



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Governor George S. Mickelson
and Members of the Legislature
Sixty-fourth Legislative Session 1989

Transmitted herewith is the 1989 State Water Plan and the 1988 Annual Report of the Board of Water and Natural Resources. The State Water Plan outlines the projects in the State Water Facilities Plan and gives the Board's recommendations concerning projects for the State Water Resources Management System. The Annual Report describes the past year's water resource management activities throughout the state.

During the past year, the drought, Black Hills fires, water supply, and water quality issues have received widespread public attention. While many of these types of issues have required intense work and planning, I believe that the Department of Water and Natural Resources has acted in a timely and positive manner and has addressed these diverse issues. Of course, this would not have been possible without the support of the State Legislature, the Governor, a dedicated professional staff, good relationships with the other state agencies, and the commitment of our citizen boards - the Board of Water and Natural Resources (BWNR).

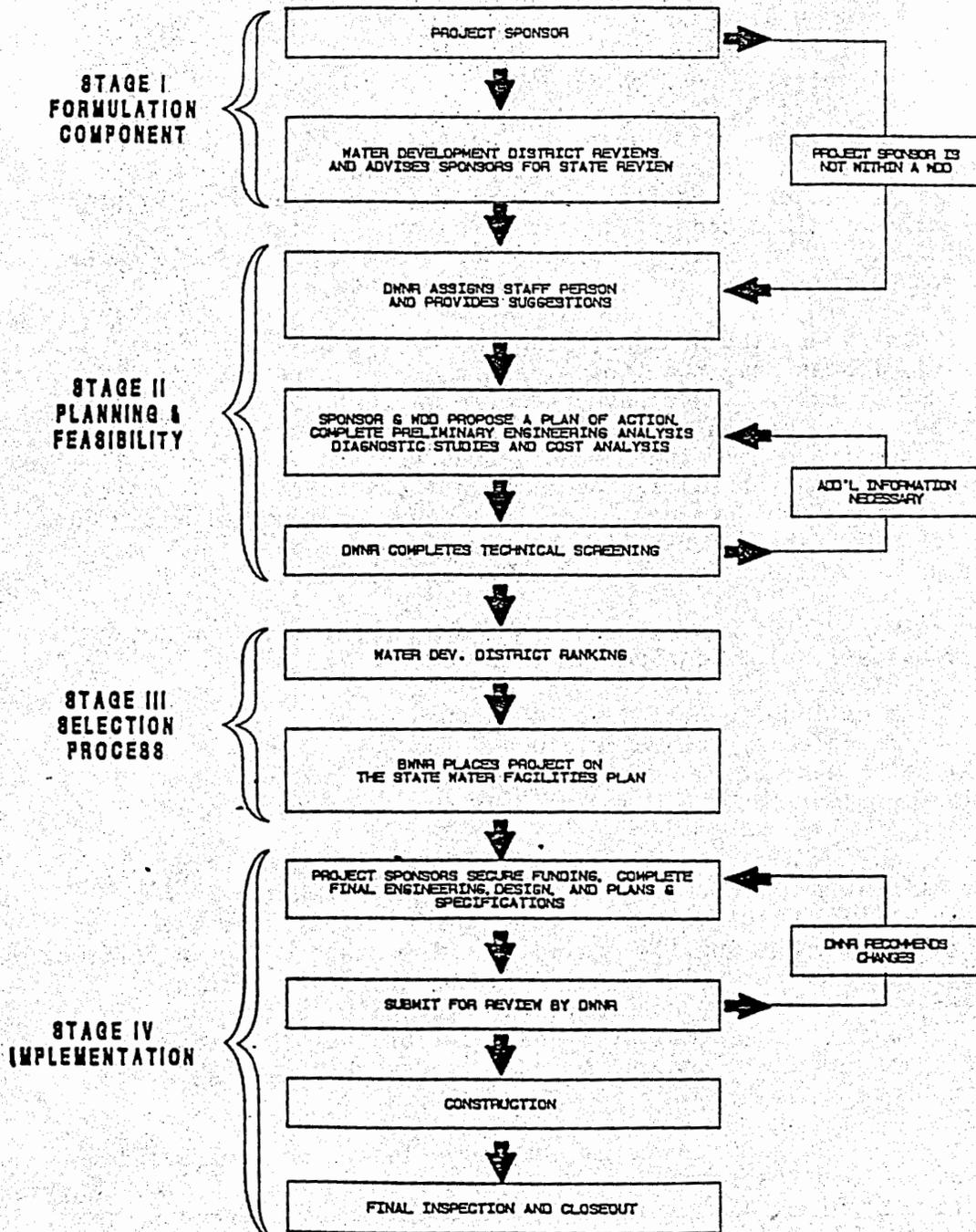
In regard to water development, the Mni Wiconi rural water system received congressional authorization in October. The Missouri River Cost Recovery has conducted meetings around the state and has explored the revenue stream options presented to it through reports or public testimony as mandated by the Legislature. The Department is working closely with the Mid-Dakota rural water system project sponsors to prepare that project for the congressional authorization process.

In addition, the BWNR continues to assist water projects through the state's financial programs. Together with local project sponsors approximately \$10 million of state, local and federal funds have been obtained to advance the smaller projects in the State Water Facilities Plan. The Board, Conservation Commission and the Department of Agriculture also provided \$325,000 to the Drought Disaster Water Supply Assistance Program. These matching grant dollars helped alleviate water supply problems to rural landowners. 227 landowners received drought assistance from this program.

The Department through its nonpoint source pollution control program is seeking ways to provide financial assistance to areas in the Black Hills which address problems caused by ash residue and possible runoff or erosion problems caused by fire damage to the forests. Problems caused

Figure 1

STATE WATER FACILITIES PLANNING PROCESS



To
Governor George S. Mickelson
and the
Sixty-Fourth Session, Legislative Assembly
1989

1989 STATE WATER PLAN
and
1988 ANNUAL REPORT

Board of Water and Natural Resources
January 1989



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The Department through its nonpoint source pollution control program is seeking ways to provide financial assistance to areas in the Black Hills which address problems caused by ash residue and possible runoff or erosion problems caused by fire damage to the forests. Problems caused

by heavy rains could prove disastrous to the water supplies or could cause flooding to the communities near the burn areas.

We have pursued an ambitious agenda in 1988 and have made great strides in promoting water development and protecting our natural resources. I have no doubt that 1989 will present even greater challenges for us as a Department and for the overall state. I am confident, with your support, that we can meet these challenges, and I look forward to working with you for the benefit of all South Dakotans.

Sincerely,

John J. Smith, Secretary
Department of Water and Natural Resources

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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. 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 1989 State Water Plan and the 1988 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 recommendations 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 1988.

PART I
1989 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 conservation, 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 two programs: the State Water Facilities Plan (SWFP) and the State Water Resources Management System (SWRMS)

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 a project must be included in the State Water Facilities Plan. In addition, any project which needs state support for categorical grant and loan funding should be included in the State Water Facilities Plan. Wastewater related projects which are on the EPA priority list or the Intended Use Plan and nonpoint source pollution control projects must 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 financial support from the state beyond the discretionary authority of the Board of Water and Natural Resources.

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 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. The state will provide a checklist of the work that needs to be done before the conceptual plan is submitted to the state for analysis. 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 DWR.

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 of Water and Natural Resources, it will be assigned an appropriate DWR staff contact person who will analyze the feasibility and need for local assistance to complete the project, examine alternatives, and 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, suggested 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 (for wastewater etc....) All programs will submit a cost analysis of the project with the appropriate plan of action to DWR. DWR will complete the technical screening of the plan and the cost analysis. When there is agreement

between DWR and the local sponsor on the plan, the project will proceed to the third stage.

3. Stage III - State Water Plan Selection Component

DWR 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. These wastewater projects are included in the State Water Plan through a hearing on the project priority list or intended use plan. The water development districts submit these priority rankings to the Board of Water and Natural Resources. The Board of Water and Natural Resources 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 plans and specifications, suggests changes, and then the project can be constructed and funding program closeout requirements are completed.

State Water Resource Management System projects do not follow the normal State Water Planning Process. With the unusual circumstances and size of the projects, 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 meeting if the proposed project will alleviate or mitigate a dire physical health or safety threat or is

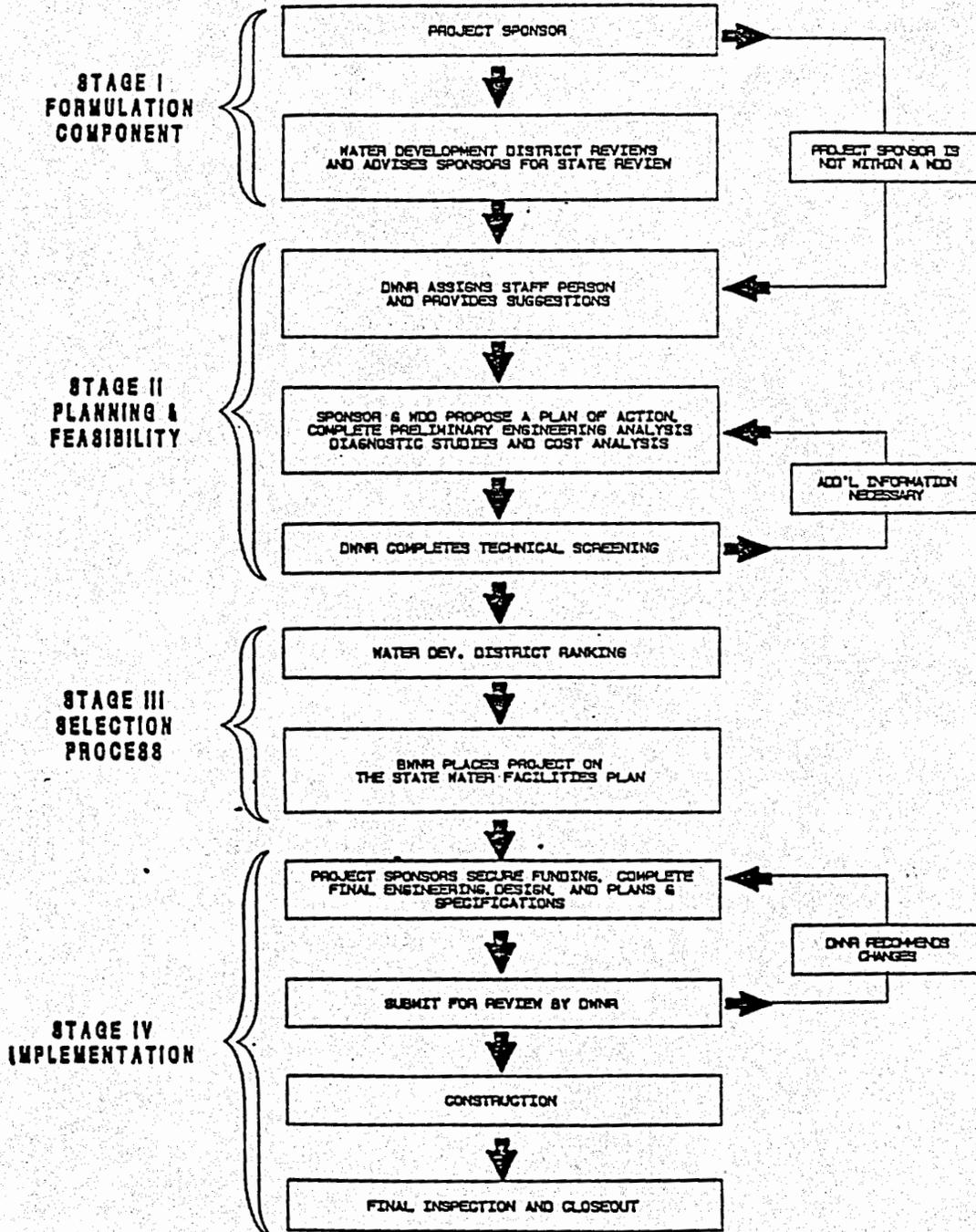
necessary to take advantage of an unexpected economic development opportunity.

Status Updates

Status Updates are required on an annual basis. This allows the Department to assess the progress of a particular project. Failure to submit a status update annually will cause a project to be removed from the appropriate program after a two year period.

Figure 1

STATE WATER FACILITIES PLANNING PROCESS



State Water Facilities Plan

The State Water Facilities Plan is comprised of priority water development projects which can be implemented using the discretionary 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.

During the water planning process, over 114 projects were submitted to the state and water development districts for review. 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 58 projects totaling over \$30 million in the State Water Facilities Plan (see Table 1).

Table 1
State Water Facilities Plan

<u>Project Sponsor</u>	<u>Project Description</u>	<u>Total</u>
Aberdeen	Eye Stone Pit Development and Transmission Line	\$1,570,000
Alexandria	Water Main Distribution	\$242,836
Alexandria	Wastewater Treatment Facility	\$874,928
Armour	Wastewater Treatment Improvements	\$427,000
Armour	Water to Lake Alcazar	\$14,970
Ashton	Wastewater Treatment Improvements	\$135,377
Aurora-Brule RWS	Water Storage Unit/North	\$261,000
Aurora Brule RWS	Water Storage Unit/South	\$160,500
Avon	Wastewater Treatment Facility	\$172,000
B-Y RWS	Treatment Plant Storage Tank	\$413,000
Box Elder	Wastewater Facility	\$1,200,000
Camelot	Hookup to Pierre Distribution System	\$176,000
Clark RWS	Expansion Project	\$1,050,000
Custer	Water Main Extension (Homestead Addition)	\$127,300
Custer	Water Main Extension (Washington Street)	\$195,000
Davison RWS	System Improvements	\$211,250
Deadwood	Waterline and Interceptor Extension	\$592,830
Douglas Co. RWS	New System Construction	\$1,512,000
Ethan	Sewer Lagoon Expansion	\$400,000
Frederick	Wastewater Treatment Facility	\$139,029
Geddes	Wastewater Treatment Facility	\$306,000
Hanson RWS	System Expansion	\$329,839
Hill City	Water Main Reconstruction	\$113,100
Huron	Groundwater Recharge	\$1,132,000
Kennebec	Lake Byre Dam Restoration	\$560,739
Kingbrook RWS	Three Phase new Member Addition	\$5,873,000
Lake Andes	Water to Lake Andes	\$300,000
Lake Campbell	Phase II Dredging - North Area	\$410,600
Lake Cochrane San. Dist.	Wastewater Collection & Treatment	\$715,400
Lake Poinsett Dev. Assn.	Flood Control Project	\$40,000
Lake Preston	Wastewater Treatment Facility	\$1,248,600
Lead	Sewerline Replacement	\$436,000
Lead-Deadwood Sanitary Dist.	East Deadwood Service Extension District	\$180,700
Lesterville	Water Main and Storm Sewer Improvement	\$18,500
Letcher	Water Storage Improvements	\$12,000
Marion	Water Distribution Improvements	\$146,548
Menno	Water Main Replacement	\$17,000
Platte	Water Main Improvement	\$77,000
Presho	Wastewater Treatment Improvements	\$194,100
Ramona	Well Rehabilitation	\$30,000
Rapid City	Rapid Creek Equalization	\$377,800
Rapid Valley	Drainage Improvements	\$300,000
Redfield	Water Storage	\$449,445
Roslyn	Wastewater Treatment Facility	\$182,692
Scotland	Water Main Improvements	\$40,000
Sioux Falls	New Elevated Storage - SW Area	\$557,100
Sioux RWS	East Service Area Improvement	\$1,225,000
Sisseton	Wastewater Treatment Facility	\$2,658,200
Tripp	Water System Improvements	\$67,520
Tripp Co. Water Users	Storage Tank Expansion District	\$27,700
Tyndall	Storm Sewer	\$50,400
Veblen	Water Distribution and Storage Improvements	\$315,890
Watertown	Phase I Water Supply Improvements	\$627,670
Waubay	Sewer Expansion	\$435,000
Wessington	Wastewater Facility Improvements	\$308,633
Westberry Trails	Fire Restoration	\$607,000
Winner	Interceptor Sewerline and Water Well	\$357,000
Yankton	Water System Improvements	\$419,780

State Water Resources Management System

The State Water Resources Management System (SWRMS) is the priority project system established by the Legislature as needed objectives for optimum water resources management in South Dakota. These projects are typically large and costly requiring specific state or federal authorization and financing. Such projects cannot be developed through the Board of Water and Natural Resources' discretionary authority or federal categorical grant programs. To be included in the System, each project must be reviewed by the water development district having jurisdiction over it, receive a positive recommendation from the Board and the Governor, and be approved by the State Legislature.

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 December 8, 1988 took action to recommend three new projects to the State Water Resources Management System, delete three projects, amend the titles of two projects and to maintain all other projects that are currently on the SWRMS component of the State Water Plan.

The three projects being recommended for inclusion in the system are:

Southeastern South Dakota Water Supply System

This project consists of the conveyance of Missouri River water to inland areas and towns. Cost estimates were based upon a January 1982 draft COE report entitled "Southeastern South Dakota Water Supply Report".

Cost Estimates

Total capital costs are approximately \$50 million with operating and maintenance costs at about \$2 million annually.

Sioux Falls Flood Control Project

The project would involve increasing Sioux Falls' flood protection from both Skunk Creek and Big Sioux River. Current flood protection levels are at 22 years for Skunk Creek and 34 years for the Big Sioux River. The following cost estimates are from a COE report entitled "Flood Control for Sioux Falls".

Feasibility Phase

	Dollars	%
Federal	\$161,000	50%
Non-Federal	\$161,000	50%
Total	\$322,000	100%

Total Project Costs

	Dollars	%
Federal	\$4,876,600	75%
Non-Federal	\$1,625,500	25%
Total	\$6,502,000	100%

Big Sioux Flood Control Project

This project would involve the construction of a dam at either just below the Mahoney Creek confluence or at the Still Lake site. The proposed project would provide flood protection in excess of the 100 year event for Watertown, Lake Kampeska and Pelican Lake. Preliminary estimates from a COE report entitled "Flood Control for Watertown and Vicinity" placed costs at approximately \$6.3 million for the Mahoney Creek and \$6.7 million for the Still Lake site with annual operating and maintenance costs running about \$568,500 and \$603,000 respectively.

ESTIMATED DIVISION OF CONTRIBUTIONS BY PHASE

	FEDERAL		
	Phase I	Phase II	Phase III
Work by Feds	\$115,170	\$84,705	\$379,530
Local Cash	\$5,830	\$24,465	\$136,995
Est Fed Expend	\$109,340	\$60,240	\$242,535
	NON-FEDERAL		
In-kind Services	\$103,510	\$35,775	\$67,300
Local Total	\$109,340	\$24,465	\$175,235*
Local Total	\$109,340	\$60,240	\$242,535

Total Feasibility Phase Costs: \$824,230

*Includes \$38,240 in Contingency Contributions.

The three projects being recommended for deletion from SWRMS are:

Big Stone Lake Restoration Project

The Big Stone Lake Restoration Project has completed use of current federal appropriations. As such, completion of the project will require EPA (319) funds and state funds. With the elimination of federal funding this project will no longer need to be on the SWRMS component and will apply to be included on the State Water Facilities Plan later this year.

Forest City Irrigation Project

The Forest City Irrigation Project is an 8,000 acre irrigation system proposed to use Lake Oahe water at an estimated cost of \$8 million. This is one of many irrigation projects in existence along the Missouri River. These projects have since merged resources in an effort to seek low cost Pick Sloan power for their pumping systems. As such, the Forest City Irrigation System is now considered part of the Pick Sloan Riverside Irrigation component of the SWRMS list.

Whetstone Irrigation Project

The Whetstone Irrigation Project is a proposed small scale irrigation project which has been for the most part included in the proposed Gregory County Irrigation Project.

The two projects being amended on the SWRMS component are:

Mni Wiconi Rural Water System

The West River, Lyman Jones, and Oglala Sioux rural water systems will be removed from SWRMS and are being combined into the Mni Wiconi rural water system on the SWRMS list. The three rural water systems are using a common treatment system and were introduced in the U.S. Congress as the Mni Wiconi rural water system (H.R. 2772). This amendment makes the SWRMS list consistent with the name as introduced in Congress.

Lake Andes-Wagner-Marty II Irrigation Unit

The Lake Andes-Wagner irrigation unit is a 45,000 acre system in Charles Mix County. The Lake Andes-Wagner Unit is located in the same area as the Marty II unit. Although the two units are separate systems they will be introduced in the U.S. Congress jointly. Combining the two projects would make the SWRMS list consistent with legislation to be introduced in Congress.

Those projects currently authorized and recommended for retention in the System are as follows:

TABLE 2

STATE WATER RESOURCES MANAGEMENT SYSTEM

<u>Project</u>	<u>Project Description</u>
Belle Fourche Irrigation Project	Rehabilitation of Belle Fourche project
Big Sioux Hydrology Study	Hydrologic study of Big Sioux Aquifer
Big Sioux River Basin Study	Flood control on Big Sioux
Black Hills Hydrology Study	Hydrologic study in Black Hills
CENDAK Irrigation Project	Irrigation project in central SD
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 & watershed mgmt 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
Mo. River Recreation & Fishery Dev. Plan	Development of recreation & fisheries
Mni Wiconi Rural Water System	New rural water system for western South Dakota
Pick-Sloan Riverside Irrigation	Pick-Sloan integration of irrigation
Slip-Up Creek	Reservoir on Big Sioux River near Sioux Falls
Turkey Clay Watershed	Flood control & watershed mgmt project
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
1988 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 six sections:

- o Board of Water and Natural Resources Report
- o 1988 Water Development Legislation
- o State Water Resource Management System - Progress Report
- o State Water Facilities Plan - Progress Report
- o Water Development Financing Programs

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

Substantial progress was made in 1988 toward accomplishing the state's water development goals and objectives. Recognizing the different water needs the Board has encouraged maintenance of the state's quality of life through infrastructure development which directly stimulates statewide economic development.

Since the demise of the conservancy subdistricts in 1984, the Board has been settling all outstanding financial obligations. Three subdistricts, East Dakota, Oahe, and CENDAK remain functional in 1988 having longterm contractual commitments until the 1990's. Of the three, the Oahe Conservancy Subdistrict is the only subdistrict in which the Board must collect taxes to meet the contractual commitment for WEB.

The state's six water development districts have been in operation for the past four years. The districts are instrumental in developing and coordinating the water development needs within their borders. The Board relies heavily upon the districts for input into the State Water Plan and development of the plan's projects.

In 1985 the Legislature established a new type of single purpose district to act as local water project sponsors. This year one new water project district was formed:

- * Lake Pelican Water Project District was formed to do restoration work on the lake.

The district was formed by an election of local landowners and approved by the Board of Water and Natural Resources. At present, several other groups are working to form water project districts.

Additional Board of Water and Natural Resources' activities are described in detail throughout the body of the annual report.

1988 Water Development Legislation

This section gives a brief summary of the federal and state legislation passed during 1988.

Federal Legislation

From a South Dakota perception the most important water resource bill approved by the U.S. Congress this year was the Mni Wiconi rural water system authorization (H.R. 2772, 1988 U.S. Congress). This is a successful step in construction of a major water system in the West Central part of South Dakota. This bill authorizes federal expenditures of \$87.5 million to build what was formerly the West River/Lyman Jones/Ogalala Sioux rural water systems. The nonfederal share of the project will cost \$12.5 million. The next step in the federal process is to seek appropriations for the \$87.5 million. The local project sponsors expect the congressional delegation to introduce legislation early in 1989 to accomplish this objective. If successful in this step, the Mni Wiconi rural water system could begin construction as early as 1990.

The Mni Wiconi rural water system will serve 13 municipalities and eight counties in South Dakota. This system will also provide an adequate, high quality water source for the Pine Ridge Indian Reservation. Typically this area is plagued by poor water which often violates safe drinking water standards.

Congress also took action on the fiscal year 1989 energy and water appropriations bill, which includes funding for several South Dakota water projects. This bill provides funding as follows for South Dakota projects: WEB rural water system - \$12 million; Belle Fourche rehabilitation project - \$4.2 million; Gregory County Pumped Storage Multipurpose project - \$500,000; James River Flood Control Study - \$200,000; Big Sioux River (Sioux Falls diversion) - \$200,000; Big Sioux River (Watertown area dams) - \$125,000.

South Dakota's federal fiscal year allocation for the SRF fund will be \$4.6 million. Also \$3.8 million was appropriated for the EPA Construction Grants program for 1989.

State Legislation

The 1988 legislature enacted several bills affecting water development in South Dakota. The Omnibus Water Development Bill (SB 343) authorized funding and other transactions from the Water Facilities Construction Fund for several projects, including \$25,000 each for the West River and Lyman Jones rural water systems and \$200,000 for the Lake Andes-Wagner irrigation unit for studies on Marty II and congressional authorization activities, \$50,000 each for the Black Hills hydrology study and the Vermillion Basin flood control study, \$1.2 million as state match for the State Revolving Fund, \$75,000 to the CENDAK water supply system to prepare a concluding report of the project, \$100,000 to the Missouri

River Cost Recovery Authority to conduct studies on possible revenue streams in South Dakota and \$50,000 for use to resolve South Dakota's Pick Sloan Missouri River basin claims, \$200,000 to implement stage one of the James River improvement program, \$100,000 for use by the Mid Dakota rural water system to conduct feasibility studies, \$100,000 to acquire pipe for the lakes and dredging program, and \$1 million to provide small water project grants under the Consolidated Water Facilities Construction Program (CWFCP). SB 343 also included the Mid Dakota rural water system and the Oglala Sioux rural water system in the SWRMS component of the State Water Plan.

SB 138 authorized the establishment of the Missouri River cost recovery authority and identified projects for federal support for settlement of South Dakota's claims under the Pick Sloan Missouri basin program. This was a result of recommendations made by the Board of Water and Natural Resources through public testimony and hearings conducted in 1987.

SB 75 established the State Revolving Pollution Control Fund (SRF) pursuant to the Clean Water Act of 1987 (P.L. 100-4). P.L. 100-4 authorized a gradual phase out of the EPA Construction Grants program over a six year period and the creation of state revolving loan funds. These revolving loan funds were to be capitalized at a rate of 5 dollars federal to 1 dollar state contribution. The State Revolving Loan program is to be capitalized until 1994 at which time the federal government will no longer provide federal assistance for wastewater projects, but the fund will be self sufficient through continual loan repayments.

State Water Resources Management System--Progress Report

This section reports the progress of the authorized projects in the 1988 State Water Resources Management System. A brief summary containing information on the description and status of each project is presented below.

Belle Fourche Irrigation Project

The Belle Fourche Irrigation Project was authorized by the State Legislature as part of the State Water Resources Management System in 1981. The original project was authorized by Congress in 1904 and completed in 1914, providing irrigation water for over 57,000 acres in Butte County. This project was one of the first Bureau of Reclamation projects completed in the nation. Approximately 200,000 acre-feet of water is diverted annually from the reservoir for irrigation; however, only about 67,000 acre-feet is delivered to the field. This approximate two-thirds loss is indicative of the need to modernize and update the delivery system. Rehabilitating the facilities 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.

Approximately \$48.8 million will be needed to rebuild or improve the old diversion structure and various canals and laterals. The project was re-authorized in 1983. In September 1984, the local sponsor, Belle Fourche Irrigation District, completed contract negotiations with the Bureau of Reclamation which was overwhelmingly approved by the district membership. With the aid of a special \$710,000 federal appropriation in 1984, rehabilitation was begun. An additional \$4.7 million was appropriated for FY 1986 which allowed the district to commence construction on the major features.

The Bureau of Reclamation reduced the FY 1988 appropriation from \$5.9 million to \$0.9 million. The State Legislature passed a resolution opposing these budget cuts on a discretionary basis inasmuch as such funds were simply being diverted to other projects in the federal reclamation program. As a result, Congress approved an appropriation of \$4.2 million.

Big Sioux Hydrology Study

The Big Sioux Hydrology Study was authorized by the 1982 State Legislature as part of the State Water Resources Management System. The study is designed to analyze the long and short term effects of differing rates of groundwater recharge, storage and withdrawal of ground and surface water supplies in the Big Sioux River Basin, which covers an area of 6,700 square miles in eastern South Dakota. The study used a digital model of the Big Sioux aquifer systems to determine the potential groundwater yield in the basin. The study area includes all or parts of Codington, Day, Clark, Roberts, Grant, Hamlin, Deuel, Brookings, Kingsbury, Moody, Lake, Minnehaha, Lincoln and Union counties. The study is intended to provide the necessary hydrologic information to encourage development of municipal, domestic, industrial, rural water and private irrigation systems while at the same time providing protection to existing water users and stream flows.

The Big Sioux Hydrology Study is a six-year study costing \$3.2 million. The study is being conducted jointly by the South Dakota Geological Survey and U.S. Geological Survey, utilizing a combination of federal, state and local funds. Local funds are provided from various sources through the East Dakota Water Development District and are matched by state funds authorized under House Bill 1247 in 1982. These monies comprise 50 percent of the total funding and are distributed to the Division of Geological Survey by the Department of Water and Natural Resources. The remaining 50 percent funding is provided by the U.S. Geological Survey. Sufficient state and federal money has been appropriated to complete the project and the local funds are essentially in place. Initial funding from all sources was realized in 1983. At that time required equipment was purchased, additional personnel hired, and a detailed work plan formulated. Field work by the Division of Geological Survey and the U.S. Geological Survey began in the spring of 1984 and is scheduled to be completed in 1989. To date, field work is essentially complete in Day, Clark, Hamlin, Deuel, Moody, Lake, and Minnehaha counties and is under way in all other areas of the basin. Figures show

that 1,792 test holes totalling 190,287 feet of drilling have been completed since the project began in early 1984. Four hundred of the test holes have been completed as observation wells to be used for future monitoring of water levels. All information is entered into a computer data bank to maintain an updated set of records.

Big Sioux River Basin Study

With the exception of 1988, eastern South Dakota has experienced high precipitation the past few years which has caused serious flooding problems for residents of the Big Sioux and Vermillion River basins. This has meant mounting economic losses through inundation of lakeside homes and businesses, as well as flooding of cropland and of many county and state highways. Problems include sediment deposition, sandbars, logjams at bridges, inadequate conveyance of water through bridges, and higher groundwater levels feeding the rivers. Most of these problems can be expected to continue if precipitation levels are normal or above normal.

This proposal provides for basic hydraulic research on the Big Sioux basin including aerial photography work, surveying, and development of a computerized water surface profile model of the river. This would allow identification of specific problems and possible alternatives to address those problems. This proposal is also aimed at coordinating all of the various local efforts being made to relieve high water problems in the Big Sioux basin. Some of these efforts include an ongoing cooperative feasibility study by the Corps of Engineers and local entities of possible flood storage on the Big Sioux River above Watertown, improved flow capacity below the Lake Kampeska and Lake Poinsett outlets, reduction of flows into Lake Poinsett, improvement of Big Sioux flow capacity in Brookings County and improvement of flow capacity of the existing Corps flood control diversion works at Sioux Falls.

In 1988, the DWR in conjunction with the East Dakota Water Development District, City of Watertown, Codington County and the Lake Kampeska Water Project District worked to fulfill their obligation as part of the feasibility study. This included surveying and geotechnical studies in the study area.

Big Stone Lake Restoration Project

Located at the head of the Minnesota River, Big Stone Lake acts as part of the northeast border between South Dakota and Minnesota. This long, narrow body of water extends for 35 miles with an approximate width of 1 mile and a surface area of 12,360 acres. South Dakota's portion of the watershed is a confined drainage area of around 850 square miles.

Once a clear, deep recreation and commercial lake, Big Stone Lake began to show signs of stress with the advent of intensive agriculture and the compounding effects of point source pollution. Several studies have been done since the mid 1960's to determine what could be done to reverse the decline in water quality at Big Stone Lake. The latest was a Phase I

Diagnostic/Feasibility Study completed in December of 1983 by the Department of Water and Natural Resources - Division of Land and Water Quality. None of the past studies resulted in actual implementation of pollution abatement measures until grant funds were approved in 1984 to begin restoration based on the recommendations in the Phase I study. Following preparation of a detailed workplan and pre-implementation planning, implementation began in 1985.

South Dakota and Minnesota have made significant progress toward point and nonpoint source pollution abatement of Big Stone Lake. First, 17 animal waste management systems have been completed. Second, a no-till drill has been purchased and successfully demonstrated in Big Stone County, Minnesota with over 4,000 acres planted since 1985. For the past four years, Roberts County in South Dakota has had a no-till demonstration project, which although not directly associated with the lake project, will directly benefit the lake. Third, electrically operated gates have been installed providing a new lake level control structure to allow increased flows down the Minnesota River channel. This structure will decrease the amount of silt and nutrient laden flood waters diverted into the lake during spring runoff and storms. Fourth, the installation of waterways and other conservation practices in targeted watersheds have been accelerated. Finally, educational tools and personal contacts to heighten awareness among farmers about conservation practices have also been developed.

The engineering survey on 1,500 feet of severely eroded shoreline has been completed and restoration activities have begun. A 160 acre drained wetland to be recovered as a sediment and nutrient control basin was purchased, constructed and completed in 1986. In addition, preliminary engineering designs have been developed for Salmonsens Creek streambank erosion control, and activity is expected to begin in 1989. Finally, sediment removal from Lake Farley is occurring and a new outlet control structure is planned for 1989. Several sites have been picked for erosion control on access roads to the lake.

As the implementation of pollution abatement measures proceeds in the next few years, major activity is expected in the following areas which will require additional funding: (1) additional work on feedlots, lake shore erosion and streambank erosion control, (2) sediment retention structures, (3) evaluation of potential pollution from septic tank seepage, and (4) implementation of Watershed Best Management Practices.

Black Hills Hydrology Study

The 1982 State Legislature authorized the Black Hills Hydrology Study as part of the State Water Resources Management System. The study area includes all or parts of Butte, Custer, Fall River, Lawrence, Meade and Pennington counties. The objective of the study is to provide the necessary hydrologic information to encourage development of municipal, domestic, industrial, rural water, and private irrigation systems while at the same time providing protection to existing water users and to spring and stream flows. The hydrologic evaluation will consist of

establishing a basic data network, acquiring and evaluating necessary data, and developing a digital model to serve as a management tool to predict the effect of development on the groundwater and surface water systems of the study area.

The U.S. Geological Survey and the South Dakota Geological Survey, in cooperation with the former Black Hills Conservancy Subdistrict and the Black Hills Council of Local Governments, began the study in the summer of 1981. The initial work consisted of conducting literature searches, beginning an inventory of field data, conducting a pilot study of drilling and data acquisition in two specific basins, and describing the study to governmental units and the general public. In 1984, USGS completed a preliminary hydrologic model of the Black Hills area which verified the need for additional data to complete the comprehensive study. To finance the state's share of the first-year effort of the seven-year, \$7.3 million study, the Legislature appropriated \$300,000 from the Water Facilities Construction Fund. The unspent balance of this appropriation reverted back into the fund at the end of FY 1985 due to inadequate local funding.

Although the project became inactive at the end of 1984, the West Dakota Water Development District (WDWDD) and Lawrence County have been investigating alternate methods to complete the study. The 1988 State Legislature appropriated \$50,000 towards this effort which was matched by the WDWDD and Lawrence County. These two local entities entered into a cooperative agreement with U.S. Geological Survey using these funds to provide \$200,000 of streamflow and precipitation monitoring this year. This joint study effort will increase the knowledge of the water resources of the northern hills and provide direction for a hydrologic evaluation of groundwater and surface water systems of the Black Hills.

CENDAK Irrigation Project

The CENDAK Irrigation Project was authorized by the State Legislature as part of the SWRMS in 1982. The total project would use Missouri River water to irrigate up to 474,000 acres in Hughes, Hyde, Hand, Spink, Beadle, and Faulk counties. In addition, water would be available for municipal and rural domestic use, recreation, fish and wildlife enhancement and stream flow augmentation purposes. Partially constructed features of the Oahe pumping plant and the Pierre canal, are expected to be used in construction of the CENDAK project. The total cost was expected to be \$750 million for a non-federal project or \$1.12 billion for a traditionally federally funded project.

In 1987, the Bureau of Reclamation reassessed their role and priorities in regard to water project development. The key conclusion of the assessment was that the Bureau's mission must change from one based on federally supported construction to one based on effective environmentally sensitive resource management. According to the assessment, capital intensive construction projects such as CENDAK will receive little emphasis. As a result of the assessment, the Missouri Basin Regional Director of the Bureau Bill Martin announced at a Board of

Water and Natural Resources meeting in Pierre on October 29, 1987, that the Bureau is proposing to finalize the CENDAK Planning Report/Draft Environmental statement as a concluding report for use at a later date, and that the Bureau will not take further action on the CENDAK project in the near future.

Recognizing the Bureau of Reclamation's assessment, the Board of Water and Natural Resources placed the CENDAK project on a list of long term goals for a Pick Sloan settlement package. In 1988 CENDAK provided the department with a scaled down, three phased version of the system which would meet the conditions of section 4 of SB 343 and that the scaled down version would be used as the concluding report. This project would be 300,000 acres in size at a cost of approximately \$475 million. The rescoped proposal would provide over \$400 million in economic benefits to the state annually. It would also provide \$17 million in annual state tax revenues to South Dakota and create 7,500 new jobs. Project sponsors are currently working with the department to determine the feasibility of this rescoped proposal.

Dakota Lakes Irrigation Research Farm

Dakota Lakes is a nonprofit corporation formed to establish an irrigation research farm to provide information on reducing irrigation energy costs, developing new crops and improving varieties of existing crops. More efficient and economical irrigation operations will help stabilize the agricultural economy, which would improve the tax base and result in a more stable agribusiness environment.

The Dakota Lakes Research Farm would be located in an area with soils similar to the more heavily irrigated areas of South Dakota. The project would involve acquisition of 160 acres of land to be used for an irrigation research farm, development of a water delivery system to the land, and construction of a machinery storage facility on the land to include office and field laboratory space. The land will be leased to the South Dakota State University Agricultural Experiment Station, and the Ag Experiment Station will operate the farm in coordination with the Dakota Lakes corporation. This project was approved for inclusion into SWRMS. Due to lack of funding no significant progress has been made in 1988.

Forest City Irrigation Project

The Forest City Irrigation Project was authorized by the State Legislature as part of the State Water Resources Management System in 1981. Prior to that authorization, the U.S. Department of Agriculture Soil Conservation Service studied the Forest City irrigation system. The proposed project initially consisted of approximately 8,000 acres of land to be irrigated with water diverted from Lake Oahe through a pipe distribution system at an estimated cost of nearly \$8 million.

Continuing local interest resulted in the formation of a non-profit corporation called the Forest City Development Corporation in the spring

recommendations were refined and project costs were incorporated into a preliminary findings report in December, 1983.

During 1984 the Bureau of Reclamation, under sponsorship of the former Oahe Conservancy Subdistrict, advanced the feasibility study on the Garrison Extension project. Soil classification and environmental analysis were completed during the summer of 1984. Preliminary investigations on potential storage sites as well as economic analysis of the project were also completed.

To resolve the controversy of North Dakota's Garrison Diversion Unit Project, Congress established a twelve member commission to study the North Dakota project and to recommend possible modifications. The Commission presented its recommendations in late December of 1984. Legislation to authorize the Commission's recommendations was drafted and introduced; however, the State of North Dakota and the Audubon Society, the principal critic of the project, were unable to reach an agreement on the intent of the Commission's recommendations and the legislation was tabled in committee. The North Dakota congressional delegation redrafted the legislation and reintroduced it in 1985.

This legislation (H.R. 1116) was successfully amended and passed into law in April 1986. The bill authorizes a 130,940 acre project, prohibits construction of the Lonetree Dam and Reservoir, authorizes construction of the Syketon canal, authorizes \$200 million for a North Dakota state municipal and industrial water supply system, requires acre-for-acre mitigation, establishes a new national wildlife refuge, authorizes use of federal hydropower for the state water supply system, requires farmers who grow surplus crops to pay 10% of project costs and prohibits construction of irrigation features in the James River basin before FY 1991 and completion of a comprehensive EIS on irrigation in the basin.

Further progress of the South Dakota study depends on completion of the comprehensive EIS for the basic North Dakota Garrison Project by Bureau of Reclamation. The Bureau of Reclamation established the James River Technical Team in 1983 to:

1. Develop recommendations to resolve issues related to the GDU about North Dakota and South Dakota water rights.
2. Develop recommendations to resolve the issue of operation of the Sand Lake National Wildlife Refuge impoundments.
3. Review alternative operation strategies for Jamestown and Pipestem Reservoirs with the GDU and recommend a preferred operation strategy.
4. Construct a predictive model to assist in the resolution of the issues addressed above.

Satisfactory resolution of these items is necessary before the project can proceed. The Technical Team, of which South Dakota is a member, has

of 1984. The purpose of the corporation was to facilitate the preparation of an updated preliminary plan and cost estimate for the project area. Based on contacts with interested area landowners, approximately 26,000 acres of southwest Potter County were designated to be included in the study area. The corporation raised approximately \$4,000 in landowner fees and received a \$25,000 grant from the former Oahe Conservancy Subdistrict to pay for the preliminary plan and cost estimate. The Forest City Development Corporation contracted with DeWild, Grant and Reckert and Associates for a reconnaissance engineering study report which was completed in November, 1984, identifying four basic system alternatives.

Some members of the Forest City Development Corporation successfully formed the West Potter Water Project District in March 1986. Since then the West Potter District has been working with other riverside irrigators to introduce legislation authorizing integration of the districts into the Pick-Sloan program which would include Pick-Sloan pumping power for the final lift on its existing irrigation systems. The Forest City Irrigation Project will be included under the title Pick-Sloan Riverside Irrigation in 1989.

Garrison Extension Study

The 1981 State Legislature authorized the Garrison Extension Study as part of the State Water Resources Management System. A conceptual plan for the Garrison Extension Project was developed with the goal of designing a project that would turn the potential negative aspects of 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 March, 1981, Governor Janklow appointed a five-member Garrison Study Management Board to assess the Garrison Extension concept. The early meetings of the study board were held to discuss the idea of using additional flows in the James River provided from North Dakota's Garrison Diversion Unit together with storage features constructed in South Dakota to provide water for agricultural, municipal, industrial and recreational use. With assistance from the U.S. Bureau of Reclamation, the study board initiated an appraisal level investigation in October, 1981 and completed it in January, 1982.

Throughout the course of the study, local input has been provided by the former Oahe and Lower James Conservancy Subdistricts and is now being provided by the James River Water Development District. Wildlife review has been provided by the Department of Game, Fish and Parks and the U.S. Fish and Wildlife Service. The balance of the study effort was completed by the Department of Water and Natural Resources and the Bureau of Reclamation. The final report on the appraisal level study was completed in March, 1983. Public meetings were held, and in August, 1983, the S.D. Garrison Study Management Board made its final recommendations. Those

constructed mathematical models to predict flows and water quality at numerous points along the James River for alternative Garrison project configurations and operational plans. These models are being used to study project alternatives which meet South Dakota water supply needs and enhance the Sand Lake National Wildlife Refuge. The Technical Team has released a report on alternative operation studies for Jamestown and Pipestem Reservoirs. Studies are also progressing on the effects of the Garrison Project on vegetation, fish, wildlife, flooding, and channel stability in South Dakota. Reports on these studies should be available to the public at the end of 1988.

Gregory County Pumped Storage Project

The Gregory County Hydroelectric Pumped Storage Facility was authorized by the 1981 State Legislature as part of the State Water Resources Management System. This project will use off-peak electricity to pump water from Lake Francis Case to an 80,000 acre-foot reservoir on the river bluff over 700 feet above the lake. Water from the reservoir will be released back to the lake through turbines to generate 2,360 megawatts of peak-hour electricity. Project features will consist of a 1,870 acre upper reservoir with an active storage of 80,000 acre-feet, an underground conduit 9,360 feet long and 30 feet in diameter, and a powerhouse with six 393 megawatt reversible pump turbine units. Maximum discharge into Lake Francis Case during generation periods will be 46,800 cubic feet per second with an average gross head of 724 feet. The unit also has the potential to provide water for rural, municipal, and agricultural use in the immediate vicinity.

The U.S. Army Corps of Engineers, in June 1982, completed an interim report and final environmental impact statement for the Gregory County project. The Corps' report recommended that the Gregory County Hydroelectric Pumped Storage Facility be constructed in two stages of 1,180 megawatts per stage at an estimated cost of \$791 million each.

Federal legislation was introduced during the 1985 session of Congress to construct the Gregory County project. As passed in 1986, the legislation (P.L. 99-662) authorized \$1.39 billion in federal funding for the project. Of this \$1.39 billion authorization, \$100 million is for construction of the water supply and irrigation features. According to the Act, the Secretary of the Interior must certify the feasibility of these additional features in a feasibility report before construction of the hydropower unit can begin.

The Act further required that 50% of the costs of the feasibility study were to be paid with nonfederal funds, but up to half of these funds could be provided for with in-kind services. The U.S. Bureau of Reclamation estimated the cost of the feasibility study at \$800,000.

The 1987 State Legislature passed legislation providing a \$150,000 study loan to the Gregory County project. The study loan is being used to initiate the feasibility studies for irrigation and water supply development. The water supply component includes the potential for

developing rural, municipal, and industrial water supplies, enhancing wildlife areas, and promoting rural economic development. Federal funding was not included in the 1988 federal appropriations bill for this feasibility study.

The year 1988 was extremely successful for Gregory County Pumped Storage. A \$50,000 contract was executed with the U.S. Bureau of Reclamation to begin soils and drainage studies on the lands identified for irrigation. Congress approved a \$500,000 FY 1989 appropriation to the Bureau of Reclamation for continuing studies on the water supply features, i.e. irrigation, domestic and industrial water, etc. The Missouri River Cost Recovery Authority initiated a power needs assessment which revealed that while surplus power exists in the region, a need for power, particularly peaking power, will occur in the late 1990's. Since current federal policy is not supportive of new federal hydropower development, the state of South Dakota has an opportunity to proceed with the hydroelectric development of Gregory County Pumped Storage.

Lastly, the South Dakota Conservancy District received a preliminary Federal Energy Regulatory Commission (FERC) permit on the hydroelectric features of Gregory County Pumped Storage. The permit reserves priority for the S.D. Conservancy District while the necessary environmental, engineering, and feasibility studies are completed. The permit is valid for three years with required reports every six months. Successful completion of the necessary studies and issuance of the FERC license would put South Dakota in a position to develop the hydroelectric features of the project nonfederally.

James River Improvement Program

The 1984 State Legislature authorized the James River Improvement Program as part of the State Water Resources Management System. The program is a combination of projects along the James River which are intended to provide flood control as well as municipal, industrial, agricultural, recreational and wildlife benefits. Total cost for all projects in the program is \$75 million. As part of this effort, federal legislation (P.L. 99-662) was approved in 1986 authorizing \$20 million for flood control and stream flow improvements on the James River. Under the Act, a feasibility/environmental impact statement report is due by September 1989. Individual components of the program have been actively pursued by the appropriate local and state governmental entities. Those components currently underway are outlined below.

The 1984 State Legislature appropriated \$1 million to begin the channel restoration program. The Department of Water and Natural Resources (DWNR) used \$600,000 of the appropriation to purchase two hydraulic dredges and support equipment, a \$475,000 grant was provided to the James River Watershed District for operational expenses related to a five mile channel restoration demonstration program and \$150,000 was reserved for channel restoration in the lower James. The first dredge was delivered to the demonstration site in southern Brown County, near Warner, in mid-November of 1984. The disposal site was prepared, the dredge

assembled, operators trained and an environmental monitoring program was developed and initiated. From 1985 to 1987, the James River Watershed, in cooperation with the Department of Water and Natural Resources, proceeded with dredging activities in the demonstration area. In addition to pumping the dredged material directly into disposal ponds, a large spray gun, similar to those used for irrigation, was used to spray the dredged material into a disposal pond and also onto adjacent riparian land. All dredging, reclamation, and associated research activities have been concluded.

The dredging activity was done solely to generate information for the Environmental Impact Statement (EIS). The draft EIS on the riverside restoration program was published in September 1987 without a suggested preferred alternative. The James River Water Development District held hearings at six locations along the James River between October 14 and November 5 to elicit public input into the selection of a project with which to proceed. Under consideration were the four alternatives presented in the draft EIS or a mixture of the components of the four alternatives: No Action; Limited Channel Cleanout; Channel Restoration and Flood Bypasses.

The District adopted a three stage approach to river restoration as a result of the public input. The three stages are: Limited Channel Cleanout, Tributary Drainage Control and Bank Stabilization. The Limited Channel Cleanout includes: a comprehensive tree and debris removal, sandbar removal at selected locations in the southern portion of the river, modification of select dams, selective dredging of the Third Street dam at Huron and procurement of recreational access and wildlife habitat sites. The Tributary Drainage Control plan is a long range plan for the implementation of dams to control drainage on tributaries. The Bank Stabilization Program as proposed will reduce the bank degradation that is occurring along the James River. The cost to implement Stage 1 of this project is \$4.91 million.

The 1988 State Legislature appropriated \$200,000 to the James River Water Development District to begin implementation of Stage 1 activities. The District has subcontracted with the James River Watershed District, City of Huron, Sanborn Watershed District, Lower James Water Project District and Elm Maple Watershed District. Activities that have occurred or are in the process of being concluded include the modification and rehabilitation of the Third Street Dam, snagging and debris removal in both the northern and southern reaches of the river and some bank stabilization in the southern reaches near the confluence of the Missouri River. Negotiations with other local entities to begin tree and debris removal and preserve wildlife habitat are ongoing.

The District has also been working with the Corps of Engineers to investigate tributary drainage control and bank stabilization. During 1988 a reconnaissance study has been ongoing to investigate dams to control drainage on tributaries and reduction of bank degradation. This study is nearing completion and will provide the necessary information to move forward with a feasibility study.

Lake Andes-Wagner Irrigation Unit

In 1975, the State Legislature authorized the Lake Andes-Wagner Irrigation Project as part of the State Water Resources Management System. Located in Charles Mix County, the project will use Missouri River water pumped from Lake Francis Case to irrigate approximately 45,000 acres.

During the 1970's, the Lake Andes-Wagner Irrigation District approved an \$850,000 bond issue to complete a project master plan and feasibility study assessing the potential for nonfederal irrigation development. The 1977 study identified 78,759 irrigable acres in the District with an estimated development cost of \$48.3 million. With the additional costs covering interest during design and construction, possible cost overruns and bond reserve funds, the total bond issue required for project construction was estimated to be \$84.7 million. After holding informational meetings, District landowners, on July 27, 1978, rejected the proposed \$84.7 million revenue bond issue for construction of the project.

In 1981, the Lake Andes Irrigation District, the Department of Water and Natural Resources and the Bureau of Reclamation began a re-analysis of the privately sponsored feasibility study at the request of a number of landowners. Initially, the study identified 13,500 acres of irrigable land but this was later expanded to 26,700 acres identified as irrigable. The study was expanded again to an area east of Choteau Creek where an additional 15,000 acres was added to the project.

Study funds for the new 45,000 acre project were provided in part, by the local sponsor through a \$600,000 loan from the South Dakota Water Facilities Construction Fund. The preconstruction surveying and geological and archeological activities have been performed by contracts between the Irrigation District and private consultants. Likewise, the land classification east of Choteau Creek was accomplished by contract between the District and the Bureau of Reclamation. The State of South Dakota has taken an active role in the study process, contributing services in the area of public involvement and study coordination as well as grant and loan monies.

The Regional Director's Report/Draft Environmental Statement was completed in May, 1985. This report was submitted to the Commissioner of the Bureau of Reclamation, issued for further public review and released as the Commissioner's Final Planning Report/Final Environmental Statement in September, 1985. Congressional authorization legislation has been introduced and field hearings were held in October and November of 1985 by both the House and Senate, and a House hearing was held in Washington, D.C. in July, 1987.

In 1986, the South Dakota Legislature authorized the Marty II project as a part of the State Water Resources Management System. Marty II is generally located within the same area as the proposed Lake Andes-Wagner project. While these two projects will seek authorization jointly, they

will be independent of each other. Since they are to be introduced jointly the project's titles are to be amended together to reflect future Congressional action.

In 1987, the State of South Dakota and the Lake Andes-Wagner Irrigation District submitted a nonfederal cost sharing proposal to the Bureau of Reclamation and the House and Senate authorization committees. The cost sharing proposal totals \$45,950,000 for state and local share, which is approximately 29% of the total project cost of \$157,650,000.

Under the cost sharing proposal, the State of South Dakota and the project sponsors would establish a sinking fund to cover the cost of the ring dike to be used to maintain water quality in Choteau Creek (\$3.5 million) and the closed subsurface drainage system (\$36 million). The irrigation district has agreed to administer the design and construction of the unit distribution system and this will result in a federal savings of \$6.4 million.

The 1988 South Dakota State Legislature appropriated \$200,000 to the Lake Andes-Wagner Water Systems Incorporated subject to the terms and conditions of the Board of Water and Natural Resources. Of the \$200,000 appropriation, \$90,000 was provided to Lake Andes-Wagner Water Systems Inc. as a grant to be used for detailed planning and environmental studies on the Marty II Yankton Sioux irrigation project. The Bureau of Indian Affairs at the request of the Yankton-Sioux tribe also provided \$90,000 for the Marty II studies. These studies are underway and will be completed by the spring of 1989.

The remaining \$110,000 of the \$200,000 appropriation is to be provided in the form of a loan for congressional authorization activities on the Lake Andes-Wagner irrigation project.

Federal action is anticipated when the studies are complete on the Marty II project features.

Lake Herman Restoration Project

The Lake Herman restoration project was authorized by the State Legislature for inclusion on the State Water Resources Management System in 1984.

Lake Herman is a natural lake located two miles west of the City of Madison in Lake County. This 1,350 acre lake has a mean depth of 5.5 feet and a maximum depth of 7 feet. Several unnamed tributaries drain the lake's 42,000 acre watershed with Silver Creek providing the outflow.

The original purpose of the Lake Herman Restoration Project was to alleviate the degradation of water quality in Lake Herman from non-point sources through the application of best management practices in the watershed and the construction of sediment control structures on the main tributaries of the lake. Three sediment control structures have been

completed and 87% of the watershed has been treated with conservation practices. Riprapping of a major portion of the shoreline was completed in the early summer of 1982. In 1983, the U.S. Soil Conservation Service in conjunction with the Conservation District implemented stream bank erosion control in the north tributary adjacent to the lake.

In-lake restoration in the form of dredging was begun by the City of Madison in July, 1985. This constitutes the beginning of the final phase of the Lake Herman restoration effort. Dredging was started in the northeast bay of the lake with the intention of clearing silt in spawning areas. The spoil ponds are located approximately one-half mile east of the lake in an abandoned gravel pit. So far, almost 35 acres in the bay have been dredged to the original bottom. The operation has proceeded from north to south toward Lake Herman State Park and the main boat launch. On the average, 1,200 cubic yards of sediment were being removed daily. The operation was discontinued for the 1986 season in November.

Spring start-up began April 1987 in the swimming beach area of the Lake Herman State Park. Dredging operations provided from the immediate beach area out to the middle of the bay. Approximately 20 acres of lake was dredged until shut down in November. Dredging commenced in April, 1988 in the swimming beach area. Another 20 acres of the lake were dredged until pull out in November. Approximately 120,000 cubic yards were removed during the 1988 season.

The Lake Herman Resotration Project has received additional funding (319-non point source) to operate for two more years providing that local match can be secured. In 1989, it is feasible that dredging will be undertaken in the Herman Slough or the south bay of Lake Herman.

To date, \$1,961,000 has been made available for the dredging and watershed treatment portion of the project.

In addition to the funding listed above, the 1986 federal Omnibus Water Resources Act (P.L. 99-662) authorized an additional \$5 million for the restoration of Lake Herman. Since 1986 the State has unsuccessfully negotiated with the Corps of Engineers to secure their support for an appropriation.

Lyman Jones/West River/Oglala Sioux Rural Water Systems (Mni Wiconi Rural Water System)

The Lyman-Jones Water Development Association, Inc., was organized as a non-profit corporation in 1971. The sole purpose of the organization has been to develop the Lyman-Jones Rural Water System. Originally, a water source on Lake Sharpe was proposed for the system. The present proposal for a Lake Oahe water source, shared with the West River Rural Water System, is more cost effective.

West River Rural Water System, Inc., was organized as a non-profit corporation in 1981. Initial development of the West River system was sponsored by the West River Conservancy Subdistrict. The proposed West River Aqueduct would have been particularly beneficial to the West River

Rural Water System as a water source. The cancellation of the ETSI project has resulted in a revision of the West River Rural Water System Project.

The two projects are now cooperating under the leadership of the West River Water Development District whose boundaries are nearly contiguous to the boundaries of the combined water systems. The water systems are cooperating because combined source and treatment facilities are more economical and because the water systems share common goals for water development.

The proposed water source is Lake Oahe near Ft. Pierre. Negotiations were begun in 1984 with the U.S. Army Corps of Engineers to obtain water within the powerhouse at the Oahe Dam. Use of the powerhouse source, as compared to construction of a new intake, will provide significant cost and operational advantages. The Corps has agreed to the concept of tapping into the dam by the systems. From the Oahe powerhouse, raw water pipeline will be run across the dam face to the treatment plant by Ft. Pierre.

The Lyman Jones/West River Rural Water Systems were authorized by the 1981 State Legislature as part of the State Water Resources Management System. The systems would serve approximately 720 rural households, 405 taps and up to 13 communities in seven counties. The area covered by these systems lies in western South Dakota between the White and Cheyenne Rivers, and consists of Stanley, Haakon, northern Jackson, eastern Pennington, Jones, Lyman and a portion of Mellette counties.

With \$100,000 Water Facilities Construction Fund loans provided by the state to each system, engineering design reports were completed in 1982. In 1987 the Lyman Jones/West River Rural Water System was awarded \$50,000 to look into incorporating the Oglala Sioux rural water system into the rural water system as Lyman Jones/West River/Oglala Sioux rural water system. The preliminary appraisal report has subsequently been completed and the Oglala Sioux system was included as part of the total system to be authorized at Congressional hearings. The total estimated cost of the projects is \$100 million. Public meetings were held in 1982 to sign up potential users and interest in the projects remains high.

The 1988 South Dakota Legislature approved the addition of the Oglala Sioux rural water system to the SWRMS project list and appropriated \$50,000 in loan funds for the West River, Lyman Jones, and Oglala Sioux rural water systems.

The water systems received Federal authorization on October 24, 1988. The authorization renamed the project as the "Mni Wiconi Project" and further provided authorization for \$87,500,000 in federal funds. The nonfederal cost share on the project is \$12,500,000. Appropriations to begin project construction are being sought for the 1989 construction season. Local cost sharing arrangements as well as water supply arrangements between the systems will be determined in 1989. The Lyman

Jones/West River/Oglala Sioux Rural Water System titles are being amended in 1989 to reflect the title as introduced in Congress.

Marty II Unit

The Marty II Unit was authorized by the 1986 State Legislature as part of the State Water Resources Management System. The proposed project will irrigate approximately 3,000 acres in Charles Mix County. All of the land to be irrigated is either owned outright by the Yankton Sioux Indian Tribe or is allotted land, i.e., held in joint ownership by a number of tribal members. A preliminary report on the Marty II Unit was completed in January, 1983 by a private engineering firm. The results of the preliminary report indicate that the Marty II Unit is technically feasible and economically beneficial.

In addition, during 1987, the U.S. Bureau of Reclamation conducted technical assistance evaluations of the Marty II project at the request of the state. These evaluations included a review of project design, costs, and land classification.

While the Marty II Unit is generally located within the same area as the proposed Lake Andes-Wagner project, these two projects will be physically independent of each other. They will, however, seek Congressional authorization jointly. As a result it is proposed to merge the projects on the SWRMS component to reflect this authorization.

Project investigations have been initiated by the U.S. Bureau of Reclamation. This summer preliminary land classifications and drainage field work were begun. This initial work was followed by development of a planning report and environmental impact statement which will be completed in early 1989.

Mid Dakota Rural Water System

The Mid Dakota Rural Water System is a proposed system to provide a decent quality and quantity of water for domestic and livestock purposes to the central part of the state, an area that has a critical need for high quality domestic water. A detailed feasibility study and report is near completion which outlines the scope of the water distribution system.

the project cost is estimated at 94 million dollars and would provide Missouri River water to 28,860 citizens and approximately 396,529 cow units in the project area. There are twenty three communities and 2,500 rural connections presently signed up for service to the system. This includes all or positions of nine counties in the state.

The project was appropriated a \$100,000 loan from 1988 State Legislature to proceed with project development. Presently, the Mid Dakota Rural Water System Association is introducing federal legislation for congressional authorization of the rural water system. The association

will also be asking the state legislature for \$60,000 in 1989 to continue development of this project.

Missouri River National Recreational River Project

The Missouri River National Recreational River Project was authorized as part of the State Water Resources Management System by the 1981 State Legislature. The Segment of the Missouri River between Cavins Point Dam and Ponca State Park, Nebraska, was designated a national recreational river in the 1978 amendment (P.L. 95-625) to the Wild and Scenic Rivers Act (P.L. 90-524). The project involves preservation of visual, cultural and fish and wildlife resources; recreation development; and bank protection. Union, Clay, and Yankton counties in South Dakota are affected, as are Cedar and Dixon counties in Nebraska.

By virtue of designation as a national recreational river, a need has been recognized to protect for present and future generations the outstanding scenic, recreational, geological, fish and wildlife, historical, cultural, or other similar values of this river segment. Construction of bank stabilization and other control structures will be necessary to achieve this protection. Fiscal year 1980 and 1981 appropriations allowed the U.S. Army Corps of Engineers to begin inventory studies, but lack of continued funding has prevented completion of the work. The 1985 supplemental appropriation to the Corps of Engineers included funds for work at Myron Grove but contained cost sharing requirements. Since that time, the Corps of Engineers policy for bank stabilization in the Recreational River has been that it is a 100% local cost for private land. The Water Resources Development Act of 1988 passed the Congress. Section 216 of the Act makes all bank stabilization in a Recreational River a 100% federal cost. A \$3 million annual ceiling was placed on any appropriation for bank stabilization under the Act.

Missouri River Recreation and Fishery Development Plan

The Missouri River recreation and fishery development plan was authorized by the State Legislature for inclusion on the State Water Resources Management System in 1984.

In October 1981, the State of South Dakota, through its Department of Game, Fish and Parks, requested the Corps of Engineers to cost-share in the development of recreation and fishery resources at the Missouri River main stem lakes in South Dakota. The proposal sought to improve recreation opportunities for its citizens and to achieve economic development through tourism based on recreation fishing.

The authority for implementing this plan is contained in the Flood Control Act of 1944 (P.L. 534) and the Federal Water Projects Act of 1965 (P.L. 89-72). The 1944 Act authorized the provision of facilities in reserved public use while a policy decision made the 1965 Act applicable to Missouri main stem reservoirs.

Cost-shared recreation facilities provided at the 22 existing and 5 new areas include boat ramps and docks; camping and picnic facilities; vault and flush-type toilets; access and camp roads; parking areas; potable water; fish-cleaning stations; playgrounds; changehouses and shelters; utilities; and maintenance yards. The state will also provide additional roads and upgrade some existing roads on off-project lands to provide better access to the recreation areas.

Fishery developments at 20 locations are in five basic categories: (1) artificial reefs; (2) rearing subimpoundments; (3) hatchery expansion; (4) enhancement of spawning and imprint stations for salmon; and (5) protected spawning habitat areas.

The exact design and function of these improvements may vary from one location to another. The spawning and imprint stations for the salmon fishery will be used for salmon and other species. Individual parks and fisheries projects have also been completed are in the process of being enhanced.

The Missouri River Recreational Development Program has been completed since 1985. American Creek Spawning Station at Chamberlain, Oahe Subimpoundment and Spring Creek Subimpoundment are in full operation and are returning fingerlings into our reservoirs. Some of the species introduced from these facilities include walleye, paddlefish, brown trout, and chinook salmon. The Whitlocks Bay Spawning and Imprint Station, which began showing benefits in 1984, had its best year in 1988 with nearly 1,200 salmon spawned providing 700,000 eggs. In addition to the chinook salmon, over 25 brown trout producing 40,000 eggs were spawned at Whitlocks in 1988. Approximately 30,000 chinooks, 500,000 walleye, 100,000 white bass and 20,000 northern pike, as well as additional species, were harvested in the Missouri River Reservoirs, and the economic value of these recreational pursuits is estimated to exceed 50 million dollars. The State is also continuing with plans to construct a warmwater wintering area for forage species at Turgeon Wells on Lake Francis Case, build a fish trap and aeration system at Lake Pocasse, build additional rearing ponds and fishing piers, and reconstruct a fish rearing pond at Blue Blanket to further benefit the fishery.

Four major projects awarded through the South Dakota Transportation Commission during 1985 have been completed. These projects include the road and campground at Lewis and Clark Recreation Area in Yankton County and two contracts for the nine boat ramps on Lake Oahe. The last scheduled Department of Transportation project in this program, Dodge Draw in Potter County, was completed in 1986. Work on reservoir facilities in 1988 included fish ladder extension at Whitlocks and extension of many boat ramps due to low reservoir elevation on Lake Oahe in 1988.

Research and management continues on an annual basis on all reservoirs. Adult fish surveys, young of year fish surveys, coldwater fish survey,

crul surveys, smelt abundance survey, walleye movement studies, Oahe walleye study and development of management plans are currently in progress on the Missouri River Reservoirs.

Annual recommendations are made to the Corps of Engineers regarding water level management of the reservoirs. This activity allows flexibility in managing water levels of all six large Missouri River Reservoirs and during certain years enhances fish production. Close coordination with the Corps of Engineer minimizes water level fluctuations during critical spawning times by maintaining water levels or causing a rise in water levels at the appropriate time.

Fish stocking is one of several fisheries management activities the Department is involved in to maintain and improve the fishing resource. Stocking needs in the future for stocking 1 million chinook salmon, 2.25 million walleye, 500,000 northern pike, 540,000 smallmouth bass, 200,000 largemouth bass, 150,000 brown trout, 100,000 steelhead, 200,000 tiger musky, 400,000 white crappie and 44,000 paddlefish. The Missouri River Recreation Development Program has been requested to remain on the State Water Resource Management System pending replacement by the Missouri River enhancement program which includes expanded recreation, fishery and resort development along with wildlife mitigation and bank stabilization. The reports for this program are expected to be complete in 1989.

Pick-Sloan Riverside Irrigators

The Pick-Sloan riverside irrigators was authorized by the State Legislature to be placed on the State Water Resources Management System in 1987.

This proposal attempts to secure low cost Pick-Sloan hydroelectric power for existing ground and surface water irrigators in the counties along the Missouri River corridor. Pick-Sloan power rates for these irrigators would (1) reduce the cost of pumping irrigation water and (2) fix pumping costs at a constant mill rate. Because electricity costs are a major irrigation expense, accomplishing these tasks may make the difference on whether an irrigator can continue operating or be forced out of business. There are approximately 70,000 acres of existing irrigation in the Missouri River corridor.

The original 1944 Pick-Sloan program promised nearly 1 million acres of new irrigation and low cost hydropower to pump the irrigation water. As most South Dakotans know the state has yet to receive Pick-Sloan benefits, even though the state sacrificed 500,000 acres of land flooded by the Pick-Sloan Missouri River dams, and even though the downstream states have received all the benefits promised to them. This proposal would provide at least a small amount of Pick-Sloan related benefits to South Dakota.

Designation of Pick-Sloan pumping authority for Missouri River corridor irrigators would require Congressional action. Congress has already

authorized Pick-Sloan power rates for the Hilltop and Gray Goose Irrigation projects. This proposal would make the same arrangement available to other irrigators in the Missouri River area.

Slip-Up Creek Project

The Slip-Up Creek Project was authorized by the 1981 State Legislature as part of the State Water Resources Management System. The proposed plan of development for the Slip-Up Creek 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 to the city's water treatment plant.

Surface water from the Big Sioux River would be pumped by the low-lift pumps of the Big Sioux pumping plant through the Sioux diversion pipeline to the reservoir for storage. The pumping plant would be located immediately upstream from an existing Corps of Engineers' diversion headworks weir on the Big Sioux River diversion channel about two miles north of the municipal water treatment plant. When needed, water stored in Slip-Up Creek reservoir would be pumped by the Slip-Up Creek pumping plant back through the Sioux diversion pipeline and then through the Sioux Falls pipeline to the municipal water treatment plant. The Big Sioux pumping plant would also divert Big Sioux water directly to the treatment plant when available.

Slip-Up Creek reservoir and adjacent land would also be developed for recreation and fish and wildlife activities, providing a water recreation area near Sioux Falls.

The Sioux Falls Unit's feasibility report has been completed by the U.S. Bureau of Reclamation, and is now ready for federal project construction authorization and funding. The cost of constructing Slip-Up Creek is estimated at approximately \$45 million. In 1985, Sioux Falls hired a private engineering firm to evaluate and develop recommendations regarding the city's water supply alternatives. The engineering firm has completed its report and recommended development of the Slip-Up Creek reservoir alternative. After a public meeting in March 1986, the city passed a resolution providing the following: 1) continue developing the Sioux Falls aquifer; 2) continue planning for a reservoir in the Slip-Up Creek Valley; and 3) initiate a water education and conservation program. In 1987 Sioux Falls began construction of a well field expansion project as a water supply alternative included in the Slip-Up Creek project. No significant action was taken in 1988.

Turkey-Clay Watershed

The Turkey-Clay Watershed is located in parts of Clay, Turner, Yankton and Hutchinson counties with a project area of 252 square miles. The project will 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. Upon completion of the

project, it is estimated that flood damages will be reduced by 72% and that sediment leaving the watershed will be reduced by nearly 50%.

The environmental impact statement and design studies have been completed by the U.S. Soil Conservation Service. Estimated project costs are \$10.4 million of which approximately \$8.5 million could be funded through Public Law 83-566, the Small Watershed Program. Further federal funding will be delayed until the watershed approves a financial plan.

In March, 1984 a referendum on the proposed financial plan for the Turkey-Clay Watershed project was held and defeated when the proposal failed to receive the required 60% favorable vote. The watershed directors revised the proposed financial plan and took steps to hold another referendum. However, a group of landowners in the watershed sought an injunction to prevent the second referendum on the grounds that specific project plans had not been approved by the S.D. Board of Water and Natural Resources. The circuit court ruled that the watershed had not violated state law but did require the watershed to have project plans approved before the referendum. On September 7, 1984, the Board of Water and Natural Resources approved the project plans.

The watershed board spent most of 1985 reviewing and reformulating the proposed financial plan. After holding the required hearings, the plan was referred to the voters once again on September 24, 1985. The revised plan failed to receive a 60% favorable vote.

In 1984 the Legislature appropriated \$100,000 from the Water Facilities Construction Fund for a loan to the Turkey-Clay Watershed District. Because of the need for further planning, the 1986 Legislature provided the Board of Water and Natural Resources with the authority to grant up to \$30,000 of the 1984 appropriation for engineering and planning. In 1987, the Turkey-Clay Watershed District requested and received \$30,000 of this appropriation to pay for engineering costs on the project. Since this time the Watershed has engaged in an engineering study which is expected to be completed in 1989.

Vermillion River Basin Flood Control

The Vermillion Basin flood control study was authorized by the State Legislature to be placed on the State Water Resources Management System in 1987.

Flooding in the Vermillion River Basin has become much more severe in the last 30-40 years than in past years. Area residents feel that much of this problem is due to the widespread drainage of wetlands in the river uplands. Instead of reducing flood flows and storing runoff from snowmelt and precipitation event, these drained wetlands discharged water into the river, resulting in an increase in the severity, frequency and duration of floods.

The Vermillion Water Project District has been active in lobbying Congress to appropriate funds for a reconnaissance and feasibility study of the Vermillion River and its tributaries. The appropriation was not approved by Congress in 1988. The State of South Dakota awarded the Vermillion Basin Water Project District a \$50,000 grant from the Water Facilities Construction Fund in 1988 to begin feasibility studies of flood control alternatives in the Vermillion Basin.

Water for Energy Transport (WET) System

The Water for Energy Transport System was authorized by the 1981 State Legislature as part of the State Water Resources Management System. The WET system proposes to transport treated wastewater from nine Black Hills municipalities and industries to Wyoming, via pipeline, to be used in a coal slurry pipeline that would carry low sulfur coal to power plants in the mid-south region. The WET system is considered a viable concept for the following reasons: (1) municipal wastewater is being treated and discharged into surface water courses without any means of a tangible cost recovery; (3) water supplies are limited relative to future demands, especially in energy developing areas of Wyoming. In the past three slurry pipeline companies expressed an interest in the WET system.

During 1981, the WET system was advanced as an alternative source to the Madison Aquifer as a water supply for the ETSI coal slurry pipeline. Project costs for WET were updated and several meetings were held with the interests involved to resolve possible problems over the rights of downstream water users to the effluent. The major thrust of activities concerning the WET system in 1983 was directed at identifying additional storage locations. A primary site, located on Rapid Creek, would potentially be known as Brennan Reservoir. The U.S. Army Corps of Engineers conducted additional studies to locate potential sites on other Black Hills streams. The ultimate goal is storage of an additional 100,000 acre-feet of water.

In 1984, a final report was completed on the project. The report estimated construction costs for the WET system of \$149 million with operation and maintenance cost of \$47 million annually. The Water for Energy Transport (WET) System has been developed to the point that an industrial user needs to express a strong interest with a Letter of Intent to enter negotiations before any additional specific work is completed. The project sponsor (Black Hills Council of Local Governments) completed a Concept Report Update in 1987.

An important spin off of the WET System effort is the identification of potential on-stream and off-stream reservoir sites. One site in particular has been targeted by the West Dakota Water Development District for further evaluation. A tentative scope of work for the study was proposed for the reservoir and an interstate water delivery system. An analysis of potential water quality of the proposed reservoir was undertaken. The analysis was completed and the only identifiable concern was the current phosphorus loading in Rapid Creek. The analysis

recommended that the cost of phosphorus removal become part of the cost of the entire system. Now that the water quality question has been analyzed, it is anticipated that the proposed scope of work will be finalized and a feasibility study initiated.

The future of the project will continue to be linked with the development of the coal industry of Wyoming and its water needs.

WEB Pipeline Project

The WEB Pipeline Project was authorized by the 1981 State Legislature for inclusion in the State Water Resources Management System. The project is a domestic water pipeline that will supply treated Missouri River water for rural domestic, livestock and municipal users in portions of nine counties in north central South Dakota. The project area includes all or parts of Walworth, Edmunds, Brown, Spink, Day, Campbell, McPherson, Faulk, Potter and Hand counties. Domestic drinking water via a system of buried pipelines will be provided to 3,000 farm livestock hookups and 44 small towns with a total population of 30,000 people. The public water supplies in most of WEB cities, towns and rural systems that currently have public water supply systems violate two or more of the federal Safe Drinking Water Act maximum contaminant levels.

The WEB system includes a raw water intake and a pumping station along the east shore of Lake Oahe on the Missouri River, a 3.8 mile raw water transmission pipeline, a water treatment plant, a water pumping station, a main storage reservoir, 115 miles of main transmission pipeline, 3,400 miles of distribution pipeline and 17 reservoirs and storage tanks. The system is being integrated as a single system with service lines tapping both main transmission lines and distribution lines. The total estimated cost of the WEB project is approximately \$105 million.

The WEB project was federally authorized in the Rural Development Policy Act of 1980. Since its authorization the federal government has appropriated approximately \$92 million for construction. These appropriations and all future federal appropriations for WEB are provided on at least a 75% grant basis, with the remaining percentage on a loan basis with a 5% interest rate. The state has provided \$1.6 million for project construction.

Construction is now over 80% complete with over 2,014 farms and households and 34 towns being served by WEB.

West River Aqueduct

A study report was presented to the 1977 State Legislature proposing to include the West River Aqueduct Project on the State Water Resource Management System. As proposed, the project would have delivered 20,000 acre/feet of Missouri River water to Energy Transportation Systems, Inc. (ETSI) for use in a coal slurry pipeline and 10,000 acre/feet to rural communities and rural water systems in western South Dakota.

An agreement in principle was reached between the State and ETSI whereby ETSI would construct a delivery system and make Missouri River water available to users along the aqueduct. Legislation was passed in 1981 by the state approving construction of the aqueduct. By year end, a contract was executed between the Board of Water and Natural Resources and ETSI detailing the delivery system and payment arrangements as previously agreed to in principle.

In August 1982, two suits were filed in U.S. Circuit Court against ETSI, Interior Secretary James Watt and several other federal officials. One suit was brought by the states of Iowa, Missouri, and Nebraska while the other was filed by the Kansas City Southern Railway Company, the Sierra Club, the Colorado Farmers Union, Nebraska and Iowa. The ultimate objective of each suit was to halt the sale of Missouri River water to ETSI. The issue on appeal to the Eighth Circuit was whether the Department of the Interior or the Department of the Army had the authority to enter into a water service contract with ETSI to use the stored waters of the Oahe Reservoir. The Eighth Circuit Court of Appeals ruled in favor of the lower court that in fact the Department of the Interior did not have authority to contract and held that the contract between ETSI and the United States was void. A petition for certiorari was filed with the U.S. Supreme Court and the Supreme Court determined that the Corps of Engineers was the proper authority to contract with ETSI supporting the Eighth Circuit's decision but made no attempt in that decision to determine what state's rights were.

In May 1985, the U.S. District Court in Lincoln, Nebraska granted a permanent injunction blocking South Dakota's proposed sale of Missouri River water to ETSI. On August 1985, ETSI cancelled its proposed \$3 billion coal slurry pipeline and its plans to buy Missouri River water from South Dakota. As a result, South Dakota only received \$5.2 million of the projected \$1.4 billion in payments from ETSI.

In 1983 the State of South Dakota filed suit against the Kansas City Southern Railroad and its associated companies charging conspiracy to monopolize Powder River coal traffic and tortious interference with the South Dakota Conservancy District's ETSI contract. This case was heard in 1988 and the U.S. District Court ruled in favor of South Dakota which awards \$600 million to South Dakota in damages. The case was subsequently appealed to the U.S. Eighth Circuit Court of Appeals and is currently pending.

Whetstone Irrigation Unit

The Whetstone Irrigation project was authorized by the 1977 State Legislature as part of the State Water Resources Management System. The 1977 State Legislature also approved bonding authority in the amount of \$15 million for the project.

State Water Facilities Plan--Progress Report

In November, 1988, the Board of Water and Natural Resources reviewed and approved 58 water projects for inclusion in the 1989 State Water Plan. The State Water Facilities Plan represents those priority projects which can be implemented using the discretionary authority of the Board of Water and Natural Resources.

In 1988, seventeen rural and municipal projects received \$725,000 in state funding with the balance being implemented using previous state and federal awards.

Of the projects in the State Water Facilities Plan, 24% received direct state funding. In addition to the state funding, federal and local funds were used to complete the projects' financial packages. These other financing sources include the Farmers Home Administration, the Environmental Protection Agency, water development districts and local bond issues. The tables on the following pages display the funding progress of each of the projects which received state funds in the 1988 State Water Facilities Plan.

The landowners in the Whetstone pipeline project area formed an irrigation district and elected directors for the district. The irrigation district has 10,870 acres of irrigable land within its boundaries. A reconnaissance level study was completed during 1978, with an update in May, 1980. This study concluded that under present conditions the Whetstone project is not feasible although local interest remains strong.

Landowners in the Whetstone project area have an opportunity to include their lands for irrigation as part of the Gregory County Pumped Storage project. This study began in the fall of 1987 and continued in 1988.

TABLE 3

1988
Rural Water Systems

Project Title	CDBG	CWFCP	Total Cost
Brookings Deuel	173,000		424,000
Clark	200,000	100,000	665,000
Hanson	160,000		329,829
Kingbrook		100,000	4,505,000
Total	\$533,000	\$200,000	\$5,923,829

TABLE 4

1988
Municipal Water Projects

Project Title	CDBG	CWFCP	Total Cost
Belle Fourche - Ziebach St. Loop	\$ 24,500	\$	\$ 50,000
Leola - Water system Expansion	49,705	49,705	154,768
Parkston - Main St. Rehabilitation	73,274		312,936
Wall - Water Supply Expansion	118,250		208,000
Yankton Econ. Dev. - Water System Imp.	200,000		537,119
Ravinia - RWS Hookup		30,000	40,000
Lake Norden - Storage Tank	48,000		120,000
Platte - System Improvements	40,000		77,000
Winner Drainage Improvement		25,000	
Total	\$553,729	\$104,705	\$1,499,823

EPA Construction Grants

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

TABLE 5
1988 WASTEWATER SYSTEMS
(October 1, 1987 - September 30, 1988)

Name	Activity	EPA Grant Amount	CWFCP	CDBG
Alexandria	Addition to Facility	\$ 437,100	\$	\$247,000
Arlington	New WTF	34,870		
		(increase)		
Armour	Addition to WTF	246,260		
Avon	Addition to WTF	97,097	34,000	
Box Elder	New Interceptor	330,385	50,523	
Bridgewater	Addition to WTF	453,770		
Canton	System Expansion			35,320
Chamberlain	Addition to WTF	199,850		
Doland	Addition to WTF	224,235	30,000	
Faith	Addition to WTF	56,525		
		(increase)		
Geddes	Addition to WTF	199,000		
Hoven	Addition to WTF	696,775		
Hurley	Interceptor Replacement	53,460		
Hurley	Addition to WTF	185,450		
Isabel	Modification to WTF	72,000		
Kadoka	Addition to WTF	71,154		
Kimball	Addition to WTF	355,970	10,000	15,000
Lake Cochrane	New Facility	472,350	60,000	
Lake Preston	New WTF	640,290		
Lennox	Addition to WTF	312,300		
Martin	Addition to WTF	547,500		
McIntosh	Addition to WTF	90,000	20,000	
Murdo	Addition to Facility	277,500		
Onida	Addition to WTF	223,410		
Pierre	WTF Modification	480,000		
Presho	Addition to WTF	130,500		
Prairiehood S.D.	Modification to WTF	110,100		
Rapid City	Addition to WTF	993,333		
Reliance	Addition to WTF	133,500	25,000	
Sioux Falls	New Interceptor	221,650		
		(increase)		
Sioux Falls	New Interceptor	339,900		
Sisseton	Addition to WTF	1,475,685		300,000
State of S.D.	Training Facility	500,000		
Stickney	New WTF	140,350	40,460	
Sturgis	Addition to WTF	606,000		
Tabor	Addition to WTF	143,480		
Tea	Addition to WTF	220,788		
Tripp	Addition to WTF	152,250		
Wagner	Sewer Main Installation			36,000
Wall	Sewer Line Extension		30,935	
Wessington	Addition to WTF	174,580	38,432	
Whitewood	Addition to WTF	300,000	40,945	
Willow Lake	New WTF	375,900		
Winner	Addition to WTF	317,570		
Total		\$13,016,312	\$380,295	\$633,320

TABLE 6
1988
LAKE RESTORATION PROJECTS

PROJECT TITLE	CDBG	CONSOLIDATED WATER FACILITIES GRANT	LAKE AND RIVER DREDGING GRANT	TOTAL PROJECT COST
Lake Campbell- Dredge Project			157,000	274,000
Lake Mitchell- Dredge Project			255,000	510,000
Lake Poinsett- Lake Rehabilitation		40,000		930,000
Stockade Lake- Dredge Project			128,500	257,000
TOTAL	\$ 0	\$ 40,000	\$540,500	\$1,971,000

Water Development Financing Programs -- Progress Report

The Board of Water and Natural Resources administers the Water Facilities Construction Fund into which all legislative appropriations 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, the Interim Financing Program, the Lake and River Dredging Program, and all monies appropriated to SWRMS projects. During 1988, the Board and Department awarded \$725 thousand in grants and loans to water development projects in South Dakota. The Board also awarded \$275,000 in CWFCP funds to the Drought Disaster Water Supply Assistance Program.

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 Board may issue long-term bonds, upon Legislative approval, for the construction of projects within the State Water Resources Management System. As well, the Board has discretionary bonding authority for small bond issues under \$5 million. These means for long-term permanent financing have not yet been used. Under 46A-1-17 to 27, the Board 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 DWNR 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 1988 in each program.

Water Facilities Construction Fund

Legislative appropriations, interest on investments, principal and interest on loans, and funds accruing to the conservancy district pursuant SDCL 46A-1-60 are deposited in this special capital project fund to be used for the projects in the State Water Resources Management System or for ongoing programs. The following balance sheet and related schedules outline the funds' position from its creation in 1982 to the present.

TABLE 7

WATER FACILITIES CONSTRUCTION FUND

BALANCE SHEET
12/31/88

DEPOSITS TO 12/31/88

ETSI PAYMENTS	\$5,263,339
INTEREST EARNED ON WFCF	\$2,629,443
GENERAL FUND APPROPRIATION	\$6,000,000
INTERIM BOND ISSUE DEFEASANCE	\$2,094,126
LOAN REPAYMENTS (P&I)	\$849,792
TRANSFERS IN (TO 6/30/89)	\$380,000

LEGISLATIVE EXPENDITURE AUTHORIZATIONS

STUDY LOAN PROGRAM (SCHEDULE A)	
CONTRACTED	\$2,085,000
RESERVED	\$15,000
TOTAL	\$2,100,000
CONSTRUCTION LOAN PROGRAM (SCHEDULE B)	
CONTRACTED	\$2,655,000
RESERVED	\$370,000
TOTAL	\$3,025,000
CONSOLIDATED PROGRAM (SCHEDULE C)	
CONTRACTED	\$2,000,000
TOTAL	\$2,000,000
LEGISLATIVE LINE ITEM AUTHORIZATIONS (SCHEDULE D)	
CONTRACTED	\$7,106,760
RESERVED	\$1,785,000
TOTAL	\$8,891,760
STATE REVOLVING FUND (SCHEDULE E)	
RESERVED	\$1,200,000
TOTAL	\$1,200,000

TOTAL DEPOSITS \$17,216,760

TOTAL AUTHORIZATIONS \$17,216,760
AVAILABLE FOR AUTHORIZATION \$ -0-

TOTAL \$17,216,760

TOTAL \$17,216,760

SCHEDULE A
STUDY LOAN PROGRAM

	AMOUNT AUTHORIZED BY BWR	CONTRACTED	RESERVED
BHC	\$150,000	\$150,000	\$0
CENDAK	\$1,300,000	\$1,300,000	\$0
LAKE ANDES/WAGNER	\$250,000	\$250,000	\$0
LYMAN-JONES RWS	\$100,000	\$100,000	\$0
WEST RIVER RWS	\$25,000	\$25,000	\$0
LYMAN JONES RWS	\$25,000	\$25,000	\$0
GREGORY CO. PUMPED STORAGE	\$150,000	\$135,000	\$15,000
TOTAL	\$2,100,000	\$2,085,000	\$15,000

SCHEDULE B
CONSTRUCTION LOAN PROGRAM

	AMOUNT AUTHORIZED BY BWR	CONTRACTED	RESERVED
BDM RWS	\$500,000	\$500,000	\$0
B-Y RWS	\$200,000	\$200,000	\$0
CLARK RWS	\$380,000	\$380,000	\$0
DAVISON RWS	\$200,000	\$200,000	\$0
DEADWOOD	\$400,000	\$400,000	\$0
DOUGLAS RWS	\$100,000	\$0	\$100,000
EAST GREGORY	\$30,000	\$30,000	\$0
KEYSTONE	\$120,000	\$120,000	\$0
LAKE ANDES/WAGNER	\$50,000	\$5,000	\$45,000
LAKE BYRON	\$100,000	\$100,000	\$0
MCINTOSH	\$100,000	\$100,000	\$0
MINNEHAHA RWS	\$120,000	\$120,000	\$0
SOUTH LINCOLN RWS	\$100,000	\$100,000	\$0
STOCKADE DAM	\$225,000	\$0	\$225,000
TM RWS	\$400,000	\$400,000	\$0
TOTAL	\$3,025,000	\$2,655,000	\$370,000

SCHEDULE C
CONSOLIDATED WATER FACILITIES CONSTRUCTION PROGRAM

	AMOUNT		RESERVED
	AUTHORIZED BY BWR	CONTRACTED	
BRANT LAKE	\$60,600	\$60,600	\$0
B-Y RWS	\$101,000	\$101,000	\$0
LAKE POINSETT	\$54,480	\$54,480	\$0
BRUESCHKE DAM	\$37,510	\$37,510	\$0
RAPID CITY	\$250,000	\$250,000	\$0
RAPID VALLEY	\$50,000	\$50,000	\$0
REDFIELD DAM	\$28,200	\$28,200	\$0
SIOUX FALLS	\$100,000	\$100,000	\$0
WALL	\$77,500	\$77,500	\$0
WARNER	\$100,000	\$100,000	\$0
WESTPORT	\$37,510	\$37,510	\$0
VALLEY SPRINGS	\$43,500	\$43,500	\$0
KINGBROOK	\$100,000	\$100,000	\$0
LAKE POINSETT	\$40,000	\$40,000	\$0
CLARK	\$100,000	\$100,000	\$0
WINNER	\$25,000	\$25,000	\$0
LAKE COCHRANE	\$60,000	\$60,000	\$0
RAVINIA	\$30,000	\$30,000	\$0
AVON	\$34,000	\$34,000	\$0
MC INTOSH	\$20,000	\$20,000	\$0
DOLAND	\$30,000	\$30,000	\$0
LEOLA	\$49,705	\$49,705	\$0
RELIANCE	\$25,000	\$25,000	\$0
BOX ELDER	\$50,523	\$50,523	\$0
WALL	\$30,935	\$30,935	\$0
STICKNEY	\$40,460	\$40,460	\$0
WHITEWOOD	\$40,945	\$40,945	\$0
WESSINGTON	\$38,432	\$38,432	\$0
KIMBALL	\$10,000	\$10,000	\$0

TOTAL	\$2,000,000	\$2,000,000	\$0

SCHEDULE D
LEGISLATIVE LINE ITEM AUTHORIZATIONS

	AMOUNT		RESERVED
	AUTHORIZED BY LEGISLATURE	CONTRACTED	
BIG SIOUX HYDROLOGY STUDY	\$827,425	\$827,425	\$0
BLACK HILLS HYDROLOGY STUDY	\$106,875	\$56,875	\$50,000
CENDAK REPORT	\$75,000	\$75,000	\$0
DREDGE PURCHASE/EQUIPMT	\$600,000	\$600,000	\$0
DREDGE EQUIPMENT	\$353,900	\$353,900	\$0
LAKE/RIVER DREDGE PRGM	\$1,500,000	\$1,075,000	\$425,000
LAKE DREDGE & EQUIPMENT	\$1,046,100	\$1,046,100	\$0
GREGORY COUNTY PUMPED STORAGE	\$16,022	\$16,022	\$0
LAKE ANDES-WAGNER	\$500,000	\$440,000	\$60,000
LAKE ANDES-WAGNER PRECONSTRUCTION	\$1,000,000	\$0	\$1,000,000
ATTORNEY GENERAL - WATER LITIGATION	\$500,000	\$500,000	\$0
TURKEY CLAY WATERSHED	\$100,000	\$0	\$100,000
WEB DEFEASANCE	\$1,266,438	\$1,266,438	\$0
CUJSTER STATE PARK	\$400,000	\$400,000	\$0
WDD REVOLVING LOAN FUND	\$200,000	\$200,000	\$0
JAMES RIVER	\$200,000	\$200,000	\$0
MISSOURI RIVER COST RECOVERY AUTHORITY	\$100,000	\$100,000	\$0
PICK-SLOAN SETTLEMENT	\$50,000	\$0	\$50,000
MID-DAKOTA RWS	\$100,000	\$0	\$100,000
DREDGING EQUIPMENT	\$100,000	\$100,000	\$0
WEST RIVER/LYMAN JONES	\$50,000	\$50,000	\$0

TOTAL	\$8,891,760	\$7,106,760	\$1,785,000

SCHEDULE E
STATE REVOLVING FUND

	AMOUNT AUTHORIZED BY LEGISLATURE	CONTRACTED	RESERVED
*STATE REVOLVING FUND	\$1,200,000		\$1,200,000
* FEDERAL CAPITALIZATION GRANT EXPECTED IN 1989			

Consolidated Water Facilities Construction Program

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. As well, the Legislature appropriated \$1 million to the program to be given in the form of grants. The loan portion of the program received no funding. The Consolidated Program replaced the construction and study loan programs, the rural water system grant program, and several smaller programs not funded in recent years 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. A factor system was adopted in the rules to help the Board in its decision making process. Beginning in 1988 the State Legislature authorized an additional \$1 million. This \$1 million provided state grants to match federal and local contributions.

It was no surprise that during the summer of 1988 South Dakota farmers and ranchers had trouble keeping up with watering demands. In response to the problem the Governor through the Department of Water and Natural Resources (DWNR) established the Drought Disaster Water Supply Assistance Program (DDWSAP). Over 470 applications were received. Approved were 227 applications at an average cost of \$1,432.00, with the DDWSAP staff holding approximately 146 pending additional funding. The program enabled approximately 147 wells to be drilled, 59 rural water system hook-ups to be established, 14 dugouts to be constructed or repaired, and 7 pipeline projects to be built.

Funding was obtained from two sources. The Department of Agriculture contributed \$50,000 from two of their respective programs with the rest of the \$275,000 being provided by the DWNR through the consolidated water facilities construction fund for a total of \$325,000. Although not every project received funding under the restrictions of the program, those who did should be aware that the program is slated to end on December 31, 1988. Anyone who will not be able to complete their individual projects by then should contact the DDWSAP staff with a request for extension or risk losing the money allotted them. Case by case assessments by the DDWSAP staff will be made regarding each request for extension.

TABLE 8
1988 GRANT AWARDS

Name	Activity	Award Amount	Total Proj. Cost
Kingbrook	RWS Expansion (Cycle I)	\$ 100,000	\$4,505,000
Lake Poinsett	Lake Rehabilitation	40,000	930,000
Clark	RWS Expansion	100,000	665,000
Winner	Industrial Park Drainage	25,000	907,500
Lake Cochrane	WW Facility	60,000	472,350
Ravinia	RWS Hookup	30,000	40,000
Avon	WW Addition	34,000	97,097
McIntosh	WW Addition	20,000	90,000
Doland	WW Addition	30,000	224,935
Leola	Water System Expansion	49,705	154,768
Reliance	WW Addition	25,000	133,500
Box Elder	New Interceptor	50,523	330,385
Wall	Sewer Line Extension	30,935	127,340
Stickney	WW Facility	40,460	140,350
Whitewood	WW Addition	40,945	300,000
Wessington	WW Addition	38,432	174,580
Kimball	WW Addition	<u>10,000</u>	<u>355,970</u>
TOTAL		\$ 725,000	
Drought Disaster Water Supply Assistance Program		275,000	
GRAND TOTAL		\$1,000,000	\$9,648,775

STOCKADE LAKE DREDGING
STATUS REPORT
AS OF 10/31/88

BUDGET

\$128,500.00

	EXPENDITURES THRU 6/30/88	EXPENDITURES 7/1/88-10/31/88	EXPENDITURES TOTAL
PERSONAL SERVICES	\$52,743.16	\$23,643.68	\$76,386.84
EMPLOYEE BENEFITS	\$4,053.68	\$1,917.58	\$5,971.26
TRAVEL	\$7,504.42	\$2,360.50	\$9,864.92
CONTRACTUAL SERVICES	\$3,474.48	\$328.07	\$3,802.55
SUPPLIES	\$13,224.53	\$2,242.62	\$15,467.15
CAPITAL ASSETS	\$121.00	\$0.00	\$121.00
TOTAL EXPENDITURES	<u>\$81,121.27</u>	<u>\$30,492.45</u>	<u>\$111,613.72</u>

BALANCE AS OF 10/31/88

\$16,886.28
=====

EXPENTITURE TOTAL AGREES WITH THE CREDIT BALANCE REFLECTED ON THE 10/31/88
MSA CASH REPORT.

LAKE MITCHELL DREDGING
STATUS REPORT
AS OF 10/31/88

BUDGET

\$255,000.00

	EXPENDITURES THRU 6/30/88	EXPENDITURES 7/1/88-10/31/88	EXPENDITURES TOTAL
PERSONAL SERVICES	\$118,458.68	\$43,565.98	\$162,024.66
EMPLOYEE BENEFITS	\$10,850.83	\$3,533.19	\$14,384.02
TRAVEL	\$7,570.83	\$2,240.00	\$9,810.83
CONTRACTUAL SERVICES	\$4,527.53	\$46.01	\$4,573.54
SUPPLIES	\$1,805.53	\$13,843.26	\$15,648.79
TOTAL EXPENDITURES	<u>\$143,213.40</u>	<u>\$63,228.44</u>	<u>\$206,441.84</u>

BALANCE AS OF 10/31/88

\$48,558.16
=====

*
MANUAL ADJUSTMENT. JOE HARTFORD SALARY AND BENEFITS FOR MAY 1, 1987 THRU
JUNE 12, 1987 CHARGED TO LAKE MITCHELL IN ERROR. SHOULD HAVE BEEN CHARGED
TO LAKE CAMPBELL. BOOKS FOR FISCAL YEAR '87 CLOSED.

TOTAL EXPENDITURE COLUMN REFLECTS THIS ADJUSTMENT. (\$1,737.47)

EXPENDITURE FROM OBJ/SUBOBJ 10/31/88 REPORT PLUS 166.09 ON 6/30/87 REPORT
AGREE WITH CREDIT FIGURE ON MSA CASH REPORT FOR 10/31/88

LAKE CAMPBELL DREDGING
STATUS REPORT
AS OF 10/31/88

BUDGET

\$157,000.00

	EXPENDITURES THRU 6/30/88	EXPENDITURES 7/1/88-10/31/88	EXPENDITURES TOTAL
PERSONAL SERVICES	\$85,854.24	\$25,061.86	\$110,916.10
EMPLOYEE BENEFITS	\$6,643.05	\$2,032.62	\$8,675.67
TRAVEL	\$8,736.96	\$1,276.80	\$10,013.76
CONTRACTUAL SERVICES	\$11,259.58	\$4.98	\$11,264.56
SUPPLIES	\$8,996.70	\$423.16	\$9,419.86
TOTAL EXPENDITURES	<u>\$121,490.53</u>	<u>\$28,799.42</u>	<u>\$150,289.95</u>

BALANCE AS OF 10/31/88

\$6,710.05
=====

*
MANUAL ADJUSTMENT. JOE HARTFORD SALARY AND BENEFITS FOR MAY 1, 1987 THRU
JUNE 12, 1987 CHARGED TO LAKE MITCHELL IN ERROR. SHOULD HAVE BEEN CHARGED
TO LAKE CAMPBELL. BOOKS FOR FISCAL YEAR '87 CLOSED.
TOTAL EXPENDITURE COLUMN REFLECTS THIS ADJUSTMENT. (\$1,737.47)

EXPENDITURE FROM OBJ/SUBOBJ 10/31/88 REPORT AGREE WITH CREDIT
FIGURE ON MSA CENTER CASH REPORT FOR 10/31/88

Interim Financing

The South Dakota Conservancy District is authorized by state law to issue tax-exempt bonds in connection with its water resources management duties. Under these laws, the District may borrow money to provide long-term (permanent) financing or short-term (interim) loans to water projects. The District has not yet used its permanent financing authority.

The Interim Financing Program was established to provide low interest financing to municipalities, rural water systems and other eligible sponsors during the construction phase of their projects. The need for upfront financing resulted when FmHA began requiring projects to complete construction before releasing permanent financing. This change meant that project sponsors had to borrow money on the open market to carry them through construction.

To accomplish the program, the South Dakota Conservancy District sells interim notes, backed by a federal loan or grant commitment, to private investors and loans the proceeds to the eligible projects, which usually reinvest the loaned money, thereby reducing the overall costs of interim financing. The interim financing program has been in operation since 1979. The early issues were used primarily for rural water systems with FmHA construction loans. Between 1979 and 1982, the eight rural water systems using the program realized over \$348,000 in savings.

In 1983, the first multiproject issue of \$15,585,000 was authorized by the District wherein 53 specific cities, towns, water user districts, and nonprofit corporations were eligible to borrow funds. The District approved loans for two rural water systems. However, FmHA changed its policy and would not issue the previously agreed to financial commitment letters. This change in policy effectively froze any further activity on this issue. The issue was defeased in 1985, and the proceeds were placed in escrow. The arbitrage of \$786,757 was deposited in the Water Facilities Construction Fund and appropriated for use during 1986. The bonds were paid off November 1, 1986.

An additional \$17,230,000 issue was placed in 1983 for the benefit of WEB Rural Water System. This issue has not been used so far because the Bureau of Reclamation has developed a different financial arrangement with WEB than was anticipated. WEB has been able to directly draw upon the federal appropriation. In 1987 WEB received \$1,266,438 as a result of a bond defeasance.

In November, 1985, a second multiproject issue was placed by the District. This issue made \$9,800,000 available to eligible projects on the current State Water Facilities Plan. Three interim loans have been approved by the Conservancy District: 1) Lake Madison Sanitary District for \$795,000 and 2) B-Y Water User District for \$415,000 and \$1,450,000. Lake Madison expects to start drawdowns in the spring of 1987. B-Y has

drawn down funds on the first loan for its most recent construction. It is expected that in 1988 and 1989 the remaining notes will be closed out.

TABLE 9
INTERIM FINANCING

Project Financed	Amount Financed	Period Financed
WEB RWS	\$ 17,230,000	12/15/85-12/15/88
1985 Multi-project	9,800,000	11/15/85-5/15/89