

South Dakota
Nonpoint Source Pollution Management Program Annual Report
Federal Fiscal Year 2003

Prepared By The
Water Resources Assistance Program

South Dakota
Department of Environment and Natural Resources

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Department Of Environment and Natural Sources
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NPS Program History

The South Dakota Nonpoint Source Pollution (NPS) Management Program is housed in the South Dakota Department of Environment and Natural Resources' (DENR) Water Resources Assistance Program (WRAP). The NPS Program, along with the Pollution Prevention (P2) Program, makes up the WRAP's Watershed Protection activity. NPS pollution activities completed by program staff are selected to improve, restore and maintain the water quality of the state's lakes, streams, wetlands, and ground water in partnership with other organizations, agencies and citizens. Visit:

<http://www.state.sd.us/denr/DFTA/WatershedProtection/wporg.htm>

for the information about Watershed Protection's NPS and P2 activities.

A key element in implementing the South Dakota NPS Program is the South Dakota Nonpoint Source Task Force. The task force is a citizen's advisory group composed of approximately sixty agencies, organizations and tribal representatives. The task force:

- provides a forum for the exchange of information on activities which impact nonpoint source pollution control,
- prioritizes waterbodies for NPS control activities,
- provides guidance and application procedures for funding of NPS source control projects and review and recommend for approval project funding proposals which request funds under section 319 of the Clean Water Act,
- serves as the coordinating body for the review and direction of federal, state, and local government programs to ensure that the programs allow achievement of NPS source pollution control in the most efficient manner,
- serves as a focal point for information, education, and public awareness regarding NPS pollution control,
- provides oversight of NPS source control activities and prioritize the activities, and
- provides a forum for discussion and resolution of program conflicts.

For additional information about the task force visit:

<http://www.state.sd.us/denr/DFTA/WatershedProtection/npstf.htm>

Since the reauthorization of the Clean Water Act during 1987, the South Dakota NPS Pollution Management Program has used Section 319, 104(b)(3), 106, and 604(b) funding to support more than 160 nonpoint source projects. Historically, the majority of the projects funded have focused on reducing NPS pollution originating from agricultural operations. More recently, an increased proportion of the funds have been used to support local initiatives that:

- evaluate water quality conditions,
- determine sources and causes of NPS pollution within priority watersheds, and
- develop and implement total maximum daily loads (TMDLs) for impaired waterbodies.

While the size, target audience, and structure of the projects have varied significantly, all share common elements:

- increase awareness of NPS pollution issues,
- identify, quantify, and locate sources of nonpoint source impairment,
- reduce/prevent the delivery of NPS pollutants to waters of the state with emphasis on meeting targets established through total maximum daily loads (TMDLs), and
- disseminate information about effective solutions to NPS pollution where it is threatening or impairing uses.

The projects funded fit into one of three categories:

- assessment/development,
- information and education (I&E), and
- watershed implementation.

Although most projects fit into one of these categories, several have included components from each of the three categories. A portion of the Section 319 funds awarded to the state has also been used to assess major aquifers in the state and promote and implement practices that prevent ground water contamination.

The primary purposes of assessment/development projects are:

- identify beneficial use impairments or threats to specific water bodies, and
- determine the extent to which the threats or impairments are from NPS pollution.

Assessment priority is given to water bodies on the 303(d) list of impaired water bodies. TMDLs are prepared for the listed water bodies as a part of the assessment project. Activities completed during a development project generally include an inventory of existing data and information and supplemental monitoring, as needed, to allow an accurate assessment of the watershed. Through these efforts, local project sponsors are able to:

- determine the extent to which beneficial uses are impaired,
- identify specific sources and causes of the impairments,
- establish preliminary pollutant reduction goals or TMDL endpoints, and
- identify management practices and alternatives that will reduce the pollution at its source(s) and restore or maintain the beneficial uses of the water body.

The project period for assessment/development projects generally ranges from one to three years.

Information and education (I & E) projects are designed to provide information about NPS pollution issues and solutions. Information transfer tools typically used by the department and its project partners include brochures, print and electronic media, workshops, “how to” manuals, tours, exhibits, and demonstrations. I & E projects usually range from one to five years in length.

Watershed projects are the most comprehensive of the projects implemented through the South Dakota NPS Pollution Program. Watershed projects are typically long-term in duration and are designed to implement TMDLs that address NPS pollution sources and beneficial use impairments. Common watershed project objectives include:

- protect/restore impaired beneficial uses through the promotion and voluntary implementation of best management practices (BMPs) that prevent/reduce NPS pollution,
- disseminate information about NPS pollution and effective solutions, and
- evaluate project progress toward use attainment or NPS pollutant reduction goals.

Watershed projects typically range from four to ten years in length with the duration being dependant on the size of the watershed and extent of the NPS pollution impacts that must be addressed.

Implementation of the SD NPS Pollution Management Program is guided by the SD NPS Management Plan.

NPS Management Plan

South Dakota’s revised NPS Management Plan was approved by EPA during March 2000. The revised plan:

- addresses the nine mandated elements required to access Section 319 incremental funds,
- expands on activities included in previous editions of the plan, and
- continues to achieve improved water quality through voluntary actions developed in partnership with the landowners and managers.

The primary tools selected to accomplish the tasks outlined in the plan include:

- technical and financial assistance delivered through program staff and project partnerships, and
- a comprehensive information and education effort.

The management plan is available upon request or by visiting:

www.state.sd.us/denr/watershed.

The water quality assessment and implementation strategy outlined in the management plan has been amended to address the development and implementation of TMDLs. The department established a goal of:

Develop 11 TMDLs and implement five work plans each year to achieve the TMDLs for all of the state's impaired waters over a 13 year period.

Waterbodies assessed are selected from those on the 303(d) list of impaired waterbodies. Activities included in implementation project workplans are selected to reach the TMDLs developed as part of the assessment process.

The 303(d) list was revised during 2002 using recent monitoring and assessment data. The revised list includes 95 water bodies which need assessments and TMDLs to address impairments resulting from nonpoint source pollution. During FY 2003:

- four TMDLs were approved by EPA, and
- an additional six TMDLs were completed and prepared for public comment during FY 2004.

To date, EPA has approved thirty nonpoint source TMDLs developed by DENR. In addition, three water bodies were determined not to be impaired as a result of assessments completed.

Progress in implementing the management plan is essentially on schedule:

- TMDL assessments have been completed for 37 waterbodies,
- tasks 3-6 and 12-16 were superseded by the 303(d) / TMDL priority approach,
- task 11, sorting and ranking streams based on ecoregions, has been suspended to redirect limited staff resources TMDL related priorities,
- task 28, post-project assessments, is also behind schedule because of limited resources and TMDL related priorities, and
- all other tasks are on schedule, have been completed or, in some cases, exceeded planned outputs.

319 Grant

The South Dakota Department of Environment and Natural Resources' FY 2003 Section 319 Grant award from EPA consisted of \$2,170,100 in program base funding and \$1,638,600 in incremental funds. The \$3,808,700 total award was allocated as follows:

- Staff & Support - \$680,000 and
- 319 Projects - \$3,128,700 (\$1,638,600 incremental and \$1,490,100 base).

Projects selected for funding during the year are shown in the table below.

Project Awards Using FY 2003 Section 319 Grant Award

Project	Project Grant (\$)		
	Base	Incremental	Total
Assessment			
Twin Lakes/Wilmarth Lake	64,000		64,000
Lake Traverse	57,500		57,500
Amsden Dam	62,000		62,000
Okobojo Creek	39,000		39,000
White River Phase I	48,000		48,000
Implementation			
Lake Hanson/Pierre Creek Restoration	598,125		598,125
Watershed Planning and Assistance ¹	3,219	1,638,600	1,641,819
Lake Herman/Madison/ Brant Watershed	263,358		263,358
Terry Redlin Institute Wetlands Ed. Project	70,000		70,000
Wetlands Education Pilot Project	30,000		30,000
Total	1,235,202	1,638,600	2,873,8022

¹ Project was also awarded \$1,308,181 in unallocated FY 2002 Grant funds

Active 319 Projects

Section 319 projects funded by previous grant awards that were open and active during the FY 2003 reporting period are listed by river basin in the table that follows.

Active NPS Projects Funded by Previous Section 319 Grant Awards

River Basin	Project
Bad River	Bad River National Watershed Monitoring Bad River Phase III Hayes and Waggoner Lakes TMDL
Belle Fourche River	Belle Fourche River Assessment
Big Sioux River	Bachelor Creek Implementation Clear Lake Implementation Central Big Sioux TMDL Enemy Swim Lake Implementation Lake Norden/Lake Albert Assessment Lake Poinsett Watershed Lakes Herman/Madison/Brant Implementation North Central Big Sioux /Oakwood Lake TMDL Upper Big Sioux River Implementation Wall Lake Post Assessment
Cheyenne River	Lower Rapid Creek TMDL Rapid City Storm Water
Grand River	None
James River	Elm Lake Implementation Firesteel Creek/Lake Mitchell Implementation Lake Redfield Restoration Lakes Cottonwood and Louis Implementation Lake Faulkton Implementation Lakes Rosehill and Jones Implementation Loyalton and Cresbard Lakes TMDL Richmond Lake Assessment
Minnesota River	Big Stone Lake/Little Minnesota Cochrane & Oliver Lakes Implementation
Missouri River	Burke Lake Assessment South Central Lakes TMDL
Vermillion River	Kingsbury County Lakes Assessment
White River	Little White River TMDL
Statewide / Regional Projects	Animal Waste Team IV Buffer Planning & Technical Assistance Bootstraps Grassland Management Technical Assistance Manure Management BMPs Base on Soil Phosphorus Nonpoint Source Information and Education 1998

Completed 319 Projects

Completed Section 319 funded projects are listed by river basin in the table that follows. Unless otherwise indicated (*), a final report for each project has been filed with EPA, entered on GRTS, and is available from the South Dakota State Library. Several of the reports are also available by visiting:

<http://www.state.sd.us/denr/DFTA/WatershedProtection/wpprg.htm>

Completed Section 319 Funded Projects Listed by River Basin

River Basin	Project
Bad River	Bad River Phase II Upper Bad River Demonstration
Belle Fourche River	Bear Butte Creek Riparian Demonstration
Big Sioux River	Bachelor Creek Assessment Big Sioux Well Head Protection Blue Dog Lake Assessment Lake Campbell Watershed Restoration Lake Kampeska Watershed Pickerel Lake Protection Upper Big Sioux River Watershed I & II Wall Lake
Cheyenne River	Foster Creek Riparian Demonstration - Stanley Co. Piedmont Valley Assessment Rapid City Storm Water*
Grand River	Shadehill Lake Protection Staffing & Support
James River	Lake Byron Watershed Clear Lake Assessment - Marshall Co. Cottonwood & Louise TMDL Foster Creek Riparian Demonstration - Beadle Co. Jones & Rosehill Lakes TMDL Lake Mitchell Watershed Assessment Mina Lake Water Quality Assessment Moccasin Creek TMDL* Ravine Lake Watershed Richmond Lake Watershed White Lake Dam TMDL*
Minnesota River	Big Stone Lake Big Stone Lake Restoration II Cochrane & Oliver TMDL Lake Cochrane Protection Lake Hendricks Watershed Medicine Creek Assessment*
Missouri River	Burke Lake Restoration
Vermillion River	Swan Lake Restoration

White River	None
Statewide / Regional Projects	Abandoned Well Sealing Animal Waste Management I Animal Waste Management II Animal Nutrient Management III Animal Waste Team (Buffer salesmen) Bootstraps Coordinated Resource Management I Coordinated Resource Management II East River Area Riparian Demonstration East River Riparian Demonstration II East River Riparian Grazing I Ground Water Monitoring Network Nitrogen & Pesticides in Ground Water Nonpoint Source Information & Education 1989 Nonpoint Source Information & Education 1994 Nonpoint Source Information & Education 1996 Rainfall Simulator Riparian Grazing Workshop South Dakota Association of Conservation Districts South Dakota Lake Protection Statewide Lake Assessment

*Final Report/TMDL in draft form/review

604(b) Grant

The FY 2002 604(b) grant was amended during the reporting period. With the addition of \$100,000 of FY 2003 604(b) funds, the cumulative total of the amended grant increased to \$487,161. Of the total, \$452,021 has been obligated for nine water quality development projects.

Approximately \$35,140 of the total was budgeted to support department staff with the implementation of the 604(b) program and assist with TMDL development. Activities completed included developing grant applications, workplans, projects, and contracts; providing project oversight; meeting with project sponsors and processing vouchers.

604(b) Projects Initiated

The following 604(b) projects were initiated during this reporting period:

604(b) Projects Initiated

Project	Contract Award
Custer State Park Lakes Assessment Report Prep.	\$60,000
Whitewood Creek Bacterial Source Tracking	\$31,500
Spring Creek Bacterial Source Tracking	\$15,000
Bacterial Source Typing: Sample Preparation Analysis	\$28,237

Active 604(b) Projects

The 604(b) projects listed in the table that follows were active during this reporting period:

Active 604(b) Projects

Project	Contract Award
Turkey Ridge Creek Watershed TMDL Assessment	\$105,000
Digitize Soils Maps for South Dakota	\$ 20,000
Lower Big Sioux TMDL Assessment	\$160,000
Water Quality Database Management Support	\$ 20,000
Administration	\$ 35,140

Closed 604(b) Projects

The following 604(b) projects have been completed and are closed:

604(b) Projects Completed and Closed

River Basin	Project
Bad River Basin	Bad River Phase IA Bad River Phase IB
Belle Fourche River Basin	Streambank Erosion Assessment-Upper Whitewood Creek Whitewood Creek Streambank Assessment Project Whitewood Creek Watershed Project Planning
Big Sioux River Basin	Big Sioux Aquifer Protection Project Big Sioux Aquifer Study Big Sioux River Bank Stabilization Demonstration Project Big Sioux River Riparian Assessment (Moody/Minnehaha) Blue Dog Lake/Enemy Swim Septic Leachate Survey Pelican Lake Control Structure Feasibility Lake Alvin/Nine Mile Creek TMDL Lakes Herman, Madison, Brant Project Planning Lake Poinsett Project Planning and Design Upper Big Sioux Watershed AGNPS
Cheyenne River Basin	Develop NPS BMPs Western Pennington Co. Drainage Dist. Galena Fire Project Rapid Creek and Aquifer Assessment Project Rapid Creek NPS Assessment Project Rapid Creek Stormwater Impact Prioritization
Grand River Basin	Grand River Watershed TMDL
James River Basin	Broadland Creek Watershed Study Firesteel Creek/Lake Mitchell WQ Needs Assessment - Landowner Survey Lake Faulkton Assessment Project Lake Louise Water Quality Monitoring Mina Lake Water Quality Project Ravine Lake Diagnostic/Feasibility Study

	Turtle Creek/Lake Redfield Landowner Survey Wylie Pond/Moccasin Creek Watershed TMDL
Minnesota River Basin	Lake Cochrane/Oliver TMDL Fish Lake Water Level and Quality Study Lake Hendricks Restoration Assessment Lake Traverse/Little Minnesota River Land Inventory
Missouri River Basin	Burke Lake Diagnostic/Feasibility Study Lake Andes Watershed Treatment Project Platte Lake Planning Randall RC&D Implementation Planning
Vermillion River Basin	Vermillion River Basin Watershed Planning West Yankton Sanitary Sewer Survey
White River Basin	White River Preservation Project White River Watershed Data Collection Project
Statewide	Chemical Containment Demonstrate Slash Pile Use Control Erosion on Fragile Soils Detention Cell Demonstration Project East River Riparian Demonstration Project Forestry BMP Pamphlet Groundwater Protection Project Livestock Waste Management Handbook Local WQ Planning Through Hydrologic Unit Planning Pesticide and Fertilizer Groundwater Study Pesticide and Nitrogen Program Riparian Area Forestry Project Stockgrowers Speaker Water Quality Study of SD Glacial Lakes and Wetlands Wetland Assessment for the Nonpoint Source Program North Central RC&D HU Implementation

Section 106 Grant

The Water Resources Assistance Program provided financial assistance to 14 projects using Section 106 funds during FY 2003. Nine of the projects initiated or increased support for lakes, watershed, and TMDL assessments; five provided additional tools or information the department and its partners needed to more effectively develop, implement, and evaluate TMDLs. Projects awarded 106 Grant funds during the past year are listed in the following table.

106 Grant Project Awards

Project	Grant Award
2002 - 2003 Statewide Lakes Assessment	\$33,958.24
Digital Line Graphs	\$65,000.00
Digitized SD Soils Survey	\$130,000.00
Fish Lake/Lake Alice Assessment	\$5,414.23
Gauging Stations	\$334,937.00
Lake Hanson Assessment Project	\$10,848.54
Lewis and Clark Initial Watershed Assessment	\$273,500.00
Purchase of Equipment for the Lower Big Sioux and the Spring Creek Projects	\$227.50
Remote Sensing	\$140,164.00
School/Bullhead Lake Assessment	\$82,820.00
Spring Creek Watershed Assessment	\$79,762.23
Statistics Training Course	\$23,500.00
Upper Cheyenne River Watershed Assessment	\$170,000.00
Upper Rapid Creek Watershed Assessment	\$5,318.26
Total	\$1,355,450.00

EPA Consolidated Funding Process Grants Program

Two DENR NPS project partnerships are being partially supported with financial assistance provided through the Region 8 Consolidated Funding Process:

- Lower Big Sioux River TMDL Project and
- SD Volunteer Water Quality Monitoring Program

The Lower Big Sioux TMDL Project has been awarded \$300,000 from the 104(b)(3) TMDL Program Funding pool (\$100,000 FY 2001 and \$200,000 FY 2002) to support an assessment of the Lower Big Sioux River watershed in partnership with the State of Iowa. Each state is responsible for funding and completing assessment activities in the segment of the watershed located in their respective state. Iowa received a similar grant from USEPA Region 7 for the project. The project workplan extends through FY2004.

The South Dakota Lakes and Streams Association was awarded \$15,000 from the FY 2003 Regional Geographic Information (RGI) pool to complete a project designed to increase participation in South Dakota Volunteer Monitoring Program related activities. The association was previously awarded a \$10,000 RGI Grant for stream monitoring in the Black Hills region of the state. See the Information and Education Section of this report for information about the volunteer monitoring network

Grants Reporting and Tracking System

South Dakota enters information about 319(h) funded projects into the EPA Grants Reporting Tracking System (GRTS) database. The database contains detailed information about project

funding, goals, and tasks. The department entered project evaluations for existing projects and mandated data for new projects funded during the year.

Project evaluation reports are entered twice each year. Mid-year evaluations are entered during April and May; year-end reports during October and November. The reports contain:

- summaries of project activities completed during the reporting period,
- cumulative summaries of accomplishments since the project was initiated, and
- a comparison of accomplishments relative to workplan milestones.

DENR is:

- current with mandated element and evaluation report requirements,
- reviewing entries for completed projects to determine final report entry status, and
- working with EPA to finalize the procedure for load reduction data entry.

To improve proficiency in meeting reporting requirements, the program staff person assigned responsibility for GRTS:

- attended the 2003 GRTS annual meeting,
- received onsite data entry training/assistance from EPA Region 8 GRTS staff,
- presented training to South Dakota project coordinators and department staff at the 2003 North Dakota – South Dakota NPS Coordinator’s Training workshop, and
- participated in development of the evaluation, project implementation plan (PIP) Mandated Elements and PIP Detailed Summary templates, and
- worked with North Dakota NPS Program and EPA headquarters staff to modify the watershed stream reach index procedure used to better facilitate entry of load reduction data for North and South Dakota.

For more information about the GRTS system, contact DENR.

Staff & Support

During the reporting period, the Watershed Protection Program was authorized 15.5 full time equivalents. Included in the number were thirteen environmental scientists, a natural resources engineer, a secretary and a half time office administrator. Two of the scientist positions were vacant during a significant portion of the year. One of the positions is being changed to a natural resources engineer. Both are expected to be filled before May 2004. Visit the Watershed Protection web page for contact information and areas of program responsibility:

<http://www.state.sd.us/denr/DFTA/WatershedProtection/staff.htm>

Program staff also had access to the services of other Division of Financial and Technical Assistance and department media program staff as needed to carry out the mission of the

Watershed Protection Program. In addition, the services of an environmental consultant were used to increase the program's technical assistance deliver capacity.

Watershed Protection Program staffing plan goals are:

- provide sufficient administrative and financial support for the watershed/nonpoint source pollution control program to create and maintain functional, well-managed projects, and sustain an effective statewide program,
- develop and conduct watershed and site-specific assessments in priority areas for the preparation and implementation of TMDLs,
- provide sufficient technical support for the watershed/nonpoint source pollution control program to create and maintain effective projects using state-of-the-art science and engineering,
- provide staff to implement the information and education work plan and activities, and provide general information and education support to the program and project sponsors, and
- facilitate partnering and coordination among agencies and project sponsors in the development and implementation of nonpoint source pollution control projects.

Detailed information about the goals is available in the program staff & support work plan.

During this reporting period, the program staff maintained close working relationships with several stakeholder groups and agencies. Staff routinely attended meetings of the SD Association of Conservation Districts Board of Directors, SD Board of Water and Natural Resources, SD Conservation Commission, USDA Technical Committee, SD Nonpoint Source Task Force and local conservation districts that were sponsors of or were considering sponsoring nonpoint source control projects. Staff also routinely met with agency staff from the US Army Corps of Engineers, Natural Resources Conservation Service, US Forest Service, Environmental Protection Agency, US Bureau of Reclamation, SD Department of Game, Fish and Parks, SD Department of Agriculture, and many other state agencies, local governmental units, universities, agricultural producer groups, and industry and environmental interest organizations.

Project staff provided funded projects with technical assistance and project oversight through onsite and electronic means during the year. They also assisted prospective project partners with preparation of project proposals and implementation plans. See previous sections of this report for projects assisted/developed. In administering the projects developed/assisted, program staff:

- initiated 25 contracts obligating \$5,299,490.57 and processed 285 payment requests totaling \$3,101,361.32 in federal funds from all sources, and
- processed 52 payment requests totaling \$337,295.83 in state funds.

Training

Training was provided for department program staff, local project staff and volunteer water quality monitors. The training provided for each group is described below.

Watershed Project Staff

Two types of training are provided for local project personnel:

1. onsite and
2. workshops

At the beginning of each project, NPS staff provides onsite project management training for the coordinator and other staff hired by the project sponsor. Topics covered typically include:

- review of the project implementation plan,
- record keeping,
- financial management,
- match documentation,
- reporting requirements,
- EPA and DENR NPS Program guidance and policies, and
- how to access financial and technical assistance from other project partners and stakeholders.

During the onsite training, the coordinator and other project staff are provided with a copy of the *Watershed Project Guide for State Consolidated and EPA 319 Watershed Implementation Project Packet*. The packet contains detailed information about the topics listed above and examples of the forms and procedures used in managing the project. Additional onsite training is provided as needed throughout the duration of the project.

Additional specialized training is provided to project staff involved with monitoring and assessment activities. The training includes:

- water quality sample and data collection to include a review of quality assurance procedures, and
- Annualized Agricultural Nonpoint Source Pollution Model (AnnAGNPS) data collection and use.

Water quality sample collection training is provided both onsite and during an annual water quality training workshop that is conducted prior to the spring runoff period. Approximately 25 local project coordinators and technicians and five DENR program staff members attended the FY 2003 workshop.

A joint North Dakota /South Dakota project management and information exchange workshop was conducted during February 2003. The two states rotate hosting the workshop which was

initiated during 2000. Seventy-five project and project partner staff persons from the two states attended the 2003 workshop (45 project, 25 agency, 4 conservation district, and 1 producer).

Volunteer Water Quality Monitors

Water quality sample collection training is provided for volunteer water quality monitors through a partnership with the South Dakota Volunteer Water Quality Monitoring Network managed by the South Dakota Association of Lakes and Streams with support from DENR. Three workshops were held during FY 2003. See the information and education section of this report, the DENR NPS I & E – 98 Project entry in GRTS or visit the following web site for additional information.

http://www.sdlakesandstreams.com/citizen_monitoring_program.htm

Department Program Staff

Specialized training in the selection and use of statistics to analyze water quality data was provided to DENR Watershed Protection assessment staff during FY 2003. The training was also attended by two local project coordinators and DENR Surface Water Program staff members.

Project Guidance & Oversight

DENR staff works closely with project sponsors during all phases of project development, implementation and evaluation. Assistance is provided using a combination of onsite visits, electronic communication, and publications. The primary publication used is the department's *Watershed Project Guide for State Consolidated and EPA 319 Watershed Implementation Project Packet*. The packet contains program guidance/requirement, financial management, and reporting information. Project coordinators were provided copy of the manual at the joint North Dakota/South Dakota Project Coordinator's training session held during February 2003 in Aberdeen. New coordinators are provided with a copy during onsite orientation visits from assigned DENR project officers.

EPA and DENR staff visited selected projects jointly during this reporting period. During FY 2003, joint project visits were made to the:

- Blair Managed Grazing Demonstration Site funded by the SD Grasslands Management and Planning Project,
- Belle Fourche River Watershed Assessment Project,
- Blue Dog and Enemy Swim Lakes Projects,
- Upper Rapid Creek Assessment Project, and
- Spring Creek Assessment Project.

Information and Education

The South Dakota NPS Information and Education (I& E) Program has been operational for nearly 12 years. Since its inception, the program has relied primarily on community based

partnerships to deliver NPS information and action opportunities to the state's residents. This approach has resulted in an outreach and information transfer mechanism that:

- is consistent with the Clean Water Action Plan,
- addresses priorities identified in the South Dakota – EPA Performance Partnership Agreement,
- enjoys broad-based support from agricultural and environmental groups and governmental agencies, and
- is holistic and sustainable.

The DENR NPS Information and Education Program is implemented through the department's Water Resources Assistance Program.

Activities selected for completion through the I & E program are:

- based on local, state, and national priorities;
- chosen to complement actions being completed by other resource management groups and agencies;
- designed to effectively reach an identified target audience; and
- part of a statewide NPS I & E Strategy adopted by the South Dakota Nonpoint Source Task Force.

The NPS priority areas addressed by the strategy are:

- animal feeding operations (AFO/CAFO),
- nutrient management, and
- TMDLs.

The Water Resources Assistance Program has maintained a web site since 1998. The web site provides ready access to water resources information and opportunities for involvement. To access the site visit:

<http://www.state.sd.us/denr/DFTA/WRAP>

Nonpoint source information, reports, and opportunities for involvement are located within the web site. Visit:

<http://www.state.sd.us/denr/DFTA/WatershedProtection/wpprg.htm>

Selected NPS I & E activities initiated, in progress, or completed during FY 2003 follows. A comprehensive summary of the state's NPS I & E outreach activities is located in Appendix A of this report. Many of the products that resulted from the activities are available by visiting the Watershed Protection web sites referenced previously or those shown in Appendix A.

Selected FY 2002 SD NPS Information and Education Activities and Products.

Activity/Product	Target Audience	Priority Areas	Comments
Managed Grazing School	Farmer's/Ranchers Resource Managers	AFO/CAFO Nutrient Management TMDLs	The first annual SD Managed Grazing School was planned and conducted under the cooperative leadership of the SD Grassland Coalition and South Dakota State University. Thirty-four ranchers and resource managers attended the 2 1/2 day school. The curriculum included both classroom and field exercises.
Storm Water BMP Workshop	Construction Industry Municipal and Agency Staff	TMDLs Nutrient Management	Four one-day storm water P2 plan development and implementation workshops were planned and conducted in cooperation with DENR's P2 and Surface Water Programs and the Assoc, General Contractors of SD. Over 180 industry and resource management professionals attended the workshops.
Electronic Soil and Manure Test Results Reporting	Livestock Producers Crop Producers Resource Managers	AFO/CAFO Nutrient Management TMDLs	Assistance was provided to South Dakota State University for the development of online soil and manure test results reporting capabilities to decrease delivery of test results and create a data base that will provide resource managers with an additional management tool.
Volunteer Watershed Activities	General Urban/Rural	TMDL	Assistance is provided to the SD Lakes and Streams Assoc. for development of a sustainable SD volunteer water quality network. During 2003, 35 trained volunteer monitors collected 77 water quality samples from 15 lakes and 5 streams/rivers. Other volunteer activities included storm drain stenciling and shoreline cleanups.

<p>Exhibits Managing Manure for Profit and the Environment</p>	<p>Livestock Producers General Agriculture</p>	<p>AFO/CAFO Nutrient Management</p>	<p>Segments of the exhibits developed for DakotaFest 1999 – 2001, used as the unifying event for an interagency/industry partnership formed to implement the “Managing Manure for Profit & the Environment outreach strategy, continue to be used by project partners at ag commodity group meetings, fairs, conventions, and expositions.</p>
<p>Environmental Careers</p>	<p>Students</p>	<p>General Environmental</p>	<p>A display focusing on career opportunities with DENR and especially the NPS Program was set-up at three college career fairs. More than 1,500 students attended the events</p>
<p>Healing of Nations</p>	<p>General Urban and Rural</p>	<p>AFO/CAFO Nutrient Management TMDLs</p>	<p>The conference provided tribal, local, state and federal leaders and others with an opportunity to explore opportunities to work cooperatively toward common goals. The display provided information about assistance opportunities available through DENR. Approximately 100 of the more than 600 individuals who attended the conference visited the display.</p>
<p>BMP Demonstration Managed Grazing</p>	<p>Livestock Producers Resource Managers</p>	<p>Nutrient Management TMDLs</p>	<p>Nearly 275 producers, agency and ag industry personnel attended field days held at the Grassland Management and Planning Project demonstration sites during 2003. Articles about the project and sites were published in more than 20 newspapers with a total circulation of more than 93,000. The project web site, which has summaries about the</p>

BMP Demonstration Managed Grazing (Continued)			lessons learned at the sites, has been visited more than 25,000 times
Publications SD Forest BMP Manual	Timber Industry Resource Managers	Nutrient Management TMDLs	Revision of the SD forest (Silviculture) BMP Manual developed during 1994 is in progress. The revision incorporates recommendations developed following a timber harvest BMP audit completed during 2001. Printing is scheduled for fall 2003. Initial distribution will take place during forest BMP workshops planned for fall/winter 2003 in cooperation with the DENR P2 Program and the timber industry.
Manure As a Resource	Livestock Producers General Public/Urban	AFO/CAFO Nutrient Management TMDLs	<p>Production of a series of five Manure as a Resource publications is in progress through an interagency/livestock industry partnership. Primary distribution is through local extension and conservation offices and the DENR web site.</p> <p>Titles in the series and production status are:</p> <p><i>Straight Talk on Manure</i> – Published 2000. In third printing. Nearly 15,000 copies distributed.</p> <p><i>Calibrating Manure Spreader Application Rates</i> – Printed 2002. Approximately 7,500 copies distributed.</p> <p><i>Sampling Manure for Nutrient Analysis</i> – Printed 2002. Approximately 7,500 copies distributed.</p> <p><i>Using the Results from a Manure Analysis</i> – Printed</p>

Publications Manure As a Resource (Continued)			2003. Approximately 7,500 copies distributed.
SD NPS Project Funding and Technical Assistance Manual	Project Sponsors/ Stakeholder Groups	AFO/CAFO Nutrient Management TMDLs	<i>Developing a Comprehensive Nutrient Management Plan – Outlined.</i> Print 2004. The manual will provide project sponsors and stakeholders with information about financial and technical assistance available to plan and implement NPS projects. Printing is scheduled for winter 2004

Financial and Technical Assistance Provided by Project Partners

While financial and technical assistance received from the Environmental Protection Agency provides the base for the South Dakota NPS Program, the resources available from several public and private program partners are also integral components of many program activities. Selected program partnerships active during the past year are summarized below. For additional information about these and other program partnerships available in South Dakota please consult the *South Dakota Watershed Project Funding and Technical Assistance Guide*.

USDA Natural Resources Conservation Service and Farm Service Agency

The USDA Natural Resources Conservation Service (NRCS) and Farm Service Agency is an active project partner in all phases of the NPS Program. Program assistance provided includes:

- technical assistance for planning and implementing watershed projects,
- financial assistance for BMP implementation,
- training opportunities for program and project staff, and
- staff for the SD Animal Waste Management Team

In addition to providing financial and technical assistance, during FY 2003 NRCS and NPS program staff worked cooperatively in the:

- development of criteria for evaluating and ranking applications for farm program cost share assistance through state technical committee work groups,
- planning and management of managed grazing demonstration sites, and
- production of manure management educational materials.

Financial assistance for NPS related activities provided by several NRCS administered programs during FY 2003 is shown in the table that follows.

NPS Related Activities Funded in SD During FY 2003 by NRCS Administered Programs

Program	# Applications Funded	Acres	Funding (\$)
Environmental Quality Incentives (EQIP)	314	NA ¹	10,850,785
Ground and Surface Water Conservation (GSWC)	36	7,629	448,195
Wildlife Habitat Incentives Program (WHIP)	39	6,048	378,318
Wetland Reserve Program (WRP)	12	1,267	1,001,603
Grasslands Reserve Program (GRP)	10	17,986	1,694,216
Conservation Reserve Program (CRP)	334	29,628 ²	NA

1 - See next table for conservation practices funded.

2 - Current CRP Acres = 1,440,300

Conservation Practices Funded by EQIP

Conservation Practice	Extent	Unit	Cost-Share(\$)
Waste Storage Facility (313) ¹	21	Number	1,494,960
Brush Management (314)	600	Acres	2,400
Conservation Cover (327)	72.5	Acres	6,960
Critical Area Planting (342)	312.2	Acres	8,672
Dam, Diversion (348)	2	Number	11,615
Well Decommissioning (351)	19	Number	2,280
Dike (356)	1	Feet	342
Pond (378)	112	Number	314,047
Windbreak/Shelterbelt Establishment (380)	284,412	Feet	142,256
Fence (382)	1,364,844	Feet	631,142
Riparian Herbaceous Cover (390)	28	Acres	2,940
Riparian Forest Buffer (391)	90	Acres	1,974
Grade Stabilization Structure (410)	1	Number	4,324
Grassed Waterway (412)	8	Acres	5,378
Hedgerow Planting (422)	2,640	Feet	280
Irrigation Land Leveling (464)	9,833	Acres	19,657
Mulching (484)	1.8	Acres	360
Pasture & Hay Planting (512)	16,894.8	Acres	939,538
Pipeline (516)	2,692,945	Feet	3,875,537
Pumping Plant (533)	91	Number	164,532
Grazing Land Mechanical Treatment (548)	810	Acres	2,160
Range Planting (550)	2,077.6	Acres	204,064
Spring Development (574)	11	Number	28,875
Animal Trails & Walkways (575)	4,444	Feet	14,198
Streambank & Shoreline Protection (580)	1,200	Feet	359
Structure for Water Control (587)	2	Number	3,750
Terrace (600)	75,270	Feet	53,608
Watering Facility (614)	4,250	Number	1,322,453
Underground Outlet (620)	3,780	Feet	2,666
Waterspreading (640)	67	Acres	8,392
Water Well (642)	116	Number	1,651,657
Upland Wildlife Habitat Management (645)	123.6	Acres	14,109
Wildlife Watering Facility (648)	1	Number	159
Windbreak/Shelterbelt Renovation (65)	44,095	Feet	18,061
IWC High-Pressure, Underground Plastic Pipeline (430DD)	400	Feet	1,115

1 - AFO/CAFO

US Forest Service

Program staff interacts with and provides technical assistance to the US Forest Service to prevent and control NPS pollution on the forest and grass lands the service manages. Interactions and assistance during the past year included:

- review notices of proposed US Forest Service actions, permits, and management plans,
- coordination of NPS TMDL study and control/remediation activities taking place within the forest boundaries, and
- revision of the SD Forestry BMP Manual.

Bureau of Reclamation

The Bureau of Reclamation (BOR) has been an active partner in the Belle Fourche River Watershed and Cheyenne River assessment projects. BOR's involvement included:

- Belle Fourche River – assessment and implementation project planning, and
- Cheyenne River – planning and water quality sample analysis.

South Dakota Water & Environment Fund

The Water Resources Assistance Program administers the Consolidated Water Facilities Construction program. The program provides state grants and low interest loans for projects on the State Water Facilities Plan. NPS structural and construction BMPs such as dredging, animal waste management systems, and shoreline stabilization are eligible for cost share funds through the program. The Water Resources Assistance Program also administers special appropriations from the department's Environmental and Natural Resources Fee Fund. These funds provide state assistance for the completion of TMDL assessments. Projects awarded consolidated and fee fund grants during the reporting period were:

NPS Projects Awarded Consolidated Water Facilities and Fee Fund Grants During FY 2003

Project	Grant Award	Funding Source
Twin Lakes/Wilmarth Lake Assessment	\$23,000	Fee Fund
Burke Lake Assessment	\$10,650	Fee Fund
Little White River Assessment	\$17,000	Fee Fund
Lake Traverse Watershed Assessment	\$20,000	Fee Fund
Richmond Lake TMDL Assessment	\$20,000	Fee Fund
Digitize SD Soil Survey	\$ 9,600	Fee Fund
Lake Faulkton Watershed Restoration	\$180,000	Consolidated
Lake Hanson/Pierre Creek Restoration	\$200,000	Consolidated
Total	\$480,250	

SD Conservation Commission

The South Dakota Conservation Commission provides state funded grants to conservation districts for the implementation of conservation best management practices through the South Dakota Soil and Water Grants Program. DENR staff coordinates funding of grant requests that could benefit from both the NPS and Soil and Water Grants programs with the Commission and participates in grant application reviews. To maintain and build on the partnership with the commission, program staff regularly attends the commission meetings.

During this reporting period, the commission awarded \$689,911 in grants. NPS projects and animal feeding operation/nutrient management activities included in the total were:

- Little White River Assessment Project - \$9,500,
- Cottonwood Lake/Lake Louis Watershed Project - \$3,100, and
- Engineering for the design for waste management systems for 28 CAFOs - \$376,320.

Funding requests for the:

- design of waste management system for an 26 additional CAFOs - \$249,440,
- Butte/Lawrence County Ponds and Grazing Management Project- \$43,250,
- Clear Lake Watershed Restoration Project - \$5,000, and
- Upper Cheyenne River Watershed Assessment Project - \$10,000.

were in review and approved shortly after the close of the fiscal year.

319 Grant Match

Nonfederal match of 40 percent of project expenditures is required for Section 319 grants. South Dakota has a history of over matching 319 grants even though the state takes a very conservative approach to accumulating and approving nonfederal match. As much of the match comes from construction and implementation of BMPs, a large proportion of the match requirement for many projects is accrued/documented during the later phases of workplan completion. See Appendix B for a summary of nonfederal match documented for each of the department's 319 grants.

Water Quality Improvements

The South Dakota NPS Program is initiating activities to better quantify load reductions and water quality improvements achieved through the completion of watershed project implementation plans. The program considers quantification of load reductions and resultant water quality improvements as essential to evaluating project goal attainment and reaching the TMDLs established for priority waterbodies. The quantification process will use a combination of modeling and water quality sample results. Load reduction/water quality improvements documented will be entered in GRTS as required.

The availability of load reduction/water quality improvement data is anticipated to increase as implementation of BMPs included in project workplans progresses and program staff and project coordinators become more proficient in collecting the information.

Load reduction/water quality data available for selected projects follows.

Bad River Watershed Project

The Bad River TMDL calls for a 30 percent reduction in the 3.25 million tons of sediment delivered to Lake Sharpe by the river each year (USGS and Corps of Engineers data). Data released by the Corps of Engineers during 2001 shows that the Bad River currently delivers 1.95 million tons of sediment per year. This equals a 40 percent reduction (based on an average of USGS data from 1972 through 1997). The reduction exceeds the TMDL goal. A linear regression prepared using the same data base for the years 1948 through 2000 shows a 50% reduction in sediment delivery.

Lake Cochrane/Oliver

According to data prepared for the 2004 SD Integrated Report for Surface Water Quality Assessment, Lake Oliver will meet the mean TSI goal of 65. The phosphorus reduction recommendation is 50 percent.

Firesteel Creek/Lake Mitchell

An estimated three percent (2.7 ppb) reduction in the in-lake phosphorus was realized from the first Alum treatment applied during summer 2003. The in-lake reduction goal is 90 ppb total phosphorus.

Bachelor Creek

An evaluation of sediment and nutrient load reductions achieved in the watershed using AGNPs indicates that, on an annual basis, changes in residue management have resulted in a sediment load reduction of 18.2 percent, nitrogen reduction of 7.86 percent, and phosphorus reduction of 11.92 percent. These reductions accomplish 99 percent of the project goal established for sediment, 63 percent of the goal for nitrogen and 72 percent of the goal for phosphorus.

Appendix A
Information and Education Project Matrix

ACTIVITY	PRIMARY TARGET AUDIENCE	PRIORITY AREA	DENR PROGRAM INTERFACE	PRIMARY PROJECT PARTNERS	IMPLEMENTATION STATUS
Volunteer Watershed Activities Citizens Monitoring Storm drain Stenciling Adopt*A*Stream	General Urban/Rural Urban General Urban/Rural	TMDL TMDL Nutrient Management TMDL Nutrient Management	Surface Water Surface Water Source Water Surface Water Source Water	SD Lakes & Streams Assoc. SD Discovery Center Local Organizations Water Development Districts SD Lakes & Streams Assoc. SD Discovery Center Local Organizations Water Development Districts SD Lakes & Streams Assoc. SD Discovery Center Local Organizations Water Development Districts	Ongoing. Financial assistance provided by 319 Grants through DENR and RGI Grants from EPA. Volunteer monitoring training is provided at workshops conducted by SD Lakes and Streams Association with assistance from DENR. During 2003, 35 volunteers were trained. The volunteers collected 77 water samples from 15 lakes and five streams/rivers. Data collected by monitoring groups is stored in a database maintained by the SD Lakes and Streams Association. The data base can be accessed by visiting: http://www.state.sd.us/denr/DFTA/WatershedProtection/Voluntary.htm
Coordinated Resource Management	Agriculture General Adult	TMDL Nutrient Management	All Media Programs	SDACD Midwest Mediation NRCS USFWS US Forest Service Northwest Area Foundation	Complete. Training and process manuals funded through 319 Grant from DENR and Northwest Area Foundation. Process manual, "Getting Results from Public Involvement" available from DENR.
Bootstraps	Farmers and Ranchers	TMDL Nutrient Management	Pollution Prevention Ag Waste Workgroup Surface Water Ground Water	NRCS RC&Ds SDSU Extension Service SD Dept. of Ag SDACD & Conservation Districts SD Grasslands Coalition	Complete. 319 funded assistance for Bootstraps groups and activities related to resource management plan development available through SDACD. Assistance for plan implementation available through 319 grants to SD Grassland Coalition for Grassland Management and Planning. For information about Bootstraps and a copy of the final report visit: http://www.sdconservation.org/local/boots1.html

Precision Farming	General Agriculture	TMDL Nutrient Management	Pollution Prevention Surface Water Source Water	SDSU Extension Service NRCS SDACD SD Dept. of Ag	Complete. Financial assistance provided through DENR P2 Program. Video was aired as a four part feature series on Today's Ag during Jan -Feb. 2001. Audience reached ranged from 45,000 – 60,000 viewers each week
No-till Farming	General Agriculture	TMDL Nutrient Management	Surface Water Source Water	SDSU Extension Service NRCS SDACD SD Dept. of Ag SD No-till Association Ducks Unlimited	Complete. 319 funded project segment complete. Project continuing with funding from other sources. The results of a survey conducted to determine barriers to the adoption of no-till farming are available by visiting: http://www.state.sd.us/denr/DFTA/WatershedProtection/P2/Documents/No_till_Survey_Final_Report.pdf The <i>No-till Seeding Concepts</i> video produced is available from DENR.
BMP Training Silviculture	Timber Industry Resource Managers	TMDL Riparian Areas Sediment	Surface Water Source Water Pollution Prevention	SD Forest Resource Association SD Dept. of Ag USFS	Complete/Ongoing. Two workshops held summer 2000 were attended by nearly 100 industry/resource professionals. Field audits of BMPs installed at six timber sales were conducted summer 2001. A virtual tour of the audit sites is available at: http://www.hpcnet.org/timberaudit The results of the field audits and project final report are available at: http://www.state.sd.us/denr/DFTA/WatershedProtection/P2/Documents/Publications.htm Two workshops and six follow-up field audits of BMPs installed are planned for summer/fall 2004 with funding provided through DENR's P2 Grant from EPA. The revised SD Forest BMP manual will be introduced at the workshops.

BMP Training (Continued) Onsite Wastewater Treatment Systems	Home Owners Planning and Zoning	TMDL Nutrient Management Ground Water	Ground Water Source Water Pollution Prevention	Black Hills RC&D SDSU Extension Service	Complete. Attendance at two workshops held during spring 2000 was approximately 140. Nearly 200 information packets were distributed. Nearly 500 copies of a video, <i>Living With a Septic System</i> , produced have been distributed. Segments of the video aired as a feature series on <i>Today's Ag</i> during December 2001. The program reached 45,000 – 60,000 viewers each week. To view the video online visit: http://www.state.sd.us/denr/DFTA/WatershedProtection/P2/P2.htm
Urban Storm Water/Sediment	Public Works Depts. Planning and Zoning Construction Industry	TMDL Sediment	Pollution Prevention Surface Water Source Water	American Public Works Assoc. Municipal League NRCS Associated General Contractors	Ongoing. Slide set developed through 319 Program. Workshops were conducted during 1996, 2002 and 2003 with financial support from SD P2 Program. The 2002 workshop, attended by 80 storm water managers, centered on developing prevention-based storm water plans. More than 180 construction and governmental storm water managers attended the four P2 storm water plan development and implementation workshops held during 2003 for the construction industry. A storm water program requirements publication is in production. A workshop for the construction industry is planned for 2004.
Riparian/Shoreline	General Agriculture Livestock Producers General Urban	TMDL Nutrient Management Sediment	Surface Water Source Water	SD Grassland Coalition NRCS RC&Ds SDSU Extension Service	Ongoing. Three field workshops on the use of vegetative methods were held. East River Riparian Demonstration Project was completed with financial support through 319 Program. The <i>Shoreline Stabilization Guidelines</i> manual was produced by Upper Big Sioux and Lake Poinsett Watershed Projects. The manual is available online by visiting: http://www.state.sd.us/denr/DFTA/WatershedProtection/WQInfo.htm

<p>BMP Training (Continued) Grassland Management and Planning</p>	<p>Livestock Producers Resource Managers</p>	<p>TMDL Nutrient Management Sediment</p>	<p>Surface Water</p>	<p>SD Grassland Coalition RC&Ds NRCS SDACD & Conservation Districts SDSU Extension Service SD Dept. of Ag SDGFP US Fish & Wildlife Service</p>	<p>In progress. Six grazing demonstration sites were developed with support from the SD Soil and Water Conservation Fund, Bootstraps watershed projects, and 319 funds. To learn about the sites visit: http://www.sdconservation.org/grassland/managing/gmd/index.html</p> <p>Technical assistance for planning and implementation of grazing systems is provided through a 319 grant awarded to the SD Grassland Coalition spring 2001. Information transfer activities include field days, a web site and video. For grassland management information or to request technical assistance, visit: http://www.sdconservation.org/grassland/index.htm</p> <p>The first annual SD Managed Grazing School was held during summer 2003. The 2 ½ school includes both classroom and field exercises. Thirty-four ranchers and resource managers attended the inaugural event.</p> <p>Production of a managed grazing program series and video is in progress. The 7-10 part program series is scheduled to air on <i>Today's Ag</i> during January – February 2004.</p>
<p>Manure Management Training</p> <p>Videos</p>	<p>Livestock Producers Resource Managers</p> <p>Livestock Producers General Rural/Urban</p>	<p>TMDL AFO/CAFO Nutrient Management</p> <p>TMDL AFO/CAFO Nutrient Management</p>	<p>Ag Waste Workgroup Surface Water</p> <p>Ag Waste Workgroup Pollution Prevention Surface Water</p>	<p>SDSU NRCS Ag Waste Workgroup</p> <p>SD Public Broadcasting SDACD & Conservation Districts NRCS RC&Ds SDSU Extension Service</p>	<p>Ongoing. Training is provided for AFO/CAFO facility operators through a partnership with SDSU.</p> <p><i>Protecting Our Water</i>. Produced and aired by SDPBS during 1998, the video describes AFO/CAFO requirements in SD. Copies are available from DENR and at local libraries</p>

<p>Manure Management (Continued) Videos (continued)</p>					<p><i>Best Practices: Manure Management</i> Produced during 2000 by SDSU with funds from DENR's 319 I & E Grant, the video presents manure management BMPs producers can and are using. The video is used at training sessions and informational meetings. Segments aired as a feature series on <i>Today's Ag</i> Jan. – Feb. 2001. The program attracts 45,000 – 60,000 viewers each week. To view the video online visit:</p> <p>http://www.state.sd.us/denr/DFTA/WatershedProtection/P2/Documents/Publications.htm</p>
<p>Phosphorus-Based Nutrient Management</p>	<p>Livestock Producers Resource Managers</p>	<p>TMDL AFO/CAFO Nutrient Management</p>	<p>Ag Waste Workgroup Pollution Prevention Source Water Surface Water Ground Water</p>	<p>SD Cattlemen's Association SDSU Extension Service SDACD NRCS RC&Ds</p>	<p>In Progress. Funding to identify BMP development needs was provided to the SD Cattlemen's Assoc. through DENR's 1999 P2 Grant from EPA. 319 funding to conduct field studies and transfer information needed to develop comprehensive nutrient management plans was awarded to SDSU spring 2002. Information about the project is available by visiting:</p> <p>http://wri.sdstate.edu/research.htm</p>
<p>Fecal Coliform Strain Identification</p>	<p>Livestock Producers Urban Publics Works Public Health General Rural/Urban</p>	<p>TMDL AFO/CAFO Nutrient Management</p>	<p>Ag Waste Work group Pollution Prevention Source Water Surface Water</p>	<p>SDSU Extension Service SD Cattlemen's Association SD Pork Producers NRCS</p>	<p>In Progress. The project is designed to select, field test, and calibrate a fecal coliform strain identification diagnostic tool that provides SD with a reliable, cost effective tool to better assess fecal sources and implement TMDLs for pathogens in surface water. Funding was provided by DENR's P2 Program and 604(b) Grant</p>
<p>Exhibits</p>	<p>Livestock Producers General Adult/Urban</p>	<p>TMDL AFO/CAFO Nutrient Management</p>	<p>Ag Waste Workgroup Pollution Prevention Source Water Surface Water Ground Water</p>	<p>SDACD & Conservation Districts NRCS RC&Ds SDSU Extension Service SD Cattlemen's Association SD Pork Producers Watershed Projects SD Lakes and Streams Assoc.</p>	<p>Ongoing. Exhibits at DakotaFest 1999 – 2001 were the focus activity for the interagency <i>Managing Manure for Profit and the Environment Outreach Strategy</i>. Exhibits at ag commodity trade shows and local events ongoing. Funding provided by DENR's 319 and P2 Programs and project partners.</p>

<p>Manure Management (Continued) Publications</p>	<p>Livestock Producers General Public/Urban</p>	<p>TMDL AFO/CAFO Nutrient Management</p>	<p>Ag Waste Workgroup Pollution Prevention Source Water Surface Water Ground Water</p>	<p>SDACD & Conservation Districts NRCS RC&Ds SDSU Extension Service SD Cattlemen's Association SD Pork Producers Utah Dept. of Ag & Food</p>	<p>Ongoing. Development of publications is coordinated by an interagency and livestock industry nutrient management I & E workgroup. A five publication series built around manure as a resource theme is in production. As each publication in the series is complete, it is distributed through conservation district and extension offices and made available electronically at:</p> <p>http://www.state.sd.us/denr/DFTA/WatershedProtection/P2/Documents/Publications.</p> <p>Publications in the series are:</p> <p><i>Straight Talk on Manure.</i> Produced 2000 with funds from DENR 319 and P2 Programs and EPA Region VIII 104(b) Grant to the Utah Dept. of Ag and Food. Provides producers and public with "easily understood" information about the why and how of manure management and where to get technical assistance. In third printing. Nearly 15,000 copies distributed.</p> <p><i>Calibrating Manure Spreader Application Rates.</i> Produced 2002 with funds from DENR's 319 and P2 Programs and project partners. Describes methods of calibrating solid and liquid manure application equipment. Approximately 7,500 copies distributed.</p> <p><i>Sampling Manure for Nutrient Management.</i> Printed fall 2002. Produced with financial support from DENR's 319 and P2 Programs and project partners. Outlines procedures for collecting manure samples for nutrient analysis. Approximately 7,500 copies distributed.</p>
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Manure Management (Continued) Publications (Continued)					<p><i>Using the Results from a Manure Analysis.</i> Printed spring 2003. Produced with financial support from DENR's 319 and P2 Programs and project partners. Describes how to use manure nutrient analysis results to determine fertilizer value. Approximately 7,500 copies distributed.</p> <p><i>Developing a Comprehensive Nutrient Management Plan.</i> Printing scheduled winter 2003-2004. Summarizes steps for developing a comprehensive nutrient management plan that includes manure.</p>
Manure Web Site	Livestock Producers General Agriculture General Adult/Urban	TMDL AFO/CAFO Nutrient Management	Ag Waste Workgroup Pollution Prevention Source Water Surface Water Ground Water	SDSU Extension Service SDACD & Conservation Districts NRCS RC&Ds	In Development by SDSU and Ag Waste Team. Financial support of the team is provided by 319 Grant awarded through DENR.
Interactive Display Touch Screen (Kiosk)	Middle & High School Students	TMDL Nutrient Management Forest BMPs	Surface Water Ground Water Source Water Pollution Prevention	SD Dept. of Ag Society of American Foresters SDSU Extension Service USFS SD Discovery Center & Aquarium	Development of watershed program segments and hardware was provided through a 319 I&E Grant. One unit is located at the SD Discovery Center & Aquarium in Pierre; the second (portable unit) at the Children's Science Center in Rapid City.
Conversion of Touch Screen to CD (<i>South Dakota Forest and Water Adventures</i>)	Middle and High School Students	TMDL Nutrient Management Forest BMPs	Surface Water Ground Water Source Water Pollution Prevention	SD Dept. of Ag Society of American Foresters SDSU Extension Service USFS SDACD SD School of Mines & Technology	Complete. Funded by the 319 Program and project partners. More than 1,200 copies were distributed to middle schools and resource management organizations. To order or run the CD on line visit: http://www.state.sd.us/denr/DFTA/WatershedProtection/P2/Documents/Publications
Region VIII NPS CD	Middle & High School Students	TMDL Nutrient Management	Surface Water Ground Water Source Water Pollution Prevention	Region VIII State NPS Programs Utah State University	Dropped. Funded by a 319 grant from EPA to Utah State University. SD DENR participation in project dropped because of repeated production delays.

SD NPS Project Funding and Technical Assistance Manual	Project Sponsors/ Stakeholder Groups	TMDL AFO/CAFO Nutrient Management	NA	NA	In progress. The manual will provide project sponsors and stakeholder groups with information about financial and technical assistance available to help plan and implement NPS projects. Printing scheduled for winter 2004.
Water Festivals	Elementary School Students	TMDL Nutrient Management	All Media Programs	Water Development Districts Conservation Districts Watershed Projects Colleges/Universities SD Discovery Center	Complete/ongoing. Funds for the initial development and coordination were provided by the I&E Program. Festivals continue under local leadership. Financial assistance is encouraged through project I&E components. Materials are provided as requested.
Wetlands	General Rural/Urban	TMDL Nutrient Management	Surface Water Ground Water Source Water	SDACD & Conservation Districts NRCS RC&Ds SDSU Extension Service SD Dept. of Ag	Ongoing. Watershed projects and environmental groups are encouraged to include wetlands activities in 319 project workplans or use funds available for wetlands from other sources. A statewide wetlands I & E Program is in development. Two regional wetlands education projects were selected for 319 funding during fall 2003. PIPs are in development.
Project SAVE	Students – All Levels	General Environment TMDL Nutrient Management	Pollution Prevention All Media programs SD Geological Survey	SDSU SD Discovery Center Capital University Center	Complete/ongoing. The curriculum was developed using state funds. Assistance for initial teacher training was provided through the DENR P2 Program. Offering the program is currently licensed to Capital University Center. K-12 modules being prepared for posting on DENR web site by the SDGS. Publication of secondary modules planned through with SDSU.
Presentations, Exhibits and Demonstrations	General (Varies by topic)	TMDL Animal Waste Sediment Project Planning	Surface Water Source Water Ag Waste Pollution Prevention	Local, state and federal Agencies Organizations	Ongoing. Display materials are purchased with I&E and P2 funds. Exhibits/presentations are available on a variety of topics including: TMDLs, project planning, GIS, and P2 for use at conferences, fairs and other events
Project Coordinator Training	Watershed Project Coordinators	TMDL Project Areas	Pollution Prevention Financial Management	NRCS Conservation Districts Water Development Districts	Ongoing. Two-day project management and water quality monitoring workshops were held 2000, 2001, and 2003 in partnership with ND NPS Program. The next workshop planned for February 2004.

**APPENDIX B
MATCHING FUNDS MATRIX**

319 MATCHING FUNDS Accrued Through 9/30/03

Grant	Grant Award	Expenditures thru 9/30/03	Match Required Against Federal Expenditures	Total Match Required	Match Documented
319 Implementation 89	\$1,594,000	\$1,594,000	\$1,062,667	\$1,062,667	\$1,315,016
319 Implementation 90	\$800,137	\$800,137	\$885,994	\$885,994	\$885,994
319 Implementation 91	\$655,851	\$655,797	\$437,198	\$437,234	\$437,199
319 Implementation 92	\$795,000	\$794,836	\$529,891	\$530,000	\$535,421
319 Implementation 93	\$1,090,839	\$1,090,839	\$727,227	\$727,227	\$779,175
319 Implementation 94	\$1,415,142	\$1,415,142	\$943,508	\$943,508	\$1,188,561
319 Implementation 95	\$1,699,669	\$1,699,669	\$1,133,119	\$1,133,119	\$1,154,183
319 Implementation 96	\$1,126,685	\$1,037,867	\$691,911	\$751,161	\$787,159
319 Implementation 97	\$1,253,790	\$1,156,480	\$770,987	\$835,902	\$1,484,877
319 Implementation 98	\$1,296,790	\$1,210,152	\$806,768	\$864,531	\$1,684,393
319 Implementation 99	\$2,791,400	\$1,609,987	\$1,073,324	\$1,861,025	\$1,207,214
319 Implementation 00	\$3,008,897	\$1,841,228	\$1,227,485	\$2,005,931	\$1,763,172
319 Implementation 01	\$3,267,900	\$1,406,304	\$937,536	\$2,178,600	\$1,586,972
319 Implementation 02	\$3,142,900	\$555,550	\$370,366	\$2,095,268	\$71,436
319 Implementation 03	\$3,128,700	\$11,500	\$7,667	\$2,085,800	\$0
Total	\$27,067,700	\$16,879,488	\$11,605,648	\$18,397,967	\$14,880,772

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