



**APPENDIX A - DRAFT ENVIRONMENTAL IMPACT STATEMENT**

**ABSTRACT**

The Missouri River Basin Water Resources Management Plan is a guide for the development, conservation, preservation, and management of water and related land resources in the Missouri River Basin. It was prepared by the Missouri River Basin Commission and includes about 550 data collection, research, special study, river basin planning, feasibility study, and implementation programs. The plan was developed by State-Federal subbasin planning teams in accordance with State planning objectives and policies to address identified water resources problems and opportunities. The environmental impact statement focuses on the qualitative effects of implementation programs in the plan and reflects an analysis commensurate with the level of planning. The impacts of the programs and projects are discussed according to the functional categories used in development of the plan.

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**COMMENTS DUE BY:** August 20, 1980

## SUMMARY

This environmental impact statement was prepared under direction of the Commission's Planning Committee to analyze the environmental effects of the Missouri River Basin Water Resources Management Plan. It is intended to meet the procedural requirements of the National Environmental Policy Act of 1969, and subsequent implementing regulations of the U.S. Council on Environmental Quality and those of the U.S. Water Resources Council.

Agriculture historically has been most important in the economy and to the people of the Missouri River Basin, but with energy development in recent years also becoming very important. Concern over the adequacy of surface and ground water resources to meet all demands has been expressed. Additional concern over the environmental impacts of increased intensity of use of water and related land resources has also grown. The water resources plan was developed to respond to the concerns stated and as a future guide for the development, conservation, preservation, and management of the water and related land resources in the Missouri River Basin. The plan identifies some 550 programs to address and meet future water resource management needs and opportunities.

The environmental impact statement focuses on the qualitative effects of implementation programs in the plan and reflects an analysis commensurate with the level of planning. Actions, identified according to functional areas, were grouped and analyzed for the types of impacts expected or likely to occur, many of which had been already identified during prior feasibility studies. The general impacts of each functionally-related group of actions were then determined from a basinwide perspective.

The net overall effect of the regional water and related land resources plan on the human environment will be beneficial. Long term agricultural

productivity will be maintained and improved; in addition, improved water resources management will encompass a wider range of beneficial uses and stimulate an improvement in the efficiency of its use. Future development of the Basin's energy resources is not precluded and water quality is to be preserved or enhanced to protect human health and fish and wildlife resources. Certain plan elements will improve the management of fish and wildlife resources, protect natural, historic and cultural areas, and improve public access to important recreational resources. Human occupancy of hazardous portions of the flood plain will be discouraged and structural protection of valuable developed flood plains is provided in those instances where nonstructural approaches are not economically feasible. Certain irreversible and irretrievable commitment of resources associated with plan implementation are also identified.

## PURPOSE OF AND NEED FOR ACTION

The Missouri River Basin Water Resources Management Plan was prepared through the joint efforts of the 23 State, Federal, and interstate members of the Missouri River Basin Commission as well as numerous other water resources agencies. The plan will serve as a guide for the development, conservation, preservation, and management of water and related land resources in the Missouri River Basin. The plan is the product of extensive interagency and interstate cooperation and collective judgment and therefore, is a reliable guide for programming and budgeting for all levels of government. The recommendations in the plan are intended to support the Congress, the Federal Government, and States in programming, budgeting, and funding water resources programs and projects in the Missouri River Basin. The environmental effects of the plan have been determined in accordance with the National Environmental Policy Act of 1969 and subsequent implementing regulations of the Council on Environmental Quality (40 CFR, Parts 1500 through 1508) and those of the U.S. Water Resources Council (18 CFR, Part 707).

Section 707.8 of the Water Resources Council's regulations indicates that regional water resource plans normally require an environmental impact statement. Sections 707.5 and 707.9 of the regulations require the environmental statement to reflect the level of planning carried on during the study and to address those environmental considerations and alternatives relevant to decision-making at that level. Through this process, generally known as tiering, the level of detail in the analysis was reduced through the development of broad environmental impact information relating to groups of actions categorized according to function in the regional plan. Environmental assessments or impact studies previously conducted at nationwide, level B, or level C planning levels provided a basis for this analysis, and the impact

information was re-evaluated in terms of its significance within the planning area (Missouri River Basin). Environmental assessment and impact information developed during level B studies (Platte Basin, Yellowstone Basin and Adjacent Coal Areas, and Upper Missouri), nationwide programmatic studies (National Flood Insurance Program, Federal Aid in Fish and Wildlife Restoration Program) or regional programs (Missouri River Navigation and Bank Stabilization Program) were particularly valuable. For most individual projects and programs, detailed environmental impact information is available in environmental impact statements developed by the implementing agency; for the remaining projects the environmental assessment process is underway.

The scoping process, described in Section 707.11 of the Water Resources Council regulations, was utilized to reduce the range of actions which should be addressed. Through this mechanism, it was determined that the analysis should focus on implementation programs rather than on resource assessment or feasibility studies which have few if any direct environmental impacts. This eliminated the need to address in detail some 210 plan elements.

For the purpose of this environmental impact statement, therefore, the environmental analysis is directed toward implementation programs, and in addition, reflects an analytic level which is broadly commensurate with basinwide planning. The impacts of the programs and projects are also discussed in accordance with the functional categories used in development of the regional plan.

#### **ALTERNATIVES INCLUDING PROPOSED ACTION**

The Missouri River Basin Water Resources Management Plan is a compilation of approximately 550 data collection, research, special study, river basin planning, feasibility study, and implementation programs. Programs are identified as basinwide, statewide, or subbasin based upon the extent of the

program. Basinwide programs affect several or all of the eight subbasins; statewide programs affect an entire state; and subbasin programs generally only one subbasin.

There are approximately 340 implementation programs identified in the plan. The 33 flooding projects are generally the responsibility of the Army Corps of Engineers. There are about 200 small watershed projects recommended for Soil Conservation Service implementation with assistance from State and local entities. The Water and Power Resources Service is responsible for 28 irrigation projects that include municipal and industrial water supply, energy, fish and wildlife, and recreation purposes. The remaining functional areas account for the balance of the some 80 projects to be implemented by various Federal, State, and local agencies.

Each of the programs in the plan underwent considerable evaluation by State-Federal subbasin planning teams who were responsible for reviewing each ongoing, planned, and potential water resources program. This was done to determine if the planning objectives and policies were being achieved. In addition, each program was evaluated with respect to compatibility with other programs. All recommended programs were evaluated with respect to their collective adequacy and effectiveness at addressing identified problems and opportunities. Where necessary, additional alternatives, including no actions, were discussed, evaluated, and recommended. Throughout this process, all participants contributed to the identification of local problems and opportunities, and to alternatives acceptable to local interests. This was an important aspect of the regional planning effort because many local projects have already been scrutinized, evaluated, and agreed to locally by affected people. The proposed action is therefore a compilation of programs which conserve, utilize, develop, and manage the Basin's water and related land resources, and which has been heavily influenced by local interests.

## AFFECTED ENVIRONMENT

The Missouri River Basin encompasses one-sixth of the contiguous land area of the United States draining 328.5 million acres within the United States and about 6.2 million acres in Canada. It includes all of the State of Nebraska; most of Montana, South Dakota, and Wyoming; about half of Kansas, Missouri, and North Dakota; and smaller parts of Colorado, Iowa, and Minnesota. The Missouri River, formed by the junction of the Jefferson, Gallatin, and Madison Rivers in Montana, flows generally southeastward 2,315 miles to its junction with the Mississippi River above St. Louis, Missouri. Tributaries include the Milk, Yellowstone, Little Missouri, Cheyenne, Niobrara, James, Big Sioux, Platte, Kansas, Grand, and Osage Rivers. The three major physiographic divisions within the Basin are the Rocky Mountain System, the Interior Plains, and the Interior Highlands. The Rocky Mountain System is an area of exceptionally rugged topography with deep stream valleys, high plateaus, clear alpine lakes, and high mountain peaks. Cold water streams in this area provide high quality fishery habitat. The vegetation varies from alpine tundra and coniferous forests in the higher elevations to brushlands and grasslands in the intermountain valleys. The Interior Plains range from flat to rolling or hilly topography which was originally dominated by grassland vegetation. This area is dissected by intermittent or perennial warm water streams and rivers. The fishery habitat of these waters varies from good to poor depending upon water flows, substrate, chemical characteristics, and numerous other parameters. Riparian woodlands have developed along these streams where ecological conditions have been favorable. The Interior Highlands is topographically diverse and dissected by the many productive warm water streams. The vegetation is also diverse and in its natural state was dominated by the eastern deciduous forest.



Approximately 298 million acres or 92 percent of all the land in the Basin is used for agricultural purposes. More than half of the agricultural land is used for pasture and rangeland. Irrigated cropland comprises 11.4 million acres or about 4 percent of the present agricultural total with irrigated acreage to increase approximately 50 percent by the year 2000.

The economy of the Basin has historically been dominated by agriculture, but the region has also produced metallic and precious minerals, timber products, fuel products, and electric power. Recently, substantial increases in mining, manufacturing, and recreation-tourism have served to further strengthen and diversify the economic activities.

While the Missouri River Basin has an overall adequate supply of surface and ground water resources, distribution of this water in space and time is often not commensurate with local or regional demand. Hence, seasonal shortages occur in several regions. In addition, the quality of the water resources is highly variable, which aggravates the water supply problem for many users.

Detailed descriptions of the Basin and the subbasins are provided in Chapter 2 and Chapters 3 to 10, respectively.

## **ENVIRONMENTAL CONSEQUENCES**

### IMPACTS OF PROPOSED ACTIONS

The discussion of impacts in this section generally follow the classification adopted for development and display of the plan. These categories are:

- o Comprehensive Planning and Support Activities
- o Flooding
- o Fish and Wildlife
- o Irrigation

- o Land Conservation and Management
- o Municipal, Industrial, and Rural Domestic Water Supply
- o Natural, Historic, and Cultural Resources and Water-Associated Outdoor Recreation
- o Power and Energy
- o Transportation
- o Water Quality
- o Legal and Institutional Factors
- o Instream Flows
- o Weather Modification

#### Comprehensive Planning and Support Activities

Several Federal studies or assistance programs will improve decisionmaking and lead to the development of improved programs for the management of the Basin's water and related land resources. Therefore, over the long term, they will indirectly improve the productivity, conservation, or utilization of forest, range, soil, and wildlife resources, and increase the efficient use and conservation of scarce water supplies. In addition, the Federal dam inspection program will enable water resource managers to develop actions and programs which, when implemented, will reduce potential hazards to the human environment in flood plains throughout the Basin.

#### Flooding

Collectively, the recommended implementation programs will have a beneficial effect on the human environment because they will: (1) reduce the frequency, intensity, or extent of flooding in flood-prone reaches of river valleys; (2) reduce probabilities of future flood-related disasters through improvement of State and Federal flood plain management programs; (3) discourage the hazardous uses of flood plains through Federal leadership in following the goals of Executive Order 11988; (4) increase focus on methods to more equitably share the responsibilities of flood plain management among Federal, State, and local governments; and (5) increase focus on management alternatives to maintain the full range of natural and beneficial uses of flood plains.

A number of Federal projects, some ongoing, are recommended in order to reduce flood damages in large urban areas (Kansas City, Sioux City, Great Falls, and Denver), where extensive flood plain encroachment has occurred over the past century. While exclusive use of nonstructural alternatives has not been demonstrated in these flood-prone situations, several elements have been incorporated into a comprehensive flood control and management strategy. These, developed in compliance with Federal and State standards, include local zoning and regulation, flood proofing, and development of emergency plans. The adverse environmental impacts and mitigation strategies have been identified for these flood control programs in numerous site-specific environmental impact statements. In general these analyses have indicated that the natural environment in these larger urban areas has already been severely disrupted; therefore, project induced impacts are generally not adverse or significant. In smaller urban or rural communities, where more natural environmental situations exist, improved evaluation of management alternatives was used to eliminate or reduce adverse impacts to important environmental values.

Federal and State flood plain regulatory and monitoring programs will have a significant effect in preventing the development of future hazardous and nuisance uses, and will discourage some current marginal floodway uses which are subject to severe, recurrent damages. These programs, in concert with planned flood control efforts, will tend to check or deter potential for increased damages in urban areas largely due to inflationary pressures. In riverine flood plain areas, where suitable non-flood plain land for development is not available, or navigation-related developments are needed, added planning and other investments will be necessary to prevent hazardous uses or to mitigate any adverse flood-related effects. On the middle and lower Missouri River, a special study plan element is provided to develop feasible strategies

for improved management and regulation of the flood plain within the States of South Dakota, Iowa, Nebraska, Kansas, and Missouri.

In rural areas, Soil Conservation Service watershed programs will reduce damages caused by small floods along watershed project tributaries, and to some degree from infrequent, large floods. In these situations, where appropriate local or State authority exist, integrated Federal, State, and local efforts will discourage hazardous uses in flood plains which could be inundated by these large floods. The environmental effects of watershed programs for flood control are similar to those classes of impacts related to the impoundment and channelization of small, intermittent streams, placement of grade stabilization structures, installation of terraces, and use of measures to increase vegetation cover on croplands. Through judicious planning, including consideration of a flood plain avoidance alternative, adverse effects on wildlife, and other important natural or cultural beneficial flood plain values, can be avoided, minimized or mitigated. Overall, the effect of the watershed program will be to slightly decrease the amount of riparian and stream habitats of small tributaries, but will increase quantities of wetland, pond, and lake habitats. Some added water-related recreation opportunities will also be created.

#### Fish and Wildlife

Recommended fish and wildlife programs generally will not have adverse impacts on natural ecosystems, agricultural lands, or other resource systems. Programs of most basinwide significance are those to be implemented along the Missouri River corridor (the Fish Rearing facility program at Lake Oahe and the Missouri River Fish and Wildlife Habitat Mitigation Study) and those which place high priority on protection of special or unique habitats (Endangered Species Program). Other programs, including instream flow studies and habitat

evaluation methods, are designed to assess fish and wildlife needs, thus improving decisionmaking in regard to the preservation of natural habitats and to the overall allocation of water and related land resources.

State and Federal cooperative fish and wildlife programs have slight beneficial effects basinwide, including positive effects identified at several multipurpose water resource development projects. The net long-term effect of all fishery programs will be to improve the fisheries of natural and man-made lakes. The effect on cold and warm water streams depends on the quality of the existing resource in the State and its management policies. While wildlife programs will be able to improve habitat for certain species of big game, waterfowl, and some species of upland game, this type of habitat base in many parts of the Basin can be expected to decline because present programs and regulatory efforts cannot develop enough habitat or mitigate adequately against the adverse effects of intensified land and water uses. As a result, riparian, wetland, and native grassland habitats will continue to decline in the near future. The rate of habitat decline, however, will be less than that experienced during the two previous decades.

#### Irrigation

Irrigation programs are particularly recommended in the semi-arid to sub-humid portions of the Basin in order to improve the productivity and efficiency of agricultural operations in those areas, and to increase overall agricultural productivity of the Basin. Actions are centered around:

- (1) improving existing irrigation systems, and
- (2) development of new irrigation systems.

The Rehabilitation and Betterment Program provides for the modification of the water diversion and delivery system, for improved return flow management, and for changes in how, when or how much of the water is applied to

the land. While overall impacts are considered as beneficial, site-specific impacts are highly variable and must be evaluated in that context. The following effects, however, can be anticipated: (1) reduction of the amount of water diverted from streams or released from reservoirs during the irrigation season; (2) decrease of water seepage from canals with possible reduction in recharge to underlying aquifers; (3) improvement of agricultural productivity in those instances where water supplies are limited or improved return flow management is needed; (4) increase or decrease of energy use, depending upon how water consumption patterns or delivery systems are changed; (5) loss of some wetlands created by canal seepage; and (6) loss of water supply for water users who are withdrawing from seepage sources.

New Federal irrigation development has considerably more potential to increase agricultural productivity, to stimulate local economics, and to stabilize local population than the Rehabilitation and Betterment Program. With full development of the projects in the regional plan, it is expected that an additional 5 to 6 percent of the Basin's agricultural lands will receive a dependable supply of irrigation water. Implementation of new irrigation developments will induce impacts related to the nature and size of storage reservoirs and water distribution systems, size of surface area, scope of leveling and possible associated drainage operations, type of wildlife habitat or natural values affected, reservoir and streamflow operations, and quantity and quality of return flows. Adverse environmental effects have been identified in environmental impact statements for these projects. Currently these effects are being reduced through planning efforts which deal with modification of project design, or are being mitigated through habitat acquisition or restoration procedures. Effects of added water consumptive use in the Basin by these projects cannot be determined accurately on a cumulative

basis because of uncertainties about current water consumption and availability of surface water supplies; however, it is estimated that this would approximate 1 to 2 percent of the annual outflow from the Basin. The Commission Hydrology Study, to be completed in 1982, will address current and future water supply and water usage patterns in considerable detail, enabling future assessments to more accurately display stream flow depletions.

#### Land Conservation and Management

The recommended land conservation and management programs are not expected to produce significant basinwide environmental effects and are in harmony with other portions of the plan. Federal, and in some cases, State cooperative wind and water erosion control programs maintain soil resources on agricultural lands and indirectly benefit water quality through control of sediment and associated contaminants. The shelterbelt programs indirectly improve the wildlife habitat for many species of terrestrial wildlife, and in some instances may improve rural esthetics and provide fuel for heating rural homes. Many State programs in the plan complement Federal programs by providing assistance to landowners in the application of conservation practices. Federal programs on Indian lands will improve conservation of range, forest, and soil resources, in addition to increasing the productivity of these lands for wildlife and livestock. Streambank protection projects will reduce erosion along the Missouri River and selected tributaries, thereby improving water quality, protecting residences, and preserving agricultural land resources. In certain reaches, riparian woodlands may be protected and fishery habitat improved.

#### Municipal, Industrial, and Rural Domestic Water Supply

The implementation of recommended water supply programs are not anticipated to produce significant impacts. However, in some localized areas,

loss of prime agricultural land or important natural areas could occur if water facilities encourage scattered urban-type developments. Federal programs in national parks will improve health aspects of water supply systems. If additional recreation activity is induced, however, adverse affects on fragile natural or cultural resources could occur. Additional adverse effects from remaining water supply programs may be realized where implementation conflicts with other water resource uses, including irrigation, fish and wildlife, and instream flows.

Significant beneficial effects will occur to human health and safety through safe drinking water programs that ensure safe and adequate supplies of drinking water and increase economic development potential; however, implementation of these programs also has the potential to conflict with other water users.

#### Natural, Historic, and Cultural Resources and Water-Associated Outdoor Recreation

Implementation of recommended programs in these functional areas are not expected to have significant environmental impacts and are in harmony with other programs in the plan. Implementation of several park, recreation, wild and scenic river, and historic area management plans may create localized adverse environmental impacts resulting from added levels of use.

Implementation of the Lewis and Clark National Historic Trail along the Missouri River will preserve important historic/cultural values as will two programs which preserve two nationally important historic sites along the river. Two important free-flowing reaches of the Missouri will receive added levels of protection through management under the National Wild and Scenic River System. Development and preservation of other park, recreation, and historic sites along Missouri River tributaries will save other significant



local and State historic and cultural resources as well as providing increased recreational opportunities and usage. In many instances, these will reduce the severity of two widespread recreational problems: (1) limited river access; and (2) shortage of recreational opportunities in portions of the Middle Missouri and Lower Missouri subbasins.

Local recreational and fish and wildlife benefits will be derived from several other projects and programs, including the Small Watershed Program and purchase of water in a reservoir along the South Fork of the Republican River by Colorado. States also have programs which supplement and assist in implementing recreation goals. These include recreation planning, support services, and development activities.

#### Power and Energy

Most recommended power and energy programs are feasibility studies designed to examine development opportunities for clean energy supplies (wind and hydropower), and as such do not have direct environmental effects. These studies, however, could lead to the development of new energy supplies which may have specific and possible adverse environmental effects. Several recommended small hydropower projects utilize existing facilities to the maximum extent possible and additional impacts are localized and can be minimized. Development of a large pumped storage facility (Boyd County Project) proposed along the Missouri River will have local adverse environmental effects; however, it utilizes offstream storage facilities, thereby avoiding significant damage to the main stem Missouri River ecosystem. Detailed environmental effects are currently being studied.

#### Transportation

Recommended transportation programs are concentrated along the lower and middle Missouri River, and will improve its design and use as a navigable

waterway, attempt to improve existing supplies of fish and wildlife resources, and improve recreational opportunities. Since the Bank Stabilization and Navigation Project is nearly complete, there are few remaining significant adverse effects or conflicts with other programs. Completion of environmental and recreation portions of the project are especially needed because of the opportunities lost during project implementation.

#### Water Quality

Overall, recommended water quality programs will have beneficial effects on certain aquatic ecosystems through reduction of pollutant loadings and achievement of Federal and State "swimmable and fishable" goals. Most of these near-term benefits will be realized on tributary streams and some natural lakes in the Basin but significant benefits over the long-term will also be felt along the main stem. Federal programs to provide these benefits include assistance in the control of soil erosion (Rural Clean Water Program) and construction of wastewater treatment facilities. Indirect benefits of these programs will be improved fish and wildlife habitat and increased recreation development associated with construction of treatment plant facilities. In some areas, construction of wastewater treatments plants may occasionally produce local adverse environmental impacts, or may induce undesirable urban growth trends.

While individual State efforts to implement water quality management plans may be insignificant basinwide, the collective implementation of State programs with Federal support will improve water quality in the Basin. Other State efforts will concentrate on licensing, monitoring, and enforcing discharge permittees, and on the identification and implementation of solutions to water quality problems of public lakes. The improvement of water quality realized by these programs will also have indirect beneficial effects on fish and wildlife resources and municipal water supplies.

### Legal and Institutional Factors

Several studies have recommended various modifications to the Basin's existing legal and institutional framework in order to improve the management of water and related land resources. Implementation of these recommendations will improve management of fish and wildlife, stream corridors, soils, and surface and ground water supplies. Over the long term, this will help develop and maintain a stable and diversified economy, while accommodating the demands placed on these resources by agricultural, industrial, energy, and recreational sectors.

### Instream Flows

Instream flow studies and programs will have beneficial environmental effects on the rivers and streams of the Basin. Studies will quantify flow levels needed to preserve fish and wildlife habitat, maintain channel capacity, improve water quality, and river recreation and to meet downstream consumptive uses. In some portions of the Basin, through appropriation or regulation, steps will be taken to reserve streamflows for fish and wildlife and other purposes.

### Weather Modification

Weather modification programs, designed to augment precipitation in the arid to semi-arid portions of the Basin, are subject to a number of uncertainties about the nature and extent of their benefits and impacts. Essentially, they are still being evaluated experimentally, and as such a reliable description of their impacts is not possible.

ADVERSE ENVIRONMENTAL EFFECTS  
WHICH CANNOT BE AVOIDED

Net environmental impacts of the program recommendations are expected to be beneficial. This is due to the consideration of environmental impacts in the planning process conducted at the river basin and site-specific levels. In many instances, this process has eliminated many adverse effects. However, some adverse environmental effects, particularly at the local level, cannot be avoided in order to accomplish program purposes, e.g., supply water to additional lands, develop new sources of energy, control rural and urban flood damages, provide new recreational opportunities, provide new water supplies to municipalities, improve water quality, or control erosion of agricultural lands. These impacts have been broadly outlined in previous sections and more detailed impacts are analyzed in program-specific environmental impact statements.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES  
OF MAN'S ENVIRONMENT AND THE  
ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The regional plan has been developed to insure that those resources which contribute to the quality of man's life and environment are managed and safeguarded for succeeding generations. Short-term commitments of resources must be made so that environmental, social, and economic amenities will be available for the present and future generations.

Short-term uses of resources committed to implementation of the plan include those which involve use of fossil fuels, labor, and construction equipment and materials. During construction periods affected areas will experience increased levels of noise, traffic, soil erosion, siltation of streams, disturbance of vegetation and fish and wildlife resources, and influx of construction workers requiring community services.

Long-term agricultural productivity and increased rural population stability will result from programs relating to clean water, soil and water conservation measures, and improved distribution and utilization of water for domestic and irrigation purposes. These will assist in preventing a deterioration of the Basin's soil, land, and water resource base.

Various environmental measures, including those protecting or conserving lakes, streams, wetlands, wilderness areas, and fish and wildlife resources, may decrease some short-term uses and cause management conflicts; in the long run these resources will be preserved for future generations.

The long-term availability of water for supplying irrigation, municipal and domestic needs, increasing hydropower, continuation of maintenance of water in streams and lakes, navigation, and development of fossil fuels is a major concern. Many of the short-term resource-oriented studies are recommended to determine the future management of water resources in order to avoid long-term adverse effects on these uses. The recommended levels of development of additional water supplies for irrigation from the Missouri River does not preclude future development of additional water supplies for energy-related developments, nor does it significantly affect current water uses.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES  
WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION  
SHOULD IT BE IMPLEMENTED

These commitments generally concern changes set in motion by the proposed action which at some later time could not in the practical sense be altered so as to restore the present situation. In the regional plan these commitments include: (1) cultural resources such as capital, labor, energy, and various

construction materials and equipment; (2) large amounts of surface water from the Missouri River and several tributary streams for municipal uses and irrigation; (3) lands for water impoundments and irrigation systems; (4) two extensive river reaches and numerous other areas along the Missouri River for natural, historic or recreational purposes; and (5) fragile, esthetic, historic, and other lands preserved or used as wilderness areas, fish and wildlife areas, natural areas, or parks.



**APPENDIX B - MEMBERSHIP OF SUBBASIN PLANNING TEAMS,  
AND REVIEW GROUPS**

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DOT Jim Glasgow  
WRC Dick Vannoy  
MRBC Carroll Hamon  
MRBC Don Ohnstad  
MRBC Jerry Zimmerman  
MRBC Tom Lowe  
MRBC Bill Ramige  
MRBC Elaine Larkin  
MRBC Alan Hersch



APPENDIX C - INDEX OF RECOMMENDED PROGRAMS BY LEAD AGENCY

Program Number Basinwide (BW), Statewide (SW) or Subbasin(s) (UM, YS, WD, ED, PN, MW, KR, LM), Followed by Number Shown in Report

Lead Agency	Recommended Program	Number
U. S. DEPARTMENT OF AGRICULTURE	Rural Clean Water Program	BW-66
	Saline Seeps Studies	WD-27
	Montana Timber Water Federal-State Cooperative Study (JT)	UM-23 YS-25 WD-26
Agricultural Stabilization and Conservation Service	Agricultural Conservation Program	BW-48
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Basic Water Monitoring Program  
Clean Lakes Program  
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Department of Health

Game and Park Commission

Habitat Program  
State Comprehensive Outdoor Recreation Planning

SW-69  
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Natural Resources Commission

Flood Plain Management Program  
Local Planning Assistance for Special Projects  
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State Water Quality Management  
State Water Planning and Review Process  
Water Quality Stations

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SW-26  
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Department of Water Resources

Stream Gaging Stations

SW-31

Central Nebraska Public Power and Irrigation District

Kingsley Hydroelectric Project, Nebraska

PN-69

Little Blue Natural Resources District

Little Blue Water Resources Project Study, Nebraska

PN-56 KR-52

Nebraska Public Power District

Boyd County Pumped Storage Power Project

ED-30

**NORTH DAKOTA AGENCIES**

Department of Health

Nonpoint Source Pollution Management

SW-106

Department of Parks and Recreation

State Natural Area Systems

SW-88

State Water Commission

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Department of Agriculture Erosion and Sediment Control Program SW-80

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 State Comprehensive Outdoor Recreation Program SW-97  
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Game and Fish Department Access to Rivers and Streams and Land Acquisition SW-98  
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Program Number Basinwide (BW), Statewide (SW) or Subbasin(s) (UM, YS, WD, ED, PN, MM, KR, LM), Followed By Number Shown In Report.

**BASINWIDE PROGRAMS**

NOTE: Basinwide Programs Applicable To All States Except As Noted.

<u>Lead Agency</u>	<u>Recommended Program</u>	<u>Number</u>
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	Agricultural Conservation Program	BW-48
	Shelterbelt Development Program	BW-49
	Water Bank Program (Except in Co, Ia, Ks, Mo, Wy)	BW-38
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	National Forest System Management (Except Ia, Ks, Mn)	BW-2
	Wild and Scenic River Recommendations	BW-53
	Wilderness Area Recommendations	BW-52
	Youth Conservation Corps	BW-4
Soil Conservation Service	Conservation Operations	BW-15
	Flood Plain Management Assistance Program (Except Ia, Mo, Ne, SD, Wy)	BW-37
	Resource Conservation and Development (RC&D) Program (Except Mn)	BW-5
	Resource Inventory and Monitoring	BW-47
	Small Watershed Program	BW-11
	Soil Surveys	BW-16
<b>U.S. DEPARTMENT OF THE ARMY</b>		
Corps of Engineers	Flood Plain Management Services	BW-24
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	Section 14, Emergency Bank Protection (Except Ia, Ks, Mn, Mo, Mt, Wy)	BW-34
	Section 22, Assistance to State Water Planning	BW-13
	Section 158, Waterways System Assessment (Except Co, Mn, Mt, ND, SD, Wy)	BW-62
	Section 167, Hydroelectric Power Resources Utilization	BW-57
	Section 205, Small Flood Control Projects (Except Co, Mn, Mt, ND, SD, Wy)	BW-32
	Section 208, Snagging and Clearing Project for Flood Control	BW-33

**U.S. DEPARTMENT OF COMMERCE**

Economic Development Administration

High Plains Study  
(Except Ia, Mn, Mo, Mt, ND, SD, Wy)

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Automatic Hydrologic Observation Systems  
(Except Mo)

BW-30

Basic Weather Observations

BW-29

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**U.S. DEPARTMENT OF ENERGY**

Federal Energy Regulatory Commission

Hydropower Resources Development  
Reevaluation of Hydropower Sites

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BW-61

**ENVIRONMENTAL PROTECTION AGENCY**

Clean Lakes Program

BW-65

Implementation of Water Quality Plains

BW-63

Section 201, Waste Treatment Facility Construction Grants

BW-64

Federal Emergency Management Agency

National Flood Insurance Program

BW-36

**U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE**

Indian Health Service

Water and Wastewater Systems On Indian Reservations  
(Except Ia, Mo)

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Public Health Service

Vector Control

BW-31

**U.S. DEPARTMENT OF THE INTERIOR**

Bureau of Indian Affairs

Energy Development On Indian Reservations  
(Except Ia, Mo)

BW-56

Water Resources Investigations On Indian Reservations

BW-7

(Except Co, Ia, Ks, Mn, Mo, Ne, ND, SD)

Bureau of Land Management

Energy Minerals Rehabilitation Inventory and Analysis Program  
(Except Co, Ia, Ks, Mn, Mo, Ne, SD)

BW-9

Resource Inventories and Management Framework Plans

BW-8

(Except Co, Ia, Mn, Mo)

Bureau of Mines

Resources and Environmental Studies

BW-17

Fish and Wildlife Service

Determination of Minimum Instream Flow Needs  
Endangered Species

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Fish and Wildlife Research Programs

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Fishery Resources Program

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Migratory Birds

BW-41

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Wetland Habitat Inventory

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Geological Survey

Ground-Water Stations

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(Except SD)

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BW-22

(Except Mn)

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Water Management Study of the High Plains (Except Ia, Ks, Mn, Mo, Mt, Ne, ND, SD, WY)	BW-45
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 Sedgwick-Sand Draws Watershed Project, Colorado  
 Western Canal Watershed Project, Colorado  
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**U.S. DEPARTMENT OF THE ARMY**

**Corps of Engineers**

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**U.S. DEPARTMENT OF THE INTERIOR**

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 Colorado/Big Thompson Hydroelectric Study  
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**Department of Natural Resources/Division of Wildlife**

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**Department of Natural Resources/Division of Water Resources**

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 Water Use Inventory

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**Department of Natural Resources/Water Conservation**

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 Stream Gaging and Sediment Stations  
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**Department of Natural Resources/Division of Parks and Recreation**

State Comprehensive Outdoor Recreation Program

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**City of Denver**

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PN-70

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Foothills Municipal Water Treatment Plant and Related Facilities

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 Flood Hazard Area Delineation Program, Denver, Colorado  
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U. S. DEPARTMENT OF AGRICULTURE

Soil Conservation Service

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Corps of Engineers

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Hillsdale Lake, Kansas  
Kansas and Osage Rivers, Kansas Study

Kansas River Navigation Project

Onaga Lake, Kansas  
Melvern and Pomona Lakes-Road Improvement, Kansas  
Missouri River Fish and Wildlife Mitigation Study  
Missouri River Levee System  
Reservoir Road Improvement for Recreation, Tuttle Creek Reservoir, Kansas  
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Kanopolis Unit, Kansas, Construction  
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**MISSOURI RIVER BASIN COMMISSION**

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Bureau of Water Supply  
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State Conservation Commission

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PN-6  
PN-5

Aowa Creek Watershed Project, Nebraska  
Bear-Pierce-Cedar Watershed Project, Nebraska  
Bellwood Watershed Project, Nebraska  
Big Indian Watershed Project, Nebraska  
Big Muddy Watershed Project, Nebraska  
Blackwood Creek Watershed Project, Nebraska  
Bone Creek Watershed Project, Nebraska  
Buffalo-Elm Watershed Project, Nebraska

ED-11  
KR-38  
PN-39  
KR-36  
MM-48  
KR-36  
PN-34  
PN-24

Clatonia Creek Watershed Project, Nebraska	KR-38
Clear Creek Watershed Project, Nebraska	PN-40
Cottonwood Watershed Project, Nebraska	PN-41
Cub Creek Watershed Project, Nebraska	KR-40
Gering Valley Watershed Project, Nebraska	PN-42
Long Branch Watershed Project, Nebraska	MM-83
Lower Big Nemaha Watershed Project, Nebraska	MM-47
Lower Little Nemaha Watershed Project, Nebraska	MM-51
Lower Medicine Creek Watershed Project, Nebraska	KR-40
Maple Creek Watershed Project, Nebraska	PN-35
Middle Big Nemaha Watershed Project, Nebraska	MM-60
Mission Creek Watershed Project, Nebraska, Kansas	KR-42
Mud Creek Watershed Project, Nebraska	KR-43
North Branch Watershed Project, Nebraska	PN-29
Northeast Cass Watershed Project, Nebraska	PN-32
Oak/Middle and North Oak Watershed Project, Nebraska	PN-43
Ogallala Watershed Project, Nebraska	PN-23
Papillion Creek Watershed Project, Nebraska	MM-84
Peru-Brownville Watershed Project, Nebraska	MM-50
Rock Creek Watershed Project, Nebraska	MM-85
Skull Creek Watershed Project, Nebraska	PN-27
Spring Creek (Dawson County) Watershed Project, Nebraska	PN-44
Spring Creek Watershed Project, Nebraska	MM-87
South Branch Little Nemaha Watershed Project, Nebraska	MM-59
Southern Sarpy Watershed Project, Nebraska	PN-28
South Fork Watershed Project, Nebraska	MM-86
Stevens-Callahan Watershed Project, Nebraska	PN-33
Squaw-Camp Watershed Project, Nebraska	MM-49
Swan Creek Watershed Project, Nebraska	KR-23
Tekamah/Mud Watershed Project, Nebraska	MM-88
Turkey Creek Watershed Project, Nebraska	MM-52
Upper Big Nemaha Watershed Project, Nebraska	MM-89
Upper Little Nemaha Watershed Project, Nebraska	MM-61
Upper Medicine Creek Watershed Project, Nebraska	KR-41
Upper Prairie Creek Watershed Project, Nebraska	PN-26
Wahoo Creek Watershed Project, Nebraska	PN-25
Warm Slough/Silver Creek Watershed Project, Nebraska	PN-30
Weeping Water Watershed Project, Nebraska	MM-53
Wilson Creek Watershed Project, Nebraska	MM-90
Winnebago-Bean Watershed Project, Nebraska	MM-91
Winter's Creek Watershed Project	PN-45
Wolf-Wildcat Creek Watershed Project, Nebraska	KR-22

U.S. DEPARTMENT OF THE ARMY

Corps of Engineers

Logan Creek, Pender, Nebraska Local Flood Control Project, Nebraska	PN-15
Lost Creek, Columbus, Nebraska Local Flood Control Project, Nebraska	PN-16
Papillion Creek and Tributaries Project, Nebraska	MM-16
Missouri River Bank Stabilization Demonstration Project	WD-29
Missouri River Fish and Wildlife Mitigation Study	MM-92



MM-9 LM-10  
ED-29  
MM-98 LM-50  
WD-36

Missouri River Levee System  
Missouri River National Rec. River Mgmt. Plan Implementation  
Missouri River Navigation and Bank Stabilization Control Program  
Missouri River Review Report, Nebraska, Montana, North and South Dakota

#### U.S. DEPARTMENT OF THE INTERIOR

##### Water and Power Resources Service

Bostwick Division, Nebraska, Rehabilitation and Betterment  
Crofton Unit Study  
Farwell Unit Water Conservation Study, Nebraska  
Frenchman-Cambridge Division, Nebraska, Construction  
Frenchman-Cambridge Division, Nebraska, Rehabilitation and Betterment  
Little Blue Unit Feasibility Study, Nebraska  
North Loup Division, Nebraska  
North Platte Project, Rehabilitation and Betterment, Nebraska & Wyoming  
O'Neill Unit, Nebraska  
Otoe-Cass Unit Appraisal Study, Nebraska  
Prairie Bend Unit Feasibility Study, Nebraska  
Republican River Basin Water Management Study  
Sparks Unit Appraisal Study, Nebraska  
Upper Plate River Studies, Nebraska

KR-45  
ED-21  
PN-49  
KR-49  
KR-48  
KR-44  
PN-51  
PN-53  
PN-52  
MM-93  
PN-54  
KR-2  
PN-55  
PN-1

##### MISSOURI RIVER BASIN COMMISSION

Flood Plain Management Program for the Missouri River  
Missouri River Tributaries, Sioux City, Kansas City, Subregional Analysis

ED-5 MM-8  
MM-2

##### NEBRASKA AGENCIES

##### Conservation and Survey Division

Data Collection/Water Use  
Ground Water Stations  
Remote Sensing Program  
Soil Surveys  
Special Geohydrology Studies  
Test Hole Drilling Program

SW-28  
SW-33  
SW-30  
SW-35  
SW-29  
SW-32

##### Department of Environmental Control

Basic Water Monitoring Program  
Clean Lakes Program

SW-27  
SW-104

##### Department of Health

Safe Drinking Water Act

SW-86

##### Department of Water Resources

Stream Gaging Stations

SW-31

##### Game and Parks Commission

Habitat Program  
State Comprehensive Outdoor Recreation Planning

SW-69  
SW-95

Natural Resources Commission	Flood Plain Management Program	SW-53
	Local Planning Assistance for Special Projects	SW-51
	Natural Resources Data Bank	SW-25
	Resources Development Fund	SW-54
	Small Watershed Flood Control Fund	SW-52
	State Water Planning and Review Process	SW-26
	State Water Quality Management	SW-105
	Water Quality Stations	SW-34
Central Nebraska Public Power and Irrigation District	Kingsley Hydroelectric Project, Nebraska	PN-70
Little Blue Water Resources District	Little Blue Water Resources Project Study, Nebraska	PN-57 KR-51
Nebraska Public Power District	Boyd County Pumped Storage Power Project	ED-29
	<b>NORTH DAKOTA</b>	
<b>U.S. DEPARTMENT OF AGRICULTURE</b>	Saline Seeps Studies	WD-28
Soil Conservation Service	Lewis and Clark RC&D Project, North Dakota	WD-4
	Modification of Existing Irrigation Systems	ED-17
	Roosevelt Custer RC&D Project, North Dakota	WD-3
	Small Watershed Projects	
	Belfield Watershed Project, North Dakota	WD-10
	Muskat Lake Watershed Project, North Dakota	WD-11
	Square Butte Watershed Project, North Dakota	WD-12
	Williston Basin RC&D Project, North Dakota	WD-2
<b>U.S. DEPARTMENT OF THE ARMY</b>		
Corps of Engineers	Missouri River Bank Stabilization Demonstration Project (Sec 32)	WD-27 ED-27
	Yellowstone River Bank Protection (Sec 32)	YS-21
<b>U.S. DEPARTMENT OF THE INTERIOR</b>		
Bureau of Indian Affairs	Indian Reservation Water Rights	WD-38
	Yellowstone River Basin, Indian Reservation Water Rights	YS-31
Bureau of Land Management	Computerized Water Resources Data System	YS-2
Fish and Wildlife Service	Garrison Diversion Unit Special Study, North Dakota	WD-13
	Inventory of Small Dams and Sites for Waterfowl Production	WD-15
Geological Survey	Evaluation of Aquifer Disturbances	WD-31
	Water Resources Monitoring West Central Coal Region, North Dakota	WD-9
National Park Service	Fort Union Trading Post National Historic Site, North Dakota and Montana	UM-26
	Knife River Indian Village National Historic Site	WD-35

WD-19  
WD-20  
ED-23  
ED-34  
WD-30  
WD-31  
UM-1 YS-1  
WD-1 ED-4

Apple Creek Unit, North Dakota  
Apple Creek Unit Ground Water Studies, North Dakota  
Garrison Diversion Unit  
Garrison Diversion Unit M & I Water Supply Facilities Study  
Minot Extension Reformulation, North Dakota  
Versippi Unit Feasibility, North Dakota  
Water Management Study Upstream of Gavins Point

**NORTH DAKOTA AGENCIES**

SW-106

Nonpoint Source Pollution Management

SW-88  
SW-96

State Natural Area Systems  
State Comprehensive Outdoor Recreation Program

ED-6  
SW-36  
SW-37

Rocky Run Creek and Oak Creek Drain  
State Water Management Planning Program  
Water Resources Investigations

SW-115

Weather Modification

**SOUTH DAKOTA**

**U.S. DEPARTMENT OF AGRICULTURE**

ED-26

Agricultural Stabilization and Conservation Service  
Shelterbelt Restoration Program

WD-24

Gregory County Water Supply Study, South Dakota

WD-6  
ED-25  
ED-3  
ED-20  
WD-7  
WD-5 ED-2

Black Hills RC&D Project, South Dakota  
Lower James Cooperative River Basin Study  
Lower James RC&D Project, South Dakota  
Modification of Existing Irrigation Systems  
North Central RC&D Project, South Dakota  
Randall RC&D Project, South Dakota  
Small Watershed Projects  
Brule Creek Watershed Project, South Dakota  
Hurley Creek Watershed Project, South Dakota  
Lower Crow Creek Watershed Project, South Dakota  
Mission Hill Watershed Project, South Dakota  
Six Mile Creek Watershed Project, South Dakota  
Spring-Bull Creek Watershed Project, South Dakota  
Turkey-Clay Creek Watershed Project, South Dakota  
Union Creek Watershed Project, South Dakota  
Upper Crow Creek Watershed Project, South Dakota

Water and Power Resources Service

Department of Health

Department of Parks and Recreation

State Water Commission

Weather Modification Board

Farmers Home Administration

Soil Conservation Service

U.S. DEPARTMENT OF THE ARMY

Corps of Engineers

Eastern South Dakota and Upper Big Sioux River Study WD-30 ED-28  
Missouri River Bank Stabilization Demonstration Project WD-26 ED-27  
Missouri River National Rec. River Mgmt. Plan Implementation ED-30  
Western Dakotas Region of South Dakota WD-29

U.S. DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

Inventory of Small Dams and Sites for Waterfowl Production, South Dakota WD-14

Water and Power Resources Service

Grass Rope Unit WD-17  
Lower Brule Indian Reservation Area, South Dakota WD-21  
Lower James - Fort Randall Water Diversion Proposal Study ED-22 WD-24  
Oahe Riverside Irrigation Study, South Dakota WD-22  
Pollock-Herreid Unit, South Dakota WD-20  
Reevaluation of Pine Ridge Irrigation Unit, South Dakota WD-23  
Water Management Study Upstream of Gavins Point UM-1 YS-1  
WD-1 ED-4

MISSOURI RIVER BASIN COMMISSION

Flood Plain Management Program for the Missouri River ED-5 MM-7  
LM-9

SOUTH DAKOTA AGENCIES

Bureau of Planning

SW-41

Department of Agriculture

SW-80

Department of Game, Fish and Parks

Instream Flow Technical Study WD-40 ED-31  
State Comprehensive Outdoor Recreation Program SW-97

Department of Health

Statewide Solid Waste Management SW-110

Department of Transportation

Magnitude and Frequency of Floods in Select Drainage Basin; SD SW-55

Department of Water and Natural Resources

Clean Lakes Program SW-107  
Comprehensive Plans and Resource Management Program SW-74  
Conservancy Subdistrict Studies SW-39  
County Ground Water Studies SW-40  
Dam Safety Program SW-56  
Drinking Water Quality SW-109  
High Water Marks SW-112  
Nonpoint Source Pollution Management SW-108  
State Water Planning SW-38  
Water Rights Program SW-42  
West River Aqueduct Study WD-34

WYOMING

U. S. DEPARTMENT OF AGRICULTURE

Soil Conservation Service

Bighorn RC&D Project, Wyoming  
Black Hills RC&D Project, South Dakota, Wyoming  
Cooperative Irrigation Water Conservation Study, Wyoming  
  
Southeastern Wyoming RC&D Project, Wyoming  
Small Watershed Projects  
    Douglas Watershed Project, Wyoming  
    Laprele Watershed Project, Wyoming  
    Lower Shell Creek Watershed Project, Wyoming  
    Prairie Dog Watershed Project, Wyoming  
    Spring Canyon Watershed Project, Wyoming  
    Upper North Laramie Watershed Project, Wyoming  
    Upper Shell Creek Watershed Project, Wyoming  
Snow Survey

YS-3  
WD-6  
YS-7 WD-15  
PN-47  
PN-7  
  
PN-36  
PN-60  
YS-20  
YS-21  
PN-46  
PN-63  
YS-19  
UM-2 YS-4  
PN-9

U. S. DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Agricultural Resources Program, Indian Reservations  
Forest Management, Indian Reservations  
Range Stock Water Development on Indian Reservations  
Yellowstone River Basin, Indian Reservation Water Rights  
Wind River Reservation Irrigation Project

UM-20 YS-23  
UM-21 YS-24  
YS-25  
YS-32  
YS-12

Bureau of Land Management

Computerized Water Resources Data System  
Porcupine Creek, Scenic and Recreational River

YS-2  
YS-31

National Park Service

Bighorn Canyon National Recreation Area  
Yellowstone National Park, Wyoming, Montana and Idaho

YS-28  
YS-27

Water and Power Resources Service

Garland Canal  
Garland Division, Rehabilitation and Betterment Program  
Frannie Division, Rehabilitation and Betterment Program  
Lower Yellowstone, Rehabilitation and Betterment Program  
North Platte Hydroelectric Study, Wyoming  
North Platte Project, Rehabilitation and Betterment, Wyoming and Nebraska  
Offstream Storage, Yellowstone River  
Upper Platte River Studies  
Water Management Study Upstream of Gavins Point

YS-30  
YS-13  
YS-15  
YS-16  
PN-68  
PN-54  
YS-29  
PN-1  
UM-1 YS-1  
WD-1

Willwood Division, Rehabilitation and Betterment Program  
Wind-Hydroelectric Energy Integration Studies

YS-14  
PN-67

**WYOMING AGENCIES**

State Engineers Office	State Cooperative Stream Gaging and Ground Water Monitoring Dam Safety Program	SW-44 SW-5
Department of Agriculture	Chemical Water Quality Program	SW-111
Game and Fish Department	Access to Rivers and Streams and Land Acquisition Fish and Wildlife Plans, Programs, and Implementation State Comprehensive Outdoor Recreation Program	SW-98 SW-70 SW-99
Water Development Commission	State Water Development Program State Water Planning Program	SW-75 SW-43
Corn Creek Irrigation District	Corn Creek Irrigation Project	PN-61



## APPENDIX E - REGIONAL PRIORITIES

### BACKGROUND

An integral part of the Missouri River Basin Commission's comprehensive planning process is the annual setting of priorities for initiation of important water resources projects and programs. Priorities are established for Federal and federally assisted activities from among the hundreds of projects and programs contained in the Commission's approved regional plan.

Development of priorities for water resources activities is one of four specific congressional directives cited in river basin commissions' governing legislation, the Water Resources Planning Act of 1965. Section 201 of the Act states in part that river basin commissions shall "recommend long-range schedules of priorities for the collection and analysis of basic data and for investigation, planning, and construction of projects...." The Federal "Principles and Standards" support this mandate by further declaring that State and Federal members of river basin commissions have a responsibility to participate in the setting of priorities.

The purpose of annually establishing regional priorities is to provide guidance to the President, Congress, State legislatures, and Federal, State, and local agencies during the scheduling, funding, and conduct of such activities within the basin.

Priorities for the immediately upcoming fiscal year are directed at obtaining congressional authorization and funding of urgently needed programs within the basin.

Regional priorities for the subsequent fiscal year are developed primarily to provide guidance for advanced planning, programming, and budgeting by Federal, State, and other agencies.



The Commission has conducted an annual priorities process since 1974. During the subsequent six years, the Commission's standing Priorities Committee has considered hundreds of proposals submitted by the State members and has annually forwarded its recommendations for regional priorities to the Commission. With few exceptions, the Commission has endorsed the committee's annual priority recommendations and published them for the use of decisionmakers and others involved in the field of water and related land resources.

Use of the Commission's regional priorities has increased each year since inception of the process. Many of the priorities recommended in past years' reports have advanced toward or through implementation, partially as a result of their endorsement as a regional priority by the Missouri River Basin Commission.

#### **THE ANNUAL PROCESS**

The MRBC priorities process begins in May when the Priorities Committee sets the specific criteria and procedures in accordance with the general guidelines contained in Commission Policy Statement C, "Establishment of Annual Priorities for Water and Related Land Programs." The Commission chairman in mid-May requests the 10 State members to submit, within 60 days, their respective State priority proposals for the second subsequent fiscal year.

After they are submitted, the State proposals are compiled by Commission staff and forwarded to the Priorities Committee for individual review and evaluation. Each Committee member rates each and every proposal on the basis of five criteria. Criteria used by committee members in evaluating State proposals include:

- o economic effects;
- o environmental effects;
- o interstate/regional implications;
- o compatibility with other programs; and
- o probability of implementing the proposal.

Another criterion which weighs heavily in the rating process is the priority assigned to the proposals by the State. Inclusion of this criterion enhances the priority rating for proposals submitted by more than one State.

The Priorities Committee meets in September to assemble its recommended listings of regional priorities. Its recommendations are then forwarded to Commission members for their review. The final regional priorities are adopted by MRBC at its November quarterly meeting.

In early January, the Commission Chairman transmits copies of the final report to Commission members, the Water Resources Council, to congressional delegations of member States, to heads of Federal agencies, to the 10 basin State Governors, and to key committee members in the U.S. Congress and the State legislatures.

To promote authorization and funding for the high priority projects and programs, the Chairman and Vice Chairman annually conduct a follow-up to the priorities. Follow-up to the next year's priorities is directed at the Congress during its deliberations on the upcoming year's budget. The Federal Administration is the target of the follow-up to the Commission's adopted priorities for the second subsequent fiscal year.

#### **THE PRIORITIES REPORT**

The annual Priorities Report presents the region's priorities for water resources activities for the subsequent two fiscal years. Regional priorities are organized into six categories:

- o Implementation;
- o Feasibility Studies;
- o River Basin Planning;
- o Special Studies;
- o Planning-Related Research; and
- o Data Collection and Analysis.

The regional priorities consist only of Federal and federally assisted activities. With the exception of certain continuing data collection activities, the priorities are limited to new starts, modifications of ongoing programs, or resumptions of discontinued activities. Ongoing projects and programs are not considered.

The Commission's adopted regional priorities for water related programs for fiscal years 1981 and 1982 follow:

FISCAL YEAR 1981

IMPLEMENTATION

Yellowstone River Bank Stabilization, Montana and North Dakota  
Army Corps of Engineers

Missouri River Bank Stabilization; Montana, North Dakota, South Dakota  
and Nebraska  
Army Corps of Engineers

Wastewater Treatment Facilities Construction  
U.S. Environmental Protection Agency

Gregory County Pumped Storage Unit, South Dakota  
Army Corps of Engineers

Westerly Creek Flood Control Project, Colorado  
Army Corps of Engineers

Pollock-Herreid Unit, South Dakota  
Water and Power Resources Service, U.S. Department of the Interior

Polecat Bench Unit, Wyoming  
Water and Power Resources Service, U.S. Department of the Interior

Golden Hills Resource Conservation and Development Project, Iowa  
Soil Conservation Service, U.S. Department of Agriculture

Papillion Creek Dam Site 3A, Nebraska  
Army Corps of Engineers

FEASIBILITY STUDIES

Loess Bluffs Feasibility and Suitability Study, Iowa  
National Park Service, U.S. Department of the Interior

Water Supply Pipeline Project Studies, South Dakota  
Farmers Home Administration, U.S. Department of Agriculture

Cache la Poudre River Basin Feasibility Study, Colorado  
Water and Power Resources Service, U.S. Department of the Interior

Apple Creek Unit Ground Water Studies, North Dakota  
Water and Power Resources Service, U.S. Department of the Interior

Buffalo Bill Dam and Reservoir Enlargement, Wyoming  
Water and Power Resources Service, U.S. Department of the Interior

Yellowstone Basin Water Reservations Study, Montana  
Soil Conservation Service, U.S. Department of Agriculture

Prairie Bend Feasibility Study, Nebraska  
Water and Power Resources Service, U.S. Department of the Interior

Lower Grand River Levee System, Missouri  
Army Corps of Engineers

#### RIVER BASIN PLANNING

Cooperative River Basin Study, South Platte and Republican River Basins,  
Colorado  
Soil Conservation Service, U.S. Department of Agriculture

Western Iowa Rivers Cooperative Study  
Soil Conservation Service, U.S. Department of Agriculture

Lower Missouri Subbasin Level B Study  
Missouri River Basin Commission

#### SPECIAL STUDIES

Missouri River Flood Plain Management Special Study  
Missouri River Basin Commission

Standard Habitat Classification System  
Fish and Wildlife Service, U.S. Department of the Interior

#### PLANNING-RELATED RESEARCH

Instream Flow Requirements  
Fish and Wildlife Service, U.S. Department of the Interior

Nonpoint Pollution Control  
Office of Water Research and Technology,  
U.S. Department of the Interior

Application of Remote Sensing  
Office of Water Research and Technology,  
U.S. Department of the Interior

Water Use Efficiency and Conservation  
Office of Water Research and Technology,  
U.S. Department of the Interior

Model Quantification of Streamflow/Ground Water Interaction for  
Complex Aquifer Geometry  
Office of Water Research and Technology,  
U.S. Department of the Interior

Weather Modification  
Water and Power Resources Service,  
U.S. Department of the Interior

DATA COLLECTION AND ANALYSIS

- Archaeological Inventory and Appraisal  
Heritage Conservation and Recreation Service,  
U.S. Department of the Interior
- Color Infrared Photographic Coverage  
National Aeronautics and Space Administration and  
Geological Survey, U.S. Department of the Interior
- Flood Insurance Studies  
Federal Emergency Management Agency
- Ground Water Data  
Geological Survey, U.S. Department of the Interior
- Snow Surveys  
Soil Conservation Service, U.S. Department of Agriculture
- Soil Surveys  
Soil Conservation Service, U.S. Department of Agriculture
- Stream Gaging--Quality  
Geological Survey, U.S. Department of the Interior and  
Environmental Protection Agency
- Stream Gaging--Quantity  
Geological Survey, U.S. Department of the Interior
- Topographic Mapping  
Geological Survey, U.S. Department of the Interior
- Water Use Data  
Geological Survey, U.S. Department of the Interior

FISCAL YEAR 1982

IMPLEMENTATION

- Apple Creek Unit, North Dakota  
Water and Power Resources Service, U.S. Department of the Interior
- Buffalo Bill Dam and Reservoir Enlargement, Wyoming  
Water and Power Resources Service, U.S. Department of the Interior
- Gregory County Pumped Storage Unit, South Dakota  
Army Corps of Engineers
- Missouri River Bank Stabilization; Montana, North Dakota, South Dakota,  
and Nebraska  
Army Corps of Engineers
- Missouri River National Recreational River Management Plan Implementation  
U.S. Department of the Interior
- Narrows Unit, Colorado  
Water and Power Resources Service, U.S. Department of the Interior
- Rural Clean Water Program  
U.S. Department of Agriculture
- Rural Water Supply Systems  
Farmers Home Administration, U.S. Department of Agriculture
- Toston Dam Hydroelectric Plant, Montana  
U.S. Department of Energy
- Westerly Creek Flood Control Project, Colorado  
Army Corps of Engineers

FEASIBILITY STUDIES

- Colorado/Big Thompson Hydroelectric Study  
Water and Power Resources Service, U.S. Department of the Interior
- Cache la Poudre River Basin Feasibility Study, Colorado  
Water and Power Resources Service, U.S. Department of the Interior
- Glen Elder Unit Study, Kansas  
Water and Power Resources Service, U.S. Department of the Interior
- Water Supply Pipeline Project Studies, South Dakota  
Farmers Home Administration, U.S. Department of Agriculture

Pumped Storage Hydroelectric Facilities Investigation--Missouri River  
Main Stem  
Army Corps of Engineers

Southwest North Dakota Water Supply Study  
Farmers Home Administration, U.S. Department of Agriculture

Westside Irrigation Project, Wyoming  
Water and Power Resources Service, U.S. Department of the Interior

#### RIVER BASIN PLANNING

Title III Federal Assistance for State Water Management and Conservation  
U.S. Water Resources Council

Colorado State Water Plan, Phase III  
Water and Power Resources Service, U.S. Department of the Interior

Cooperative River Basin Study, South Platte and Republican Basins,  
Colorado  
Soil Conservation Service, U.S. Department of Agriculture

James River Basin Water Management Study  
Water and Power Resources Service, U.S. Department of the Interior

Kansas River Basin Level B Study  
Missouri River Basin Commission

Lower Missouri Subbasin Level B Study  
Missouri River Basin Commission

Resource Conservation and Development Program  
Soil Conservation Service, U.S. Department of Agriculture

#### SPECIAL STUDIES

Central Midwest Regional Aquifer Study, Kansas  
Geological Survey, U.S. Department of the Interior

Irrigation Water Conservation Study, Montana  
Missouri River Basin Commission

Phase II Ground-Water Supply Studies, South Dakota  
Geological Survey, U.S. Department of the Interior

Wintertime Weather Modification Studies  
Water and Power Resources Service, U.S. Department of the Interior



PLANNING-RELATED RESEARCH

Instream Flow Requirements

Fish and Wildlife Service, U.S. Department of the Interior

Second Stage Ground Water Investigations, North Dakota

Geological Survey, U.S. Department of the Interior

South Platte Basin Water Management Model, Colorado

Office of Water Research and Technology,

U.S. Department of the Interior

Saline Water Problems with Supplemental Irrigation, Missouri

Office of Water Research and Technology,

U.S. Department of the Interior

Water Use Efficiency and Conservation

Office of Water Research and Technology,

U.S. Department of the Interior

DATA COLLECTION AND ANALYSIS

(Same as FY 1981)



APPENDIX F - OFFICIAL COMMENTS ON THE PLAN

(to be included later)

(UNDER SEPARATE COVER)

APPENDIXES G AND H - STATE PLANNING OBJECTIVES AND WATER RESOURCES PROBLEMS AND OPPORTUNITIES

