

**To
Governor George S. Mickelson
and the
Sixty-Sixth Session, Legislative Assembly
1991**

**1991 STATE WATER PLAN
and
1990 ANNUAL REPORT**

**Board of Water and Natural Resources
January 1991**

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DEPARTMENT OF WATER & NATURAL RESOURCES

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GREAT FACES. GREAT PLACES.

Governor George S. Mickelson
and Members of the Legislature
Sixty-sixth Legislative Session

Transmitted herewith is the 1991 State Water Plan and the 1990 Annual Report of the Board of Water and Natural Resources. The State Water Plan outlines the projects in the State Water Facilities Plan and Groundwater Research and Education Fund and gives the recommendations concerning projects for the State Water Resources Management System. The Annual Report describes the past year's water resources management activities throughout the state.

During this first year of my appointment as the Secretary of the Department of Water and Natural Resources, I have seen many water management issues raised in our state. It is a privilege to be a part of this professional staff and our citizen boards as we work through the myriad of issues and programs.

In 1990 we have strived to focus our efforts to protect the public's health and enhance our environment both from the standpoint of "quality-of-life" and economic benefit. Water development, infrastructure financing, non-point source pollution control and lake restoration are just some of the major areas that were pursued.

With regard to major water project development, the Mni Wiconi rural water system received a congressional appropriation of \$1.5 million. Belle Fourche Irrigation received over \$6.7 million for rehabilitation efforts, and WEB rural water received its last major construction appropriation of \$12.8 million.

Mid-Dakota rural water and Lake Andes-Wagner/Marty II irrigation introduced revised federal legislation in 1990. Congressional hearings were held on both projects in June of 1990. The Lake Andes-Wagner/Marty II legislation passed the U.S. Senate in October of 1990 but was unsuccessful in the House of Representatives.

The U.S. Army Corps of Engineers began an Environmental Initiative Reconnaissance study on the James River Restoration project. This project represents one of the first environmental projects being pursued by the Corps of Engineers.

The Board of Water and Natural Resources received the results of the feasibility analyses conducted on Gregory County Pumped Storage and Hydropower Upgrading of Oahe and Ft. Randall dams. The analyses are being reviewed to determine if further consideration is warranted.

In addition to the major project accomplishments, 72 water and wastewater projects were built for a total of \$35,172,621 with state, federal and local funds.

The lake restoration and dredging programs advanced five projects by investing \$1,405,895 of state, local and federal monies. The final specific program I would like to mention is the new Groundwater Research and Education Fund. In 1990 you funded this program with \$530,000, and to date 13 projects have been awarded contracts totaling \$462,411.

With your help, we are prepared to continue working on the successful programs we have in place and vigorously pursue other opportunities to protect and enhance our natural resources.

Sincerely,



Robert E. Roberts
Secretary

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Preface

The purpose of this document is to fulfill the statutory requirements placed on the Board of Water and Natural Resources (BWNR). These requirements are generally outlined as follows:

- * *SDCL 46A-2-2 To prepare and submit to the Legislature and Governor a yearly progress report on the State Water Plan*
- * *SDCL 46A-1-10 To make recommendations to the Governor and Legislature concerning projects for the State Water Resources Management System*
- * *SDCL 46A-1-14 To make an annual report on all activities during the preceding*

year and funding recommendations necessary to implement the water plan

The report consists of two principal sections: the 1991 State Water Plan and the 1990 Annual Report. The first section sets forth the state water planning process and those projects enumerated within the process. Also it sets forth recommendations for the State Water Resources Management System and for the funds necessary to implement the State Water Plan. The second section is the annual report which provides the progress report on each project and Board activities during 1990.

PART I

1991 STATE WATER PLAN

STATE WATER PLAN

Overview

In 1972 the State Legislature entrusted the South Dakota Conservancy District with the development of a Comprehensive State Water Plan. The plan was to be based on a study of possibilities for creative and innovative utilization of South Dakota's water resources. At the same time the Legislature passed the South Dakota Water Resources Management Act to serve as the vehicle for implementing the Comprehensive State Water Plan. The 1972 Act provided two approaches for implementing items in the Comprehensive State Water Plan: (1) categorical grant and loan programs, and discretionary bonding authority for small water development projects; and (2) State authorization and bonding for large water development projects.

In 1980, the South Dakota Conservancy District abandoned its efforts to create a general management plan in favor of a more functional planning approach that emphasized specific project development. The State Water Plan continues to evolve as the State's needs evolve or change.

Purpose

The State Water Plan is intended to implement State policy on water resources management, to serve as the principal guide for State policies and priorities, and to identify areas for project assistance.

The South Dakota Legislature established the State Water Plan in 1982. At that time, the Legislature in SDCL 46A-1-1 generally defined the plan's statewide goal:

Statewide Goal

To achieve the optimum over-all benefits of the State's water resources for the general health, welfare, safety and economic well-being of the people of South Dakota through the conserva-

tion, development, management, and use of those resources.

The Legislature placed the responsibility upon the Board of Water and Natural Resources to develop a state water plan which would further this goal. SDCL 46A-2-2, established objectives to assist the Board in its efforts to develop this plan.

As required by SDCL 46A-1-7, the Board of Water and Natural Resources established statewide policies for water resources management. The Board recognizes that water resources management encompasses many areas including economic development, irrigation, water conservation, domestic water, tourism, rural water systems, lake restoration, recreation, flood control, watershed management, erosion control, drainage, water quality, and water supply. All of these areas are interrelated with many other economic and social factors necessary to build a healthy rural and business economy.

Structure

The State Water Plan consists of four programs: the State Water Facilities Plan (SWFP), the State Water Resources Management System (SWRMS), the Groundwater Research and Public Education Program (GRPEP), and the Solid Waste Management Program (SWMP).

The State Water Facilities Plan identifies those priority projects such as rural and municipal water supply, industrial water supply, storm water, water conservation, lake restoration/nonpoint pollution control, and wastewater facilities. These are projects which can normally be developed within two years through the Board's discretionary authority. With sufficient funding, the Board can directly finance certain projects; but equally important, the Board can significantly influence federal categorical grant decisions. Projects in the Water Facilities Plan are authorized by the Board of Water and Natural Resources.

To be eligible for the Consolidated Water Facilities Construction Program, the State Revolving Fund, or Nonpoint Source (319) funds, or ground water research and education funds a project must be included in the State Water Plan. In addition, any project which needs state support for categorical grant and loan funding should be included in the State Water Facilities Plan.

The State Water Resources Management System (SWRMS) identifies typically large, costly water projects that require specific state or federal authorization and financing. These projects are established by the Governor and the Legislature from recommendations made by the Board of Water and Natural Resources as necessary goals for water resource management in South Dakota.

SWRMS projects are those which need State support for Congressional authorization or are seeking significant financial support from the State. The Board of Water and Natural Resources recommends to the Governor and the Legislature those portions of the State Water Plan necessary for the general needs and welfare of the people of the State and requests that the Legislature establish these needs as the State Water Resources Management system according to SDCL 46A-1-10. The system will serve as the preferred priority objectives to accomplish optimum water resources management in this State.

The purpose of the Groundwater Research and Public Education Program is to study groundwater contamination, provide information on sound groundwater management, and develop methods for groundwater pollution prevention. The program is funded through the Groundwater Protection fund.

The purpose of the Solid Waste Management Program is to provide assistance to cities and counties for the development of comprehensive solid waste planning and management programs. Public agencies

working in cooperation with cities and counties are eligible to apply.

In order to be considered for the State Water Plan, projects must meet certain eligibility criteria established by the Board of Water and Natural Resources for each element of the plan. These eligibility criteria are used as guidelines for the water development districts and the State to follow when ranking projects in the plan.

State Water Planning Process

In 1988, the Department of Water and Natural Resources (DWRNR) established a Division of Water Resources Management. The goal of the Division is to improve the quality of the waters of the State, meet water supply needs of the citizens of the State, and to effectively manage the water resources of the State in order to protect and enhance the public health, the environment, and the economic vitality of the State.

One way to achieve these goals is to continually update the planning process to meet the needs of the State, the local project sponsors, and the planning and water development districts and to incorporate the goals and mission statements of the Division into the process. The unified planning process is designed to eliminate confusion about the program and to allow the Department staff to more closely communicate with sponsors prior to placement on the plan.

The State water planning process is comprised of four stages: (see figure 1)

1. Stage I - The Formulation Component

This is the beginning stage for most projects. At this phase a project may be a problem, a need, or an idea. Projects may approach either their water development districts or planning districts to obtain assistance in addressing preliminary requirements. They will advise the sponsor regarding water plan policies and prerequisites. Once the project has addressed the preliminary criteria, the local sponsor and the

water development district will submit the project concept plan to DWNR.

If the local project is not located in a water development district, the sponsor may bring the conceptual idea directly to the State.

2. Stage II - Planning/Feasibility Component

After the project has been submitted to the Department, it will be assigned an appropriate staff contact person who will analyze the feasibility and need, local ability to complete the project, and alternatives in order to advise the sponsor and the water development district what will be needed in order to proceed with the project.

An evaluation of the project is sent to the water development district, the planning district and the project sponsor. If needed, changes or further necessary action will accompany that evaluation along with suggestions for preparing a plan of action.

The local sponsor or the preparing entity and the water development district will propose a plan of action and complete a preliminary engineering plan or diagnostic/feasibility study. All projects will submit a cost analysis of the project with the appropriate plan of action to DWNR. The Department will complete the technical screening of the plan and the cost analysis. When there is agreement between DWNR and the local sponsor on the plan, the project will proceed to the third stage.

3. Stage III - State Water Plan Selection Component

DWNR submits those projects to be placed on the SWFP that have met the requirements of the first two stages of the planning process to the water development districts. At this point, the Department staff have examined the project for technical merit and applicable state water plan criteria. The local sponsor and the water development district have provided all the information to meet the technical merit and state water plan criteria.

The water development districts review and rank the projects for funding priority based on district need and project readiness. The water development districts submit these priority rankings to the Board of Water and Natural Resources. The Board will review and approve those eligible projects to be placed on the State water plan.

4. Stage IV - Implementation Component

Once the Board has approved a project for inclusion, the project will attempt to secure funding from the applicable funding sources. Once funded, the projects will complete the final engineering and formulate final designs, plans and specifications.

The Department reviews the plans and specifications, suggests changes if necessary, and presents the plans and specifications to the Board of Water and Natural Resources. Upon the approval of the Board, the project sponsor can cause the project to be constructed.

State Water Resource Management System projects do not follow the normal State Water Planning Process. With the unusual circumstances and size of the projects in most instances, the Department staff, the local project sponsor, and the appropriate water development district will coordinate efforts and create a strategy to secure federal or State authorization and appropriations for project construction.

Amendments

The water planning process is an orderly system established to annually identify water resource problems and implement the necessary solutions. During the year, however, some problems and projects may need an immediate response. An amendment process is included in the State Water Plan to meet that immediate need. On a quarterly basis, amendments will be accepted following the normal process and will not have to meet the emergency criteria.

Project sponsors may submit an emergency application amendment onto the water plan during any Board of Water and Natural

Resources meeting if the proposed project will alleviate or mitigate a dire physical health or safety threat or is necessary to take advantage of an unexpected economic development opportunity.

Status Updates

Status updates are required on an annual basis. This allows the Department to as-

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Project sponsors may submit an emergency application amendment into the water plan during any Board of Water and Natural

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Groundwater Research and Education Program

The Groundwater Research and Public Education Program was established by Governor Mickelson's Centennial Environmental Protection Act. The Groundwater Research and Public Education Program will consist of groundwater research and public education proposals which meet the guidelines established in the Groundwater Research and Public Education Grants rules, and have been approved by the Board of Water and Natural Resources. The State water planning process for the Groundwater Research and Public Education Program is comprised of four stages:

1. Stage I - The Formulation Component

This is the beginning stage of a proposal. At this phase, a proposal may be a problem, a need, or an idea. The Department will provide an applicant with the rules that must be met before the proposal is submitted to the department for a completeness review. An applicant may approach its water development district to obtain assistance in addressing preliminary requirements. The water development district may advise the sponsor regarding water plan policies and prerequisites.

The Department will assign the proposal to the appropriate staff member.

2. Stage II - Planning and Feasibility Component

After the proposals have been determined to be complete, the Department submits the proposals to the Groundwater Research and Information Advisory Group and to the water development districts for review and recommendations.

If needed, suggested changes or further necessary action will be sent to the applicant by the assigned staff member.

3. Stage III - Selection Process

The Department will rank the project for funding priority based on need, the ability to meet goals, match effort, technical merit, and program factors. The Department will then make a recommendation on the project to the Groundwater Research and Information Advisory Group and notify the applicant. If the Department's recommendation is for Board denial, it must contain the reasons for denial.

After receiving the recommendations and rankings from the Advisory Group, the Department submits the project to the Board of Water and Natural Resources. The Board then reviews and approves/disapproves the project to be funded and placed in the State Water Plan.

4. Stage IV - Implementation

Once the Board has funded a project, the project is placed on the Groundwater Research and Public Education Program portion of the State Water Plan, and the applicant must secure funding from the applicable source(s). The Department reviews the final plans and suggests changes. When the Department has approved the final plans, the applicant may proceed with the project.

Solid Waste Management Program

The Solid Waste Management Program was established by Governor's Mickelson's Centennial Environmental Protection Act. The Solid Waste Management Program will provide grant assistance to cities and counties for the development of comprehensive solid waste planning and management programs. Preference will be given to solid waste management programs which: are high on the waste management policy hierarchy; reduce the cost and number of landfills through shared facilities or use of innovative or alternative techniques; involve areas which are subject to groundwater or surface water contamination; or will reduce long-term operating, closure, or postclosure costs. The rules for the Solid Waste Management Program have been approved by the

Board of Water and Natural Resources. The state water planning process for the Solid Waste Management Program comprises four stages and is part of the State water planning process, with a few additions, as follows:

1. Stage I - The Formulation Component

This is the beginning stage of a proposal. At this phase, a proposal may be a problem, a need or an idea. The Department will provide an applicant with the rules that must be met before the proposal is submitted to the Department for a procedural completeness review.

The Department will assign the proposal to the appropriate staff member. The Department has 30 days to respond to the applicant as to the completeness of the proposal plans submitted.

2. Stage II - Planning and Feasibility Component

After the proposal has been determined to be procedurally complete, the assigned staff member will continue to technically screen the project, and advise the applicant on what will be needed in order to proceed with the proposal.

3. Stage III - Selecting Process

The Department must send the Secretary's recommendation to the applicant after the project has been determined procedurally complete. If the recommendation is for Board denial, the recommendation must contain the reasons for the denial.

At this point, the Department has examined the project for procedural completeness, technical merit, the ability to meet the goals established in the Centennial Environmental Protection Act of 1989, and other applicable State water plan criteria.

The Department will rank the projects for funding priority based on the need, the ability to meet the goals, match effort, technical merit and program factors. The Department submits procedurally complete applications with recommendations and the Department

priority ranking to the Board of Water and Natural Resources. The Board will review and approve those projects eligible to be placed on the State Water Plan.

4. Stage IV - Implementation

Once the Board has funded a project, the project is placed on the Solid Waste Management Program portion of the State Water Plan, and the applicant must secure funding from the applicable source(s). The Department reviews the final proposal and suggests changes. When the Department has reviewed the final proposal, the project begins and funding program closeout requirements are completed.

State Water Facilities Plan

The State Water Facilities Plan is comprised of priority water development projects which can be implemented using the authority of the Board of Water and Natural Resources and the programs administered by the Department of Water and Natural Resources. Unlike the larger projects in the State Water Resources Management System, water facilities plan projects do not require specific legislative authorization.

To be considered for the plan, projects must meet the State Water Plan criteria, have a completed preliminary engineering report, and must be ready for construction within two years. Based upon the water development district recommendations and the eligibility criteria, the Board included 65 projects totaling over \$43 million in the State Water Facilities Plan (see Table 1). The State Water Facilities Plan currently has 63 projects which have received funding from either the Consolidated Water Facilities Construction Program (CWFCP) or from Community Development Block Grants or both. These projects are maintained on the State Water Plan for two years from date of funding unless an extension is granted (see Table 2).

Table 1
1991 State Water Facilities Plan (Planning Stage)

<u>Project Sponsor</u>	<u>Project Description</u>	<u>Total</u>
Alpena	Water Rehabilitation	\$ 442,250
Artesian	Wastewater	230,000
Aurora-Brule RWS	Water Reservoir	284,500
Bad River/Stan Co	Watershed	260,000
Big Stone	Lake Restoration	299,497
Bison	Water	190,000
Brandon	Storm Sewer	160,692
Bristol	Sewer	319,575
Britton	Water Treatment	145,044
Brookings	Sewer Interceptor	310,760
Brook-Deuel RWS	Added Users	1,443,000
Bruce	RWS Hookup	90,250
Burke	Well	34,950
B-Y Water Dist.	Water Tank	413,000
Chamberlain	Water and Sewerline	672,000
Clark RWS	Water	645,000
Clay RWS	Water	413,000
Clear Lake	Wastewater	855,000
Colton	Wastewater	627,000
Davison RWS	System Improve	381,100
Estelline	Water	288,000
Faultkon	Water	23,663
Fort Pierre	Water Storage	513,700
Garretson	Rural Water	1,286,000
Hanson RWS	Water	438,700
Howard	Water	453,000
Howes	Water	750,000
Kingbrook RWS	Rural Water	4,100,000
Lake Madison	Wastewater Refinc	3,015,000
Lake Norden	Sewer	1,209,100
Lead	Sewer	225,000
Lennox	Water	968,600
Leola	Sewer	137,200
Madison	Dredging	344,878
McCook Lake SD	Wastewater	1,260,114
Milbank	Sewer	315,000
Milbank	Lake Farley Spill	312,000
Mina Lake	Wastewater	103,501
Mina Lake	Wastewater	546,423
Mobridge	Wastewater	320,000
New Underwood	Water Storage	75,392
Pennington County	Drainage Improve	300,000
Philip	Sewer	1,184,396
Pierre	Sewer	1,893,600
Punished Woman	Dredging	250,000
Rapid City	Rapid Creek Equalization	855,000
Rapid City	Wastewater	3,116,700
Richmond Lake	Lake Restor	712,502
SDACD	Animal Waste	1,350,590
Sioux Falls	Sewer	2,045,500
Sioux RWS	Added Users	800,000
Sisseton	Water Improvements	259,075
Sturgis	Water	969,000
S. Spink - N. Beadle	Expansion	454,397
TC&G WA	Water	250,000
Tea	Storm Drainage	459,398
Timber Lake	Sewer	150,280
Tripp Co. RWUD	Water Improvement	610,000
Veblen	Sewer	308,129
Wagner	Utility	80,000
Wall Lake	Lake Restoration	408,750
Watertown	Water	726,000
Waubay	Sewer and Water	1,122,890
Wentworth	Sewer Dept	127,000
White River	Sewer and Water	134,073
Total		\$43,469,169

TABLE 2

State Water Facilities Plan (Funded Stage)

<u>Project Sponsor</u>	<u>Project Description</u>	<u>Project Cost</u>	<u>CWFCP Awards</u>	<u>CDBG Awards</u>
Alexandria	Water	\$ 423,249	\$	\$ 232,787
Amherst	RWS Hookup	11,930	5,000	
Ashton	Wastewater Treatment	251,047	35,000	
Aurora	Water	263,000		100,000
Belle Fourche	Geothermal Well	370,000	50,000	92,500
Belle Fourche	Wastewater Treatment	1,205,745	95,000	
Brandon	Well	64,445	10,000	
Brant Lake IA	Shoreline Repair	140,300	33,000	
Butte-Meade RWS	Expansion	965,800	79,480	
B-Y RWS	Douglas Co. Ext.	1,664,000	50,000	
Camelot	Water Supply	217,200	20,000	
Canistota	Wastewater Treatment	294,145	20,000	
Chancellor	Wastewater Treatment	215,040	40,000	
Custer	Water	761,252	50,000	300,000
Dolton	RWS - TM	163,440		130,000
Douglas County	RWS - Randall	825,200		300,000
Douglas County	RWS - B-Y	1,664,000		400,000
Eden	Wastewater Treatment	134,044	26,500	
Ethan	WW Improvement	157,100	50,000	
Eureka	Wastewater Treatment	972,571	60,000	
Fredrick	Wastewater Treatment	201,803	30,000	
Gettysburg	Water	234,388		100,000
Gregory County	RWS - Tripp	310,000		118,000
Hartford	RWS Hookup	1,832,000	50,000	650,000
Hazel	Water-Wastewater	345,550		110,000
Hill City	Water System	151,770	30,000	
Hudson	RWS - RV	125,010		60,000
Humboldt	Wastewater Treatment	258,760	25,000	
Igloo-Provo	Water	799,020	58,000	
Java	Wastewater Treatment	266,164	52,000	
Kennebec	Lake Byre Dam	275,000	20,000	52,182
Kimball	Sewer	593,158	20,000	
Kingbrook RWS	Expansion	3,778,000	100,000	
LaBolt	Wastewater Treatment	304,735	70,000	
Lake Andes	Wastewater Expansion	208,170	30,000	
Lake Preston	Wastewater Treatment	1,250,000	70,000	
Lemmon	Water	474,300		100,000
Letcher	Wastewater	214,916	30,000	30,000
Madison	Water/Wastewater	250,000	17,000	
Miller	Water & Sewer	82,610	15,000	
Mina Lake	Wastewater System	546,423	65,000	
Minnehaha Co.	Water-Wastewater	789,537		218,017
Mission	Riprap Lagoon	118,000	18,000	
Mitchell	Dam Repair	148,200	21,000	
Montrose	Water Tank	152,000	40,000	
Oacoma	Water	535,000	70,000	
Platte	Water	135,800		66,000
Randall RWS	Water	932,000	50,000	
Roberts County	Big Stone	295,819	60,000	
Roslyn	Wastewater Treatment	180,022	28,000	
S. Brown Con Dist	Lake Restoration	239,076	30,000	
S. Lincoln RWS	Expansion	418,000	30,000	
South Shore	Dredge	250,000	50,000	
Stanley Co. Con. Dist.	River Rehab.	260,000	30,000	
Sturgis	Wastewater Treatment	994,000	55,000	
Tea	Water	273,800	30,000	
Tripp Co. WUD	Expansion	298,000	30,000	
Tyndall	Water	306,700		100,000
Utica	Water	72,300		37,300
Wakonda	Wastewater Treatment	166,925	10,000	
Wall Lake	Wastewater Treatment	779,155	50,000	
Watertown	Water Treatment	2,188,000	100,000	
Whitewood	Wastewater Treatment	435,636	40,945	
	Total	\$33,233,255	\$2,048,925	\$3,196,786

State Water Resources Management System

The State Water Resources Management System (SWRMS) is the priority system established by the Legislature and the Governor to achieve needed objectives for optimum water resources development in South Dakota. These projects may require specific federal or State authorization and financing and may be developed in phases or take several years because of their design or cost. Each project must be reviewed by the water development district having jurisdiction over it, receive a positive recommendation from the Board, and be approved by the Legislature and the Governor before it may be included in the System.

Recommendations for SWRMS

In accordance with the South Dakota Water Resources Management Act, as amended, and the State water planning process, the Board of Water and Natural Resources on November 8 took action to recommend one new project for the State Water Resources Management System, to delete one project and to maintain all other projects that are currently on the SWRMS component of the State Water Plan.

The one project being recommended for inclusion in the system is:

BRENNAN RESERVOIR

The Brennan Reservoir site is located on Dry Creek approximately 9 miles southeast of Rapid City. The reservoir could

be used to manage flows in Rapid Creek by storing unused flows for use during peak demands. Winter releases from Pactola Reservoir for fishery purposes could be stored and reused. Portions of storm flows could be routed into the reservoir to provide limited flood control downstream. Water in Brennan could irrigate about 5,000 acres located in the Rapid Valley Water Conservation District (RVWCD). This would supply over half of the current demands for the RVWCD. This additional storage would allow existing storage in Pactola Reservoir to be reallocated for other purposes.

The project being recommended for deletion from SWRMS is:

TURKEY CLAY WATERSHED

The Turkey Clay Watershed project was to consist of construction of 10.2 miles of main channel, 55.3 miles of laterals, nine flood water retarding structures, two stabilization structures and 14 sediment basins for the purpose of reducing flood damages by 72% and reducing sediment leaving the watershed by 50%. Due to the lack of funding by the Soil Conservation Service, the Department recommends that the Turkey Clay Watershed project be deleted from the SWRMS component of the State Water Plan.

Those projects currently authorized and recommended for retention in the System are shown on Table 3.

TABLE 3
STATE WATER RESOURCES MANAGEMENT SYSTEM

<u>Project</u>	<u>Project Description</u>
Belle Fourche Irrigation Project	Rehabilitation of Belle Fourche project
Big Sioux Flood Control Study	Watertown Flood Control Dam
Black Hills Hydrology Study	Hydrologic study in Black Hills
Brennan Reservoir	Management of water flows in Rapid Creek
CENDAK Irrigation Project	Irrigation project in central SD
Dakota Dunes	Planned community in Union County
Dakota Lakes Irrigation Research Farm	Irrigation research project
Garrison Extension Study	Study of effects of Garrison unit in ND
Gregory County Pumped Storage Site	Multi purpose water utilization
James River Improvement Program	Study of improvement program in James River
Lake Andes-Wagner/Marty II Irrigation Unit	Irrigation projects in Charles Mix county
Lake Herman Restoration Project	Lake restoration and watershed management project
Mid-Dakota Rural Water System	Proposed rural water system in central South Dakota
Missouri River National Recreational River	Stabilization & enhancement of Mo. R. in SE
Mni Wiconi Rural Water System	New rural water system for western South Dakota
Pick-Sloan Riverside Irrigation	Pick-Sloan integration of irrigation
Sioux Falls Flood Control Project	Increased Flood Protection
Slip-Up Creek	Reservoir on Big Sioux River near Sioux Falls
Southeastern South Dakota Water Supply System	Water Supply
Vermillion Flood Control Project	Flood control study on Vermillion River
Water for Energy Transport (WET) System	Water for energy transport system
WEB Pipeline Project	Construction of rural water system
West River Aqueduct	Rural water system for western South Dakota

PART II
1990 ANNUAL REPORT

ANNUAL REPORT

An annual report of the Board of Water and Natural Resources is statutorily required under SDCL 46A-1-14 and SDCL 46A-2-2. The report is presented in four sections:

Board of Water and Natural Resources Report

1990 Water Development Legislation Report

Water Facilities Construction Fund - Progress Report

- State Water Facilities Plan
 - Consolidated Water Facilities Construction Program
 - State Revolving Fund
 - Lake Restoration/Nonpoint Source Pollution Control Program
- State Water Resources Management System
- Groundwater Research and Public Education Program
- Solid Waste Management
- Drought Disaster Water Supply Assistance Program

Environmental Protection Agency Wastewater Facilities Construction Program

Each section shows the progress on the State's water development projects and in the various financing programs within the Board's purview.

BOARD OF WATER AND NATURAL RESOURCES REPORT

Although a substantial portion of the Water Development goals and objectives were accomplished in 1990, efforts to address the needs of the State's infrastructure are being offset by the additional financial and regulatory burden that is being placed on the State by the federal government. Recogniz-

ing the different water needs, the Board focused its efforts on providing quality of life in the funding of projects that were in violation of the Clean Water or Safe Drinking Water Acts, and also addressing the nonpoint source pollution and pollution of the State's lakes and groundwater resources.

The BWNR, since the appointment of the Governor's Cost Recovery Authority, has played an active role in the investigation of hydropower opportunities in South Dakota. This past year the BWNR entered into contracts with consultants to investigate the potential development of the Federal Energy Regulatory Commission (FERC) permit and analyze the opportunities for upgrading the Fort Randall and Oahe facilities. The reports on these features will be completed by December 31, 1990.

The BWNR completed the administration of Conservancy Subdistrict accounts this year. The process was completed by meeting the contractual obligations related to the Oahe Conservancy Subdistrict account.

The BWNR approved the formation of two new water project districts this year. The districts formed were:

- * Howes Water Project District, incorporated to expand the boundaries of the Tri-County Rural Water System and hook up approximately 30 ranches in Eastern Meade County that have insufficient or unsafe water supplies.
- * Davison-Hanson Water Project District, established to assist in the James River Restoration in portions of Davison and Hanson Counties.

The BWNR also passed and established the Groundwater Education Research Fund Rules as well as the Solid Waste Grant Rules during the year. Passage of these rules was mandated by the Centennial Environmental Act.

Coordination and cooperation with the State's six water development districts continued to assure the protection of the orderly development of the State's water resources. Additionally, the BWNR established the director areas for the newly formed Vermillion Water Development District and the modification of the expanded West River Water Development District.

Additional activities undertaken by the BWNR are presented in detail throughout the context of the Annual Report.

1990 WATER DEVELOPMENT LEGISLATION

This section gives a brief summary of the federal and state legislation passed during 1990.

Federal Legislation

The federal fiscal year 1991 energy and water appropriations bill (H.R. 5019) was approved by Congress in October 1990. The funding levels for South Dakota water projects are listed at bottom of this page.

On June 19, 1990, the Senate Water and Power Subcommittee heard testimony on the Mid-Dakota Rural Water System (S.1765) and the Lake Andes-Wagner/Marty II unit legislation (S.2710). On June 21, 1990, the House Water, Power and Offshore Energy Resources Subcommittee heard testimony on Mid-Dakota (H.3174) and Lake Andes-Wagner/Marty II (H.5012).

On September 19, 1990, the Senate Committee on Energy and Natural Resources incorporated legislative language authorizing the \$200 million Lake Andes-Wagner/Marty II irrigation project contingent on the finding of a \$30 million research demonstration program. The demonstration program will address drainage needs in glacial till soils, selenium management techniques, and the development of best management practices for irrigation. In October, the full Senate approved the authorization, but the House failed to concur.

State Legislation

The 1990 Legislature enacted several bills affecting water development in South

Bureau of Reclamation

Construction

WEB rural water development project	\$ 945,000
Belle Fourche rehabilitation project	\$ 8,024,000
Mni Wiconi rural water supply project	\$ 500,000
Operation and Maintenance South Dakota facilities	\$ 471,000

General Investigations

Black Hills hydrology study	\$ 100,000
Southeastern SD water supply project	\$ 100,000

Corps of Engineer

Construction

Missouri National Recreation River	\$ 1,060,000
Operation and Maintenance	
Missouri Mainstem Dams	\$27,135,000
Other SD facilities	\$ 621,000

General Investigations

James River flood control study	\$ 186,000
Big Sioux flood control study	\$ 148,000
Sioux Falls flood control study	\$ 94,000
Vermillion basin flood control study	\$ 100,000
Section 22 Assistance to South Dakota	\$ 85,000

Dakota. The Omnibus Water Development Bill (SB 341 with technical amendments in HB 1387) authorized the expenditure of funds from the Water Facilities Construction Fund (WFCF) and the Groundwater Protection Fund (GPF). SB 341 authorized the expenditure of \$530,000 from the GPF to provide grants under the state Groundwater Research and Education Program. Funding from the WFCF was provided for the following programs and projects:

- Consolidated Water Facilities Construction Program — \$1,130,000 to provide grants for public water and wastewater facilities, lake improvement, and rural water supply projects;
- Gregory County Pumped Storage project — \$15,000 grant to complete the feasibility study of the multipurpose water supply features;
- James River Restoration project — \$260,000 grant for implementation of limited channel clean-out and tributary drainage control activities and for feasibility study efforts;
- Mid-Dakota RWS project — \$75,000 grant for feasibility study and congressional authorization activities;
- Lake Andes-Wagner/Marty II Irrigation project — \$70,000 increase in the loan to support congressional authorization efforts;
- Big Sioux Flood Control project — \$50,000 grant to provide non-federal cost share for an ongoing Corps of Engineers feasibility study of proposed flood control structures in the Watertown area;
- Sioux Falls Flood Control project — \$50,000 grant to provide non-federal cost share for a Corps of Engineers feasibility study to upgrade flood control structures in Sioux Falls;
- Black Hills Hydrology Study — \$50,000 grant to conduct hydrologic studies in the Black Hills;

- Southeastern South Dakota Water Supply System — \$50,000 grant to initiate a feasibility study of a southeastern South Dakota water supply system; and
- Drought Assistance Program — \$100,000 to provide emergency water supply assistance to landowners impacted by the effects of a 1990 drought.

SB 341 added the Dakota Dunes water supply system project and deleted the Big Sioux Hydrology Study, Big Sioux Basin Study, and the Missouri River Recreation and Fishery Development plan from the State Water Resources Management System. SB 71 added the Southeastern South Dakota Water Supply System to South Dakota's Pick-Sloan settlement framework, SDCL 46A-15-6.

SB 3 authorized the expenditure of \$100,000 from the WFCF for the preparation of a statewide Solid Waste Management Plan. SB 234 revised the purposes for which an existing WFCF appropriation for the Turkey-Clay watershed project may be spent.

HB 1205 established the Vermillion Basin Water Development District and expanded the West River Water Development District to include Mellette County. Additionally, HB 1205 reduced to 50 percent from 60 percent the general election majority required to dissolve a water development district. HB 1232 revised several provisions relating to water project districts.

HB 1055 permits the segregation of utility income or revenue for the purpose of paying off utility bonds, including State Revolving Fund loans, without an election to authorize the issuance of the bonds.

WATER FACILITIES CONSTRUCTION FUND (WFCF) - PROGRESS REPORT

The Board of Water and Natural Resources administers the Water Facilities Construction Fund into which all legislative appropriations, interest on investments, principal and interest on loans, and funds accruing

to the South Dakota Conservancy District are deposited. From this fund, the BWNR is legislatively authorized to administer several programs including the Consolidated Water Facilities Construction Program (CWFCP), the State Revolving Fund (SRF), the State Water Resources Management System (SWRMS), the Groundwater Research and Public Education Program (GRPEP), the Drought Disaster Water Supply Assistance Program (DDWSAP), and the Solid Waste Management Program (SWMP). Table 4 describes the breakdown of the funds appropriated by the 1990 Legislature to be used for these programs.

The BWNR also has authority to issue tax-exempt bonds in connection with its water resources management duties. Under SDCL 46A-1-29 to 30, the BWNR may issue long-term bonds, upon Legislative approval, for the construction of projects within the State Water Resources Management System or for the purpose of funding a revolving fund program under the federal Clean Water Act. As well, the BWNR has discretionary bonding authority for small bond issues under \$8 million. Under SDCL 46A-1-17 to 27, the BWNR has authority to issue short-term (interim) notes for water resources projects within the State Water Resources Management System and the State Water Facilities Plan.

In addition to the programs the BWNR administers, the DWRN administers

one federal water development grant program - the Environmental Protection Agency Wastewater Facilities Construction Program.

The following reports are detailed accounts of all expenditures made in 1990 in each program.

Consolidated Water Facilities Construction Program - (CWFCP)

The 1986 State Legislature established the Consolidated Water Facilities Construction Program to provide grants or loans for water development projects included in the State Water Facilities Plan. The Consolidated Program replaced the construction and study loan programs and several smaller programs, in an effort to simplify the State's financing process for small water projects.

The BWNR established program rules to govern the program. Under these rules, projects on the current State Water Facilities Plan are eligible to apply for available funds. The application cycle has been set up on a quarterly basis with applications due on the first day of June, September, December, and March.

During 1990, the BWNR approved \$1,130,000 in CWFCP grants for 29 projects with total project costs of \$13,034,360. Table 5 provides a breakdown of these grants by project.

TABLE 4
1990 WATER FACILITIES CONSTRUCTION FUND

	Amount Authorized by Legislature	Amount Contracted
Solid Waste Management	\$ 100,000	\$ 100,000
Consolidated Water Facilities Construction Program	1,130,000	1,130,000
Drought Disaster Water Supply Assistance Program	100,000	100,000
Groundwater Research and Public Education Program	530,000	462,411
State Water Resources Management System	<u>620,000</u>	<u>620,000</u>
TOTAL	\$2,480,000	\$2,412,411

TABLE 5
1990 CONSOLIDATED GRANT AWARDS

SPONSOR	DESCRIPTION	CWFCP FUNDS	PROJECT COST
Amherst	RWS Hookup	\$ 5,000	\$ 11,930
Belle Fourche	Geothermal Well	50,000	370,000
Brandon	Well	10,000	64,445
B-Y RWS	Douglas Co Ext	50,000	1,664,000
Custer	Water	50,000	761,252
Ethan	WW Improvement	50,000	157,100
Hartford	RWS Hookup	50,000	1,832,000
Hill City	Water System	30,000	151,770
Humboldt	WW Treatment	25,000	258,760
Java	WW Treatment	52,000	266,164
Kennebec	Lake Byre Dam	20,000	275,000
Lake Andes	WW Expansion	30,000	208,170
Letcher	WW Treatment	30,000	214,906
Madison	Water/Wastewater	17,000	250,000
Miller	Water & Sewer	15,000	82,610
Mina Lake	WW System	65,000	546,423
Mission	Riprap Lagoon	18,000	118,000
Mitchell	Dam Repair	21,000	148,200
Montrose	Water Tank	40,000	152,000
Oacoma	Water	70,000	535,000
Randall RWS	Water	50,000	932,000
Roberts County	Big Stone	60,000	295,819
S Brown Con Dist	Lake Restoration	30,000	239,076
South Shore	Dredge	50,000	250,000
Stanley Co Con Dist	River Rehab	30,000	260,000
Tea	Water	30,000	273,800
Wakonda	WW Treatment	10,000	166,925
Wall Lake	Dredge	72,000	361,000
Watertown	Water Treatment	<u>100,000</u>	<u>2,188,000</u>
TOTAL		\$1,130,000	\$13,034,360

State Revolving Fund

The South Dakota State Revolving Fund (SRF) Loan Program began in 1988. The Legislature authorized a one-time expenditure of \$1,200,000 for program initiation, which was ultimately used as a reserve for the fund.

The SRF is designed to provide low-interest loans to municipalities, sanitary districts, and watershed districts. The loans are to be used to upgrade wastewater treatment facilities or for nonpoint source pollution control projects.

The South Dakota Conservancy District issued \$5,785,000 in municipal revenue bonds for the first three years State match funds on August 9, 1989. The State SRF Program received its first Capitalization Grant of \$4,577,200 from the Environmental Protection Agency (EPA) on March 6, 1989.

One loan was made in 1989: to the City of Huron in the amount of \$1,656,000 at a 3% interest rate for a term of 20 years.

The South Dakota State Revolving Fund Loan Program received its second Capitalization Grant of \$4,738,000 from EPA on March 30, 1990. Fourteen loans were made by the Board of Water and Natural Resources, acting as the South Dakota Con-

servancy District, in 1990. Fifteen loans have been made as of November 30, 1990. The total dollar amount of the loans made is \$10,582,419.

The Federal Fiscal Year (FFY) 1992 Intended Use Plan (IUP) hearing was held on August 22, 1990 at the Board of Water and Natural Resources meeting in Vermillion. Projects must be on the IUP to be eligible for a State Revolving Fund Loan. The FFY 1991 IUP was voted on, and finalized at the public hearing held on August 22 in Vermillion. Table 7 is a list of communities/nonpoint source pollution control project that were approved for the FFY 1991 IUP.

Table 6 shows the loans made by the Board of Water and Natural Resources as of November 30, 1990. The majority of the loans made were at a 3 percent interest rate for a term of 20 years. Three loans (to the Lead-Deadwood Sanitary District, the City of Sioux Falls #2, and the City of Pierre) were made for a term of less than 20 years. On October 11, 1990 the Board of Water and Natural Resources voted to change the interest rates on loans from the SRF to 3 percent for 10 years, 4 percent for 15 years, and 5 percent for 20 years.

TABLE 6

STATE REVOLVING FUND LOANS

SPONSOR	PROJECT DESCRIPTION	APPROVAL DATE	SRF LOAN AMOUNT
Huron	Additions	11-9-89	\$1,656,000
Rapid Valley	Rehabilitation/Collection	1-11-90	614,000
Box Elder*	Additions	4-11-90	648,600
Custer	Land Application	4-11-90	430,000
Lake Cochrane*	Collection/Treatment	4-11-90	80,000
Lemmon*	Infiltration/Inflow Correction	4-11-90	427,100
Sioux Falls	Rehabilitation/Interceptors	4-11-90	3,316,310
Lead-Deadwood	Equipment	6-7-90	110,000
Vermillion	Interceptor	6-7-90	125,000
Custer	Collectors	7-11-90	182,000
Lead	Infiltration/Inflow Contection	7-11-90	186,409
Mobridge	Additions	7-11-90	1,500,000
Sioux Falls	Rehabilitation/Equipment	7-11-90	454,000
Belle Fourche	Interceptor	8-22-90	253,000
Pierre	Treatment	11-8-90	600,000
	Total		\$10,582,419

*Refinancing

TABLE 7

1991 IUP

WASTEWATER FACILITIES

Municipality	Project Description
Belle Fourche	Collection/Interceptors
Big Stone City	Interceptors/Treatment
Brandon	Storm Sewers
Brookings	Collection/Interceptors
Clear Lake	Treatment
Colton	Treatment
Deadwood	Collection/Rehabilitation/I/I Correction
Highmore	Treatment/I/I Correction
Lake Madison	Refinancing
Lake Norden	Treatment
Lead	I/I Correction/Rehabilitation
Madison	Collection
McCook Lake	Interceptors/Treatment
Milbank	Interceptors
Mina Lake	Collection/Treatment
N. Sioux City	Interceptors/Treatment
Oacoma	Interceptors/Treatment
Philip	Interceptors/Treatment
Pierre	Treatment/Interceptors
Pollock	Treatment
Rapid City	Interceptors/Rehabilitation/Storm Sewers/Treatment/ Refinancing
Sioux Falls	Interceptors/Rehabilitation/Storm Sewers/Treatment
Spearfish	Treatment
Tea	Storm Sewers
Veblen	Treatment
Watertown	Treatment
Waubay	Collection/Interceptors/Treatment
Wentworth	Refinancing
Whitewood	Treatment

Lake Restoration/Nonpoint Source Pollution Program

The South Dakota Clean Lakes and Nonpoint Source (NPS) Pollution Control Programs are designed to assess the status of pollution sources and their subsequent effect on water bodies throughout the State; provide technical assistance to local project sponsors in the design and implementation of individual projects; provide financial support to individual projects through the management of state and federal grants, and provide assistance in monitoring the effectiveness of implementation projects. Each program has general statewide responsibilities in the management of lakes and NPS problems and also focuses on the restoration of specific lakes and the prevention of NPS pollution in specific watershed areas.

Five lake restoration/nonpoint source projects received State Consolidated funding

totaling \$242,000 in 1990. Two of the projects involved lake dredging (Punished Woman's Lake and Wall Lake), two concentrated on watershed improvements (Big Stone Lake and Richmond Lake) and one project addressed river rehabilitation (Bad River).

Funding for these projects was supplemented with local cash and in-kind contributions, funding from other State programs, local governmental bodies, and by grants from the Environmental Protection Agency. The Punished Woman's Lake project received an EPA section 314 Clean Lakes grant for \$200,000. Wall Lake received \$368,722 and Big Stone Lake \$357,188 in section 319 EPA funds for 1989-1990. The Richmond Lake project received funding assistance from EPA section 319 for \$343,155 and the Bad River project has received \$146,916.

TABLE 8
1990

LAKE RESTORATION/NONPOINT SOURCE PROJECTS

PROJECT	DESCRIPTION	CWFCP FUNDS	PROJECT COST
Bad River	river rehabilitation	\$ 30,000.00	\$ 260,000.00
Big Stone Lake	lake restoration	60,000.00	295,819.00
Punished Woman	dredging	50,000.00	250,000.00
Richmond Lake	lake restoration	30,000.00	239,076.00
Wall Lake	dredging	72,000.00	361,000.00
TOTAL		<u>\$242,000.00</u>	<u>\$1,405,895.00</u>

State Water Resources Management System

This section reports the progress of the authorized projects in the 1990 State Water Resources Management System (SWRMS). Tables 9, 10, and 11 are provided on page 31 to show project expenditures for 1990. A brief summary of each project and its status is presented below.

Belle Fourche Irrigation Project (SWRMS 1981)

- * The original Belle Fourche Irrigation project was authorized by Congress in 1904 and completed in 1914 to deliver irrigation water to 57,000 acres in Butte County.

- * A \$48.8 million rehabilitation project received Congressional authorization in 1983.

- * Rehabilitation of the delivery system will reduce operation and maintenance costs, conserve water, provide safety features, lessen risk of system failure, reclaim agricultural lands affected by seepage losses, and protect the economic welfare of the area.

- * Federal appropriations began in 1984 and the project has received \$25,799,000 in federal appropriations through FFY91.

Rehabilitation efforts on the Diversion dam and distribution system progressed very well throughout 1990 on the Belle Fourche Irrigation project. Continued appropriations at the 1991 funding level (\$8,024,000) will allow for completion of the project by 1995.

Big Sioux Flood Control Study (SWRMS 1989)

- * The federal interest in constructing a flood control project was investigated and established in a 1987 Reconnaissance Report by the Corps of Engineers.

- * The project will provide flood protection for Watertown, Lake Kampeska, and Pelican Lake through the construction of

a check dam on either Mahoney Creek or Still Lake.

- * The project is divided into three feasibility study phases:

- phase one efforts include hydrological, hydraulic and geotechnical studies;

- phase two consists of investigating the social and environmental aspects of the proposed dam sites;

- phase three entails dam design and assessment of the impacts of the selected site.

- * The total cost for the feasibility study is estimated at \$824,230 with the cost to be shared on a 50/50 federal-nonfederal basis.

- * Phase one studies were initiated in 1988 by the Corps of Engineers in cooperation with the City of Watertown, East Dakota Water Development District, Lake Kampeska Water Project District, Codington County, and the Department of Water and Natural Resources.

- * The 1989 Legislature appropriated \$50,000 to be used in the initial phases of the feasibility study.

The 1990 Legislature appropriated an additional \$50,000 to complete Phase Two of the feasibility study. The Phase Two analysis was completed by the Corps in mid-1990. Mahoney Creek has been determined to be the most favorable site for dam construction. Construction costs for Mahoney Creek Dam are estimated at \$12 million. Phase Three study efforts are underway and should be completed by mid-1991.

Black Hills Hydrology Study (SWRMS 1982)

- * The objective of the project is to compile the water resource data necessary to make informed management decisions concerning the development of water resources in the Black Hills area related to the expansion of mining, municipal, recrea-

tional, and urban water development needs.

- * The 1988 Legislature appropriated \$50,000 towards funding the establishment of a groundwater and surface water monitoring network:
 - Local sponsors provided \$50,000 for this network;
 - US Geological Survey provided \$100,000 match money for the network.
- * The 1989 Legislature appropriated \$50,000 to continue monitoring network efforts and \$75,000 for drilling monitoring wells in critical areas to assist in the hydrologic evaluation of the Black Hills.

Project activities continued in 1990 with a State funding package totaling \$185,000. This package included a \$50,000 Legislative appropriation and \$135,000 from the Department of Water and Natural Resources. Local sponsors contributed \$100,000 to match State funds. These funds were then used to leverage \$200,000 from U.S. Geological Survey's (USGS) cooperative program. In the summer of 1990, a Department of Water and Natural Resources staff member was relocated to Rapid City to serve as the local liaison between the State, local project sponsors, and USGS. Congress appropriated \$100,000 for FFY91 to the Bureau of Reclamation to initiate their involvement in the project.

CENDAK Irrigation Project (SWRMS 1982)

- * This irrigation project is to supply Missouri River water to 474,000 acres in Hughes, Hyde, Hand, Spink, Beadle, and Faulk counties in central South Dakota.
- * Additional project purposes include municipal and rural domestic use, recreation, fish and wildlife enhancement, and stream flow augmentation.

- * Features of the Oahe Irrigation project would be used including the Oahe pump plant and the Pierre canal.
- * Estimated cost of the project is \$1.12 billion.

Little activity occurred on the project in 1989 or 1990. South Dakota supports development of the project and will pursue development when federal policies are more supportive of large-scale irrigation projects.

Dakota Dunes (SWRMS 1989)

- * The project is intended to provide water and wastewater system construction for the development of a master planned community.
- * The project is an 1,800 acre development for residential, recreational, and business use.
- * Anticipated economic benefits to the Union County area are 5,000 jobs and a \$125,000,000 payroll.
- * The project received a \$250,000 Consolidated Water Facilities Construction Program grant in 1989.

In 1990 Dakota Dunes was connected to Sioux City for its water source and developed its own water storage and distribution system. Significant progress was made in business and residential development and road construction.

Dakota Lakes Research Farm (SWRMS 1987)

- * The project is a 463 acre research site adjacent to the Missouri River near Pierre designed to evaluate different farming techniques and cropping practices on irrigated and dryland crops.
- * The project mission is to research, identify, and demonstrate the best methods of stabilizing the agricultural economy through agricultural diversity, increased production efficiency, and reduced negative environmental effects.

- * The 1989 season was spent conducting necessary soil sampling, determining farm layout, constructing the water delivery system and seeding permanent field borders to grass.

The project began its first year of operation in 1990 and included the construction of a headquarters building. Increased research operations will begin late in the year and continue in the spring of 1991.

Garrison Extension Study (SWRMS 1981)

- * This project is designed to modify North Dakota's Garrison Diversion Unit into a project that could provide flood control, deliver additional high quality water for irrigation, industrial, and municipal uses in South Dakota and improve recreational opportunities in the James River basin.
- * In 1981, Governor Janklow appointed a five-member Garrison Study Management Board to assess the Garrison Extension concept.
- * In 1983, a preliminary findings report was completed by the Garrison Study Management Board which identified project costs and recommendations.
- * In 1986, H.R. 1116 was amended and passed into law and is known as the Garrison Diversion Unit Reformulation Act of 1986.
- * In 1989, the "James River Comprehensive Report, Garrison Diversion Unit", which summarizes all of the Garrison Unit James River studies and discusses project alternatives, was released to the public.

Little activity occurred on this project in 1990. No activity is anticipated until the comprehensive Environmental Impact Study (EIS) on irrigation in the James River basin is completed. This EIS was mandated by H.R. 1116.

Gregory County Pumped Storage Site (SWRMS 1981)

Hydroelectric Component

- * The Gregory County Pumped Storage (GCPS) project is a proposed peak generation hydroelectric facility located in northern Gregory County.
- * The GCPS project will use off-peak electricity to pump water from Lake Francis Case to an upper reservoir on the Missouri River bluff over 700 feet above the lake. Peak power is generated by releasing water from the upper reservoir through turbines back to the lake.
- * The Corps of Engineers initiated studies on the GCPS project site in the mid 1970's with an interim report and an environmental impact statement completed in 1982.
- * In 1982, the South Dakota Conservancy District filed a preliminary Federal Energy Regulatory Commission (FERC) permit application.
- * In 1986, Congress passed a \$1.39 billion authorization for construction of the project (P.L. 99-662); however, present federal policy is to provide no federal financing for new hydro development.
- * In 1988, FERC issued to the State a preliminary permit for the project. The preliminary permit reserves a priority for development for three years while the necessary economic, environmental, and technical studies to support an application for a license are conducted.
- * The 1989 State Legislature appropriated \$50,000 for a feasibility study of the GCPS hydro component with a requirement that the state funding be matched with private funds. The Board of Water and Natural Resources entered into a contract with Ebasco Services Inc. to conduct the feasibility analysis.

The GCPS hydro feasibility report was completed in December 1990. Preliminary findings recommend the construction of a 1,200 Megawatt facility with construction

costs of \$790 million. Construction of associated power transmission facilities is estimated at \$114 million. An additional \$1 million of engineering and environmental studies are required to prepare the FERC application for license. The State's preliminary permit will expire in August 1991.

Water Supply Component

* The project has potential to provide water for irrigation and municipal, rural, and industrial (MR&I) purposes utilizing the upper forebay, which is a component of the hydroelectric project.

* In 1986, Congress passed a \$1.39 billion authorization for construction of the project (P.L. 99-662). Of the \$1.39 billion, \$100 million was identified for construction of MR&I water supply and irrigation features.

* The 1987 State Legislature appropriated funds to provide a \$150,000 loan for feasibility studies of the water supply and irrigation features.

* The Bureau of Reclamation's FY 1989 budget contained \$500,000 to conduct an appraisal level analysis of the potential development of irrigation and MR&I water supply features and potential environmental consequences. In 1989, the Bureau, State, and local sponsors executed a Gregory Unit Special Report Memorandum of Understanding (MOU) for completion of a \$638,000 study workplan.

In 1990, the State Legislature approved a \$15,000 grant to complete the non-federal cost share package for the appraisal level study of the associated water supply features. Local funds have been provided through in-kind services, landowner interest fees, and Southern Missouri Water Development District grants. Approximately 18,000 acres were included in the irrigation system design and a water supply system was designed to provide MR&I water to five municipalities and two rural water systems.

The Bureau of Reclamation is compiling the various study components into a final special report for submission to Congress. It is anticipated that the report will be completed by December 31, 1990.

James River Improvement Program (SWRMS 1984)

* This program is intended to provide flood control as well as municipal, industrial, agricultural, recreational, and wildlife benefits.

* In 1986 federal legislation (P.L. 99-662) authorized \$20 million for flood control and stream-flow improvements.

* A draft Environmental Impact Statement was completed in 1987 which presented four alternative plans of action for the James River:

- no action;
- limited channel cleanout;
- channel restoration;
- flood bypass.

* The James River Water Development District adopted a three stage approach to river restoration as a result of public input to the draft EIS. The three stages are as follows:

- limited channel cleanout;
- tributary drainage control;
- bank stabilization.

* A reconnaissance report was completed in 1989 which established federal interest in conducting feasibility studies for flood protection in lower Elm River-Moccasin Creek basins and the Dry Run Creek basin with provisions for federal funding.

The State Legislature appropriated \$200,000 in 1988, \$200,000 in 1989, and \$260,000 in 1990 for implementation of restoration activities including limited channel cleanout activities, wildlife enhancement, and recreational development. The James River WDD made major strides during 1990 work-

ing toward these goals established for the restoration project.

Governor Mickelson hosted a tour for U.S. Corps of Engineers Assistant Secretary for Civil Works Robert Page so that he could see first hand the James River Restoration Project and its accomplishments. Assistant Secretary Page introduced an "Environmental Initiative" for the James River which involves a reconnaissance level study for environmental enhancement activities along the James River. This study which will cost \$235,000, fully federally funded, is the first of its type at a national level for the Corps.

The Corps, in conjunction with the City of Aberdeen and the James River WDD, is conducting a feasibility study of a levee system for flood control. The Aberdeen Levee Feasibility Study will cost \$332,040 to complete and will have 50/50 cost share requirements.

In 1990 the State contributed \$33,150 towards the study efforts through the James River WDD appropriation.

Lake Andes-Wagner/Marty II Irrigation Unit (SWRMS 1975, 1986)

- * The 45,000 acre Lake Andes-Wagner Irrigation project and the 3,000 acre Marty II Irrigation project are proposed Pick-Sloan Missouri Basin Units located in Charles-Mix County. The projects have estimated construction costs of \$165 million and \$24 million respectively.
- * During the 1970's, the Lake Andes-Wagner Irrigation District approved an \$850,000 bond issue to study the feasibility of non-federal irrigation development. However, a bond issue for the development of the project was rejected in 1978.
- * In 1981, the Bureau of Reclamation began a re-analysis of the privately sponsored feasibility study, funded in part by a \$500,000 study loan from the South Dakota Water Facilities Construction Fund.

- * In 1985 the U.S. Bureau of Reclamation completed a Feasibility Study and Draft Environmental Impact Study on the 45,000 acre Lake Andes-Wagner Irrigation Project.
- * In 1986, the State Legislature authorized the Marty II Unit project as a SWRMS project that would seek authorization jointly with Lake Andes-Wagner.
- * A formal cost sharing package was submitted to the Bureau of Reclamation and to the House and Senate authorization committees in 1987 which included \$45,950,000 of State and local money.
- * A Congressional subcommittee hearing was held on the projects in 1989, but the identification of high levels of the element selenium during trace element investigations on both the lands and groundwaters of the projects stopped authorizing legislation from moving forward.

In the spring of 1990, local, state, and federal agencies developed a plan for a 5,000 acre research demonstration program. On June 19 and June 21, 1990 Congressional authorization hearings were held on the projects and the proposed research program. The project was approved by the Senate Committee of Energy and Natural Resources on September 19, 1990. On October 26, 1990 the Senate approved the project. Concurrence could not be obtained by the House prior to adjournment of Congress.

Lake Herman Restoration Project (SWRMS 1984)

- * The purpose of the project was to alleviate the degradation of water quality by the application of best management practices in the watershed (87% treated), the construction of three sediment control structures on major tributaries to the lake, and riprapping a major portion of the shoreline.
- * In-lake sediment removal began in 1985 near the City of Madison.

- * Approximately 550,000 cubic yards of sediment has been removed from the northeast bay, the swimming beach area of Lake Herman State Park, and the Herman Slough located in the State Park.

Dredging continued through 1990 with an additional 120,000 yards being removed from the Herman Slough and northeast bay. The project was funded by a U.S. EPA 319 nonpoint source grant with local match provided by the City of Madison, Lake County, East Dakota Water Development District, S.D. Dept. of Game, Fish, & Parks, and the S.D. Dept. of Water and Natural Resources. Additional funding was authorized by the 1986 federal Omnibus Water Resources Act (P.L. 99-662), but the State was unsuccessful in securing support for the project from the Corps of Engineers.

Mid-Dakota Rural Water System (SWRMS 1988)

- * Mid-Dakota is a proposed rural domestic water system which will provide high quality Missouri River water to 30,000 people in Beadle, Buffalo, Hand, Hughes, Hyde, Jerauld, Potter, Sanborn, Sully, and small portions of Spink, Kingsbury, and Aurora Counties.
- * Estimated project cost is \$108.4 million.
- * In 1989, a detailed feasibility report was completed and authorizing legislation was introduced.
- * Mid-Dakota received State appropriations of a \$100,000 loan in 1988 and a \$50,000 grant in 1989.

In 1990, Mid-Dakota received a \$75,000 grant for authorization activities and Congressional subcommittee hearings were held on June 19 and June 21 in the Senate and the House of Representatives respectively. Project sponsors will be seeking authorizing legislation in 1991.

Missouri River National Recreational River (SWRMS 1981)

- * The 59-mile reach of the Missouri River between Gavins Point Dam, South Dakota, and Ponca State Park, Nebraska, was designated a National Recreational River in 1978 by Section 707 of P.L. 95-625, which amended the Wild and Scenic River Act, P.L. 90-542. Authorized project costs were limited to \$21 million.

- * The MNRR project combines recreational development, wildlife management, cultural resource preservation, scenic preservation, protection of threatened and endangered species, and bank stabilization. In a 1981 cooperative agreement with National Park Service, the Corps of Engineers agreed to plan, design, construct, and operate this project.

- * In June 1986, a 50/50 cost sharing agreement was signed between the State of South Dakota and the Corps for construction of a river access point at Myron Grove. Construction was completed in May 1987 at a cost of \$60,000.

- * In June 1987, a plan to develop habitat for threatened and endangered species by clearing sandbars was initiated as a 100 percent Federal activity. Since November 1987, two islands have been cleared of vegetation using various techniques. The islands will be monitored through September 1992. A Biological Assessment addressing the effects of MNRR bank stabilization and recreation on the endangered interior least tern and the threatened piping plover was initiated as part of an ongoing U.S. Fish & Wildlife Service consultation process.

- * In April 1989, a cost sharing agreement was signed between the City of Yankton and the Corps for recreational development of Riverside Park. Construction was initiated in September 1989, with total project costs estimated at \$1.2 million.

- * MNRR has received \$2.75 million in federal funding for the period of 1980 through 1989.

In 1990, \$525,000 of federal funding was provided for cost share with Yankton for completion of the redevelopment of Riverside Park and \$86,000 was utilized for general work activities, island clearing, and biological assessment. A separate appropriation of \$95,000 was received for rehabilitation of bank stabilization structures. The Biological Assessment is scheduled for completion in 1991.

Mni Wiconi Rural Water System (SWRMS 1981)

- * This project will provide high quality Missouri River water to approximately 20,000 western South Dakota citizens in an eight county area extending from Ft. Pierre through the Pine Ridge Indian Reservation.
- * Three water supply systems form the project cooperative:
 - the West River Rural Water System (SWRMS 1981);
 - the Lyman-Jones Rural Water System (SWRMS 1981);
 - Oglala Sioux Water Supply System (SWRMS 1988).
- * Proposed project facilities include:
 - intake established in Oahe Dam powerhouse;
 - treatment plant near Ft. Pierre which would be able to treat 8 million gallons of water per day;
 - 2,300 miles of pipeline with 17 pumping stations;
 - 6.7 million gallons of water storage.
- * Project costs:
 - \$100 million authorization level (Jan. 1987 costs);
 - \$110.7 million indexed to October 1990;

- 65% of project costs allocated to Oglala Sioux Tribe system as non-reimbursable federal costs;
- non-federal cost share of 35% on non-Indian portion of system which amount to \$12.5 million at 1987 costs or \$13.8 million on 1990 index.

* Funding recap:

- \$300,00 in loans (1983-1988) to West River RWS/Lyman-Jones RWS which were converted to grants by the 1989 State Legislature;
- \$1.5 million grant by 1989 State Legislature;
- \$500,000 federal appropriation for FFY 1990.

In 1990, West River and Lyman-Jones formed the Mni Wiconi Cooperative, Inc. The Cooperative entered into an agreement with the Bureau of Reclamation to complete the needs assessment, design criteria, distribution plan and cost estimates, water conservation plan, and collection of baseline environmental data. The Oglala Sioux Tribe (OST) entered into a separate (638 Indian Preference) contract with the Bureau for the corresponding study components for the OST distribution system. Congress approved \$1.5 million for pre-construction activities in FFY 1991. The Bureau of Reclamation has indicated that any future contracts will be entered into only with the single non-federal entity required under the authorization.

Pick-Sloan Riverside Irrigation (SWRMS 1987)

- * This proposal is an attempt to integrate existing irrigators along the Missouri River corridor into the Pick-Sloan Missouri Basin Program.
- * The project would provide irrigators with an opportunity to utilize Pick-Sloan power and the potential to obtain power revenue assistance.

- * Under this project, irrigators would be eligible for technical assistance and other benefits associated with an authorized federal water project.
- * Several irrigation projects that utilize water from the Pick-Sloan system such as Northwest, Central Charles Mix, West Brule, and New Evarts Irrigation Districts and West Potter Water Project District have been actively pursuing Congressional authorization.

No action occurred on this project in 1990 and future activities are uncertain.

Sioux Falls Flood Control Project (SWRMS 1989)

- * The project would increase Sioux Falls' flood protection from Skunk Creek and the Big Sioux River through modification of current flood control features and would provide 100-year event protection.
- * The existing project was completed in 1965 and provides protection from flooding frequencies of 43 years or less.
- * The proposed project would cost \$6,817,400 and would meet 100-year flood control requirements by:
 - raising the levee from the diversion dam to the upstream tie-off;
 - raising the diversion channel levee;
 - modifying the chute and stilling basin;
 - raising the diversion dam;
 - providing for some bridge improvements.

A cost-shared feasibility study is currently underway to determine the most cost-effective level of protection for the City. The feasibility study will be completed in September, 1991. Total cost of the feasibility study is \$476,850, of which the City of Sioux Falls is paying 50 percent. Two grants of \$50,000 have been provided by the State Legislature (one in 1989 and a second one in 1990). Actual construction is scheduled to begin in mid-1994 and end in 1996. The project has a 75

percent federal and 25 percent non-federal cost share.

Slip-Up Creek (SWRMS 1981)

- * This project includes a dam, reservoir, and pumping plant on Slip-Up Creek; a pumping plant on the Big Sioux River; and pipelines connecting the river pumping plant to the reservoir and the city's water treatment plant.
- * The purpose of the project is to store Big Sioux River waters for municipal use by the City of Sioux Falls and for recreation and fish and wildlife activities.
- * Big Sioux River water would be pumped to the Slip-Up Creek site and, when needed, it would be pumped to the Sioux Falls water treatment plant.
- * After a public meeting in 1986, the City of Sioux Falls passed a resolution calling for:
 - continued development of the Sioux Falls aquifer;
 - continued planning for a reservoir in the Slip-Up Creek Valley;
 - initiation of a water education and conservation program.

No significant action has taken place on the project in 1989 or 1990.

Southeastern South Dakota Water Supply System (SWRMS 1984)

- * The project will deliver Missouri River water for domestic use to rural water systems and communities in southeastern South Dakota, northwestern Iowa, and southwestern Minnesota.
- * Various alternatives being studied are:
 - pipeline from Chamberlain to Mitchell and Sioux Falls;
 - pipeline from Missouri River near Vermillion to Sioux Falls/Mitchell and points in-between;
 - pipeline from Choteau Creek to Mitchell and Sioux Falls.

A non-profit corporation, Southeastern South Dakota Water Supply System, Inc. (SSDWSS) was formally organized in August, 1990 and an engineering consultant firm was hired in August to conduct a one year feasibility study and environmental assessment.

An informational meeting was held with Minnesota and Iowa about the project and feasibility cost share requirements. Since that meeting, 11 Iowa and 4 Minnesota systems have joined the feasibility study and have provided their share of the membership fees and feasibility costs. Currently, 36 South Dakota entities are included in the project.

The U.S. Bureau of Reclamation (BOR) has been actively involved with SSDWSS. The Bureau assisted SSDWSS in assembling a scope of study and provided information on the requirements to fulfill the National Environmental Protection Act (NEPA). Congress has approved a 1991 BOR budget line item for \$100,000 for continued technical assistance to the project. The Bureau will assist in the development of the environmental assessment and will provide technical review of the feasibility report.

In 1990, the State Legislature appropriated \$50,000 to assist SSDWSS with the feasibility study. These funds were matched by SSDWSS.

An aggressive schedule has been set by the SSDWSS Board of Directors to complete the feasibility study by April 30, 1991 which would allow them to introduce authorizing legislation to Congress in May.

Vermillion Flood Control Project (SWRMS 1987)

- * The project intends to rectify flooding problems which have become much more severe in the Vermillion River Basin area over the last 30-40 years.
- * The 1988 State Legislature appropriated \$50,000 for the Vermillion Water Project District to facilitate its efforts in obtaining a federal appropriation.

- * In 1989, the Vermillion Water Project District began actively pursuing the formation of a water development district.

The 1990 State Legislature approved the formation of the Vermillion River Water Development District and director elections were held in November. The Vermillion Water Project District continued to be active in lobbying Congress to appropriate funds for a reconnaissance and feasibility study of the Vermillion River Basin. A federal appropriation for \$100,000 was secured for FFY 1991.

Water for Energy Transport (WET) System (SWRMS 1981)

- * This project is a proposal to transport treated municipal wastewater from nine Black Hills municipalities to Wyoming for use in a coal slurry pipeline.
- * The WET system was advanced as an alternative to the proposal to use the Madison Aquifer as a source of water for the Energy Transportation Systems, Inc. (ETSI) coal slurry pipeline.
- * Estimated 1984 costs were \$149 million with an annual operation and maintenance costs of \$47 million.

No activity occurred on this project in 1988, 1989, or 1990. The future of the project is linked to the development of the coal industry in Wyoming and the need to transport the coal substantial distances.

WEB Pipeline Project (SWRMS 1981)

- * This project is a rural, domestic water system which will provide Missouri River water to 30,000 people in Walworth, Edmunds, Brown, Spink, Day, Campbell, McPherson, Faulk, Potter, and Hand counties.
- * The project, when complete, will serve 46 towns and 4,435 farms.
- * The project was authorized for construction in the Rural Development Policy Act of 1980.

- * In 1988, Congress authorized an increase in the appropriations ceiling to \$117 million for the project.
- * WEB has received \$111,013,990 in federal funding for the period 1983 through 1990.

During 1990, the last major construction effort was undertaken.

Activities for 1991 will include completion of the project with the final federal appropriation of \$945,000.

West River Aqueduct (SWRMS 1977)

- * The West River Aqueduct was a proposed project to deliver 20,000 acre-feet of Missouri River water to ETSI for use in a coal slurry pipeline and 10,000 acre-feet of water for delivery to rural communities and water systems in western South Dakota.
- * An agreement was reached with ETSI and legislation was passed in 1981 approving construction of the aqueduct.
- * In 1982, two lawsuits were filed against ETSI, the Dept. of the Interior, and various federal officials with the objective of halting the sale of Missouri River water to ETSI.
- * After various court decisions and appeals, the U.S. Supreme Court ruled that the

Corps of Engineers was the proper authority to contract with ETSI and in May, 1985, the U.S. District Court granted a permanent injunction blocking South Dakota's sale of Missouri River water to ETSI.

- * In August, 1985, ETSI cancelled its proposed \$3 billion coal slurry pipeline and as a result, South Dakota received \$5.2 million of the projected \$1.4 billion in payments from ETSI.
- * In 1983, South Dakota filed a suit against Kansas City Southern Railroad charging conspiracy to monopolize Powder River coal traffic and tortuous interference with the ETSI contract.
- * In 1988, the U.S. District Court ruled in favor of South Dakota and awarded damages of \$600 million, however, this decision was overturned by the U.S. Eighth Circuit Court of Appeals.
- * This decision was appealed to the U.S. Supreme Court which refused to hear the case.

No action has occurred on the project since the U.S. Supreme Court refused to hear the case on ETSI. No future action is expected until new interest develops in coal slurry pipelines.

TABLE 9**1990****STATE WATER RESOURCES MANAGEMENT SYSTEM**

PROJECT	LEGISLATIVE APPROPRIATION	AMOUNT CONTRACTED
Big Sioux Flood Control	\$ 50,000	\$ 50,000
Black Hills Hydrology	50,000	50,000
Gregory County Pumped Storage	15,000	15,000
James River Restoration	260,000	260,000
Lake Andes-Wagner/Marty II	70,000	70,000
Mid-Dakota RWS	75,000	75,000
Sioux Falls Flood Control	50,000	50,000
Southeast SD Water Supply	50,000	50,000
TOTAL	<u>\$620,000</u>	<u>\$620,000</u>

TABLE 10**STUDY LOAN PROGRAM**

PROJECT	AMOUNT AUTHORIZED BY BWR	AMOUNT CONTRACTED
BHC	\$ 150,000	\$ 150,000
CENDA	1,375,000	1,375,000
Gregory County	150,000	150,000
Lake Andes-Wagner	830,000	830,000
Mid-Dakota	100,000	100,000
TOTAL	<u>\$2,605,000</u>	<u>\$2,605,000</u>

TABLE 11**CONSTRUCTION LOAN PROGRAM**

PROJECT	AMOUNT AUTHORIZED BY BWR	CURRENT LOAN BALANCE	INTEREST PAID
BDM RWS	\$ 500,000	\$ 446,261	\$172,096
B-Y RWS	200,000	194,518	37,633
Clark RWS	380,000	346,937	171,996
Davis RWS	200,000	187,465	57,968
Deadwood	400,000	291,776	70,421
East Gregory	30,000	23,903	6,315
Keystone	120,000	113,007	36,139
McIntosh	100,000	93,765	27,659
Minnehaha RWS	120,000	114,914	23,903
South Lincoln RWS	100,000	90,696	38,502
TM RWS	400,000	374,930	125,990
TOTAL	<u>\$2,550,000</u>	<u>\$2,278,172</u>	<u>\$768,622</u>

Groundwater Research and Public Education Program (GRPEP)

The Groundwater Research and Public Education Program was created to study groundwater contamination, to provide information on sound groundwater management, and to develop methods for preventing groundwater pollution. The Groundwater Protection Fund, which is used for funding the program, has four sources of revenue:

- 1) The Pesticide Groundwater Fee - For each pesticide that is registered with the Department of Agriculture, a fee of \$25 will be imposed and deposited to this fund for five years by the Department of Agriculture.
- 2) The Fertilizer Inspection Fee - This fee is collected by the Department of Agriculture for all commercial fertilizer

distributed to nonlicensees in the state. The fund receives thirty cents per ton for five years.

- 3) The Petroleum Release Compensation Fund - \$100,000 is contributed from this fund annually for five years.
- 4) The Surface Mining Chemical Leaching Fee - A five year fee of two cents per pound of cyanide or other chemical leaching agent used to mill ore. This fee is collected by the Department of Revenue on or before June 1 each year.

There are two application and grant cycles in each fiscal year. The Secretary of the Department of Water and Natural Resources must submit complete applications to the Board of Water and Natural Resources on March 1 and September 1 of each year.

**TABLE 12
1990 GROUNDWATER RESEARCH
AND PUBLIC EDUCATION FUND**

PROJECT SPONSOR	AMOUNT AUTHORIZED BY BWNR
Davis	\$ 16,498
Hellickson	46,512
Rahn	50,130
Rice	16,087
Bishoff	37,304
Mell/Todd	36,000
EDWDD	48,500
Mott	55,221
Schaefer	53,604
SDACD	20,000
Kohl	34,555
Rickerl	35,000
Clay/Clay/Schumacher	13,000
TOTAL	\$462,411

Solid Waste Management Program (SWMP)

The 1989 State Legislature established the Solid Waste Management Program to provide grant assistance to cities and counties for the development of comprehensive solid waste planning and management programs.

The Board of Water and Natural Resources established rules to govern the program. Under these rules, proposals must be included in the SWMP section of the State Water Plan in order to be eligible to apply for available funds. The application cycle has been set up on a biannual basis with applica-

tions due on the first day of May and November.

The 1990 Legislature appropriated \$100,000 for the preparation of a statewide comprehensive solid waste management plan. The purpose of the plan was to assess the existing solid waste situation in the state and the projected solid waste treatment, storage, and disposal needs for the next 15 years.

In order to accomplish this assessment, the Department contracted with the planning and development districts to complete a statewide solid waste facilities inventory and hired an engineering consultant to

prepare the comprehensive solid waste management plan.

To assist in the preparation of the plan, a solid waste task force consisting of 12 representatives of municipalities, counties, sanitary districts, commerce and industry, and other interested organizations was formed. The task force held a series of meetings to hear public testimony on the preparation of the plan and to help formulate the direction the Department should proceed in drafting the plan.

The statewide comprehensive solid waste management plan will be presented to the Board of Minerals and Environment for its adoption prior to the 1991 Legislature.

**TABLE 13
COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN**

LINE ITEM	CONTRACT AMOUNT	AMOUNT EXPENDED
Planning Districts	\$ 35,350	\$ 22,050
Engineering Consultant	60,000	31,206
Administration Expenses	4,650	4,650
TOTAL	\$100,000	\$57,906

Drought Disaster Water Supply Assistance Program (DDWSAP)

For the third year in a row, farmers and ranchers in South Dakota experienced water shortages due to drought conditions. In the spring and summer of 1990, Governor Mickelson declared ten counties drought disaster areas which enabled landowners in these counties to receive assistance for livestock water projects. The counties were: Butte, Campbell, Corson, Dewey, McPherson, Meade, Perkins, Sanborn, Walworth, and Ziebach.

The Department of Water and Natural Resources was the agency responsible for receiving applications and providing assistance under the program. This program provided \$185,000 in drought relief to over 120 landowners. The total cost of projects partially funded was over \$500,000. Projects funded included: rural water system hookups,

dugouts, wells, pipelines, and stockdams. The average award was \$1,500. Funding for the program came from the Water Facilities Construction Fund (\$100,000) and from Emergency and Disaster Services (\$85,000).

In the three year history of this program, over \$600,000 in assistance has been provided to over 400 landowners throughout the State.

ENVIRONMENTAL PROTECTION AGENCY WASTEWATER FACILITIES CONSTRUCTION PROGRAM

This program was established in 1972 to provide grants to municipalities, sanitary districts, and other political subdivisions to assist them in the planning, design and/or construction of wastewater treatment facilities which qualify for federal funds under the provisions of the Federal Water Pollution Control Act.

The program is being phased out and replaced with the State Revolving Fund. In 1990, the Department received the last appropriation of EPA grant funds (\$4,107,400) for cost share funding. The majority of this

funding is expected to be exhausted by January 1, 1991. Table 14 is a list of those municipalities receiving EPA grants during FFY 1990.

TABLE 14
EPA CONSTRUCTION GRANTS
(October 1, 1989 - September 30, 1990)

NAME	EPA GRANTS	SRF LOANS	CWFCP GRANTS	CDBG GRANTS	LOCAL	TOTAL COST
Avon	\$153,450			\$125,550	\$279,000	
Belle Fourche	565,505	\$253,000	\$95,000		133,495	\$1,047,000
Canistota	178,200		20,000		125,800	324,000
Custer	70,790	182,000			57,920	310,710
Edgemont-Inc.	2,772				924	3,696
Ethan	115,500		50,000		44,500	210,000
Hazel	198,750			\$110,000	76,250	385,000
Hughes County-Inc.	98,975				13,925	112,900
Humboldt	179,945		25,000		54,955	259,900
Java	130,700		52,000		61,300	244,000
Letcher	98,705		30,000	30,000	32,295	191,000
Mina Lake	367,470				367,470	
Mission	66,000		14,000		40,000	120,000
Parker	100,350			99,650	200,000	
Philip	539,100			643,296	1,182,396	
Pierre	711,480	600,00		695,536	2,007,016	
Plankinton	100,100			81,539	182,000	
Sturgis	95,924			104,076	200,000	
Sturgis-Inc.	50,000			(50,000)	0	
Wakonda	104,220		10,000		46,180	160,400
Wall	53,955			44,145	98,100	
Wall Lake	41,600			(41,000)	0	
Winner	34,210			27,990	62,000	
TOTALS	\$4,057,701	\$1,035,000	\$296,000	\$140,000	\$2,418,087	\$7,946,788

APPENDIX

WATER FACILITIES CONSTRUCTION FUND CONDITION STATEMENT

	FY89	FY90
REVENUE:		
General Fund Transfer In	\$3,500,000 c	\$300,000 d
Loan Repayments (P&I)	\$221,612	\$221,978
Investment Council Interest	\$355,304	\$384,153
Wear Element Replacement Fund (WERF)	\$74,713 a	\$39,064 a
Transfers to WERF from WFCF	(\$61,627) a	(\$17,417) a
Interest on Loan Overpayment	\$0	\$85
WERF Inv. Int.	\$0	\$2,049
Grant Overpayment	\$1,000	\$1,000
Transfer from Lake Mitchell Acct.	\$9,743	\$0
89 Int on Union Pacific Settlement	\$0	\$96,687
TOTAL	\$4,100,745	\$1,027,599
EXPENDITURES:		
Construction & Study Loans	\$842	\$3,374
Legislative Line Items	\$1,259,134	\$812,153
WPC Revolving Fund Transfer Out	\$1,200,00 b	\$0
Transfer from WFCF to WERF	(\$61,627)	(\$17,417)
Transfer 88 WFCF to WERF	(\$16,941)	\$0
WERF	\$28,334	\$78,093
Game Fish & Parks (Stockade)	\$400,000	\$0
Consolidated Constr. Prog.	\$333,536	\$1,254,203
TOTAL	\$3,153,278	\$2,130,406
REVENUE OVER(UNDER) EXPENDITURES	\$947,467	(\$1,102,807)
BEGINNING CASH BALANCE	\$5,370,419	\$6,317,886
ENDING CASH BALANCE	\$6,317,886	\$5,215,079
CURRENT YEAR APPROPRIATIONS		
Construction & Study Loans	\$0	\$15,000 f
Legislative Line Items	\$2,075,00 e	\$635,000 f
Consolidated Constr. Prog.	\$1,525,00 e	\$1,130,000 f
Wear Element Replacement Fund	\$0	\$0
TOTAL APPROPRIATIONS	\$3,600,000	\$1,780,000

FOOTNOTES FOR WATER FACILITIES CONSTRUCTION FUND CONDITION STATEMENT FOR FY90.

- a. Represents the payments to WERF by the local project sponsor and the matching monies from the WFCF based on an hours of use. WERF was set up as a continuously appropriated fund equal to the funds received. (SB44-FY87).
\$48,966 of the total transferred to WERF in 89 was to capitalize the WERF account from Legislative line items in the WFCF.
- b. Transfer of the SRF General and Other Appropriation to the First National Bank of Sioux Falls.
- c. Amount appropriated from 1989 SB186 from funds collected through Union Pacific settlement.
- d. Amount appropriated through 1990 SB341.
- e. The 1989 Legislature adopted SB186, which appropriated \$1,525,000 for the Consolidated Water Facilities Construction Program. Also provided was \$1,500,000 for the Mni Wiconi Rural Water System, \$50,000 for the Gregory County Pump Storage Project, \$50,000 for the Mid Dakota Rural Water System, \$50,000 for Hydropower Facilities at the Fort Randall Dam, \$50,000 for the Black Hills Hydrology Study, \$75,000 for monitor-

ing wells in the Black Hills, \$50,000 for the Big Sioux Flood Control Project, \$50,000 for the Sioux Falls Big Sioux Flood Control Project, and \$200,000 for James River Restoration.

- f. The 1990 Legislature adopted SB341, which appropriated \$1,780,000 for the WFCF. Of this amount, \$300,000 is to be new state money from the general fund, and \$1,480,000 is to come from existing WFCF funds. The projects to be included are \$1,130,000 for the Consolidated Water Facilities Construction Fund Program, and \$15,000 in Study loans, for the Gregory County Pumped Storage Study. The remaining \$635,000 is for the following projects: James River Restoration Project, \$260,000; Mid-Dakota RWS Project, \$75,000; Big Sioux Flood Control - Watertown, \$50,000; Big Sioux Flood Control - Sioux Falls, \$50,000; Southeastern S.D. Water Supply System, \$50,000; Black Hills Hydrology Study, \$50,000; Drought Assistance Program, \$100,000.