and describe serious impediments to drainage such as sedimentation and debris accumulation in the channels of the main stem and tributaries having a drainage area of less than 250,000 acres.
15. Identify general soil types and characteristics typical of the basin including generalized map of land classifications.
16. Identify areas suitable for irrigation under current technological conditions without regard for water supply.
17. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

U. S. Department of Agriculture (con't) - Economic Research Service

1. Discuss agriculture as an industry including:
 - (a) unit sizes and their effect on agriculture.
 - (b) type of agriculture.
 - (c) value of products sold.
 - (d) net incomes.
 - (e) investment in agriculture.
 - (f) trade centers and markets.
 - (g) value to basin economy.
 - (h) current trends in agriculture
2. Summarize agricultural production in the basin (current and projected).
3. General discussion of economic impact of various types of development in the basin such as flood control, drainage, irrigation, pollution abatement, recreation, water supply.
4. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

U. S. Department of Agriculture (con't) - Forest Service

1. Summary of woodlands in the basin including location and description of significant tracts.
2. Determination of present and potential future harvest of woodlands.
3. Determine the relationship between woodlands and hydrology in the basin.
4. Recommend needed woodland management techniques.
5. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

Bureau of Reclamation

1. Develop plans and alternatives for maximum reasonable in-basin use of the water and related land resources for irrigation, municipal and industrial water and hydroelectric power and for such coordinate purposes as water quality control, recreation, fish and wildlife enhancement, and flood control that are determined to be needed and justified by other cooperative Federal, State and local agencies. Assess the physical, economic and financial feasibility of plans which appear to have the requisites for early implementation.
2. Basin development plans will include studies to determine the ability of basin water supplies to meet long term water needs so that water surplus and water deficit basins can be delineated.
3. Provide information, data and reports as available on development proposals describing the multi-purpose plans, economic feasibility, details of cooperation with other agencies, and extent of local interest if known.
4. Furnish specific items of information from the studies which this agency will accomplish within the limit of time and funds as follows:
 - a. Describe the consumptive irrigation requirements in the basin.
 - b. Describe the suitability of basin lands for irrigation considering the physical and chemical characteristics and fertility of the soil.
 - c. Discuss economics of dryland agriculture vs. irrigated agriculture with regard to the basin and including, where appropriate, secondary effects.

- d. Description and location of all lands in the basin suitable for project irrigation including:
 - (1) lands which occur in tracts of suitable size but for which no water supply is presently available.
 - (2) lands which occur in tracts of sufficient size to appear suitable for project development of ground water.
 - e. Discuss or provide if available and appropriate, anticipated effects of presently considered projects on streamflows.
5. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

Corps of Engineers

1. Describe the climate of the basin including temperature and precipitation distribution, growing season, a summary of climatological data and precipitation variability.
2. Summarize the historical floodwater damage as an average annual loss for the basin with information by reach for rural areas along the main stem and tributaries having drainage areas exceeding 250,000 acres and for all communities in excess of 2,500 population. Discussion should include description of extent and character of flood damaged areas.
3. Discuss the outbasin benefits of floodwater detention in the basin.
4. Delineate the erosion problems on the main stem and tributaries having a drainage area in excess of 250,000 acres. Agency authorities applicable to correction of the situation should be described.
5. Inspect all levees, rip rap or other works of improvement along main stem and tributaries having a drainage of over 250,000 acres including identification of trouble areas and discuss agency authorities applicable to correction of the situation.
6. Locate and describe potential reservoir sites in the basin.
7. Summarize past local flood protection project investigations now inactive including date of investigation, general description of plan, extent of study, costs and benefits determined, local interest, reason for discontinuing study.
8. Summarize present local flood protection project investigations completed and awaiting action or still under active study.

Corps of Engineers (continued)

9. Describe multiple-purpose projects now under consideration including the physical plan of development, economic analysis and local interest. Locate and describe serious impediments to drainage such as sedimentation and debris accumulation in the channels of the main stem and tributaries having a drainage area in excess of 250,000 acres.
10. Evaluate the potential for development of navigation in the basin.
11. Evaluate the potential for development of hydropower in the basin.
12. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

Soil and Water Conservation Commission

1. Summarize the general economy of the basin.
2. Summarize the problems and opportunities in the basin.
3. Summarize the alternative potential developments in the basin.
4. Formulate a plan of development for the basin.
5. Prepare specific recommendations for implementation of the proposed plan of development.
6. Coordinate preparation of individual contributions.
7. Write final report.
8. Publish and distribute final report.
9. Describe specific problems including those of short duration which may be foreseen as a result of resource development.

SECTION 3
OF
THE NEBRASKA WATER PLAN

STATUS SUMMARY OF POTENTIAL PROJECTS

STATUS SUMMARY OF POTENTIAL PROJECTS

This volume of the Status Summary summarizes the federal projects currently being considered for development in Nebraska. It includes all active projects for which a formal report of some type has been issued.

A brief description of the project features, the project location, benefits and costs is included in each entry. A resume of local support, local taxation for the project, remaining land and water resources problems of the area, and financing arrangements is also included.

The information in this summary was compiled from the latest reports available at the date of publication. Footnotes giving the title and date of the report used and who to contact for further information are provided for each report.

The primary purposes of the report are to:

1. Summarize the status of projects currently being given consideration with attention to the desirability of the project and the actions necessary for its implementation;
2. To assemble, in an organized fashion, general information concerning projects with sufficient detail for analysis and use by those with a special interest in water resources development;
3. To permanently record the current status of water resources planning in Nebraska; and
4. To make a summary of general information readily available to the Governor, the Legislature, local resource development leaders and the general public.

To insure accuracy in this summary, the Army Corps of Engineers, the Bureau of Reclamation and the Soil Conservation Service reviewed and verified the data compiled from their reports.

Assistance was also obtained from project sponsors in the reviewing of each report.

SECTION 4
OF
THE NEBRASKA WATER PLAN

THE SPECIAL RECOMMENDATIONS

FLOOD PREVENTION AND DAMAGE REDUCTION

The purpose of this recommendation is to point out a method of reducing future flood damages through proper land use. The recommendation includes a description of the problem and summary of the need for state action in regulation of flood plains.

A suggested priority list for implementation is included as well as the Commission's statement of policy on the regulatory program.

Specific suggestions for actions by the Governor and the Legislature are set forth.

This recommendation was partially implemented by L.B. 893 of the 1967 Legislative Session.

MODERNIZATION OF RESOURCE DISTRICT LEGISLATION

This Special Recommendation of the Nebraska Water Plan deals with the modernization of legislation pertaining to local natural resource districts. Appropriate summaries are included of the current status of districts, district problems and the existing need for reorganization. The report sets out those institutional, economic, and practical points which should be considered in any contemplated changes. Alternative courses of action which might be taken by the Legislature are described and specific recommendations for Legislative implementation are included.

The recommendations made and endorsed as a part of the Nebraska Water Plan include enactment of enabling legislation for a new type of local natural resource district geared to today's problems and methods of government, the evolution of some types of present local natural resource districts into this new type of district and the repeal of current legislation which enables the further proliferation of local special-purpose districts.

While the descriptions of special-purpose districts in this publication and the recommendations which conclude it refer specifically to districts in Nebraska, many of the same problems are common throughout the United States. For this reason pertinent studies of the problems by students of government of national reputation were quoted throughout this report to supplement the Commission's views.

Implementation of this report was contained in L.B. 1357 of the 1969 Legislative Session.

FLOOD WARNING AND COMMUNITY ACTION

This recommendation of the Nebraska Water Plan deals with the opportunity to reduce flood losses by advance planning for prompt, effective flood warnings and responsive community action. The present organization for emergency action is evaluated and improvements are proposed.

The goal of the recommendation is to reduce the loss of life and property through improved flood emergency action by:

1. Supplementing and coordinating the existing flood forecasting system to greatly improve the quality and timeliness of flood warnings in Nebraska;
2. Increasing the State's readiness for flood disaster pre-planning actions to be taken; and
3. Assisting communities to evaluate their flood hazard and make plans for effectively using flood warnings to reduce flood damages.

This recommendation was released after adjournment of the 1969 Legislative Session. Therefore, no steps have been taken toward implementation.

SIMPLIFICATION OF DRAINAGE DISTRICT LEGISLATION

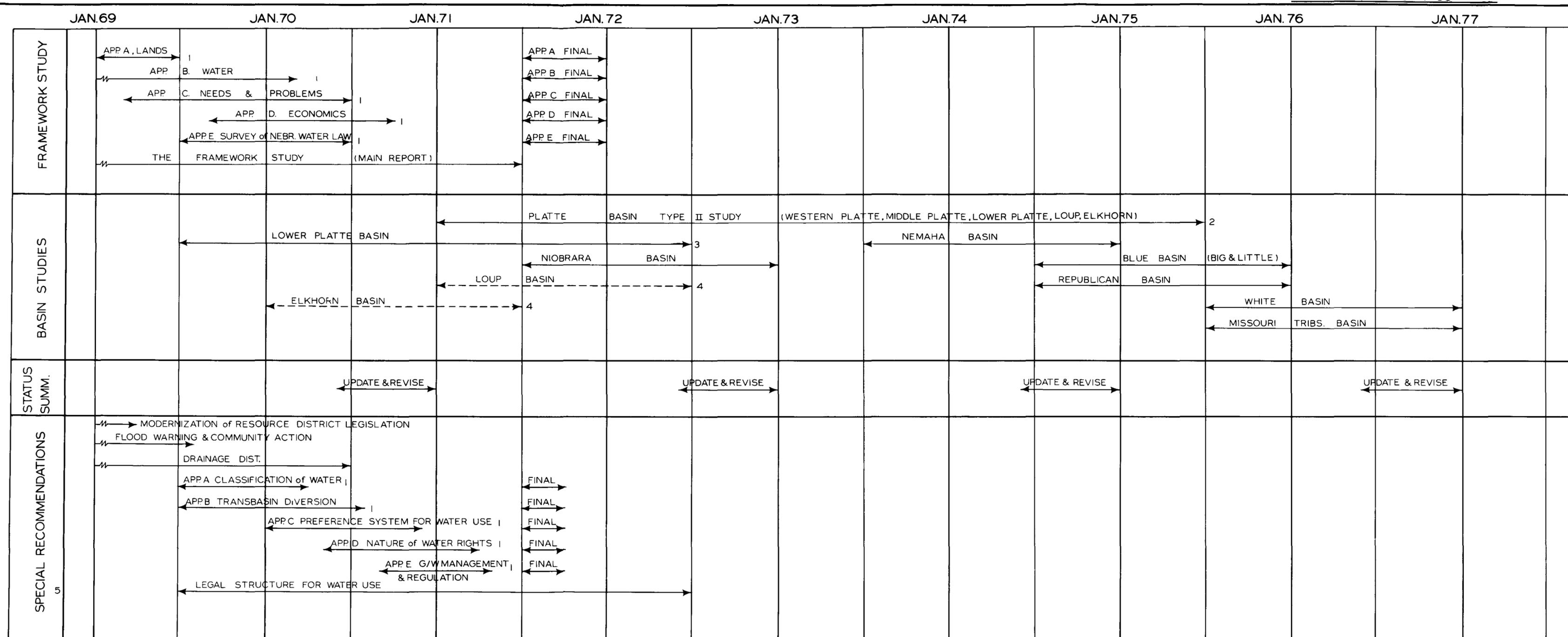
This topic is designed to examine the sections of the Nebraska Statutes which govern drainage districts and also drainage activities of private persons, cities and counties. The study has been active and some preliminary proposals have been produced after meetings with directors of drainage districts and other knowledgeable persons, examining approaches to drainage problems by other states and analyzing the Nebraska law with a view to updating and clarification.

Final recommendations have not been formulated.

LEGAL STRUCTURE FOR WATER USE

This study would analyze the Nebraska laws which determine rights of persons to use water in Nebraska. The final report, scheduled for completion in 1972, would be preceded by several appendices covering different segments of the study.

The appendices will set forth the Nebraska laws pertaining to classification of water, transbasin diversions of ground and surface water, the statutory and constitutional preferences for water use, characteristics of the appropriative and riparian water rights, and ground water management. Appendices will also include discussions of comparative laws of other states. The appendices will be published singly during 1970 and 1971 and the main report containing recommendations will be published in 1972.



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NOTE

- 1. Preliminary Issue
- 2. Delay in initiation and completion of this study will result in corresponding delay in Blue Basin and Republican Basin Reports.
- 3. Contingent upon availability of funds and personnel.
- 4. Initiation of study dependent on local need and interest.

- 5. Other topics may include:
 - a. Land Use
 - b. Role of Hydro-power in the State's Future Energy Requirements
 - c. Cost-sharing Arrangements for Financing Water Projects
 - d. Drainage and Diffused Surface Water Problems
 - e. Artificial Methods of Increasing Water Yield
 - f. Advance Aquisition of Reservoir Sites
 - g. Use of Missouri River Flow
 - h. Water Quality