South Dakota

Nonpoint Source Pollution Program Annual Report

Federal Fiscal Year 2006

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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South Dakota NPS Program Structure and Management

The South Dakota Nonpoint Source Pollution (NPS) Program is housed in the South Dakota Department of Environment and Natural Resources' (DENR) Water Resources Assistance Program (WRAP). 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/wpprg.htm

for the information about Watershed Protection's NPS activities.

The South Dakota Nonpoint Source Task Force is a key element in implementing the South Dakota NPS Program. 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 about activities which impact nonpoint source pollution control,
- assists DENR NPS program staff with the development of guidance and application procedures for funding NPS source control projects,
- reviews Section 319 project applications and makes funding recommendations to the South Dakota Board of Water and Natural Resources,
- serves as the coordinating body for the review and direction of federal, state, and local government programs to ensure that the programs facilitate NPS source pollution control an efficient manner,
- facilitates the development and distribution of NPS pollution information, education, and public awareness materials and activities,
- provides oversight of and prioritizes NPS control activities, and
- serves as a forum for discussion and resolution of NPS 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 Program has used Section 319, 104(b)(3), 106, and 604(b) funding to support nearly 210 NPS

projects (Appendix B). Historically, the majority of the projects funded focused on reducing NPS pollution originating from agricultural operations. During recent years, an increased proportion of the funds have been used to support local initiatives that:

- develop and implement total maximum daily loads (TMDLs) for impaired waterbodies,
- determine sources and causes of NPS pollution within priority watersheds,
- provide local project partners with assistance for planning and identifying sources of funding for the installation of NPS control best management practices (BMPs), and
- evaluate water quality conditions in urban as well as rural areas.

During 2005 it was determined that successfully addressing priority NPS pollution issues and sources in the state, required that DENR better focus its limited resources. To address the need, DENR worked with its state, federal, and local financial assistance partners to develop and implement a policy that directed the use of 319 funds to:

- projects that develop or implement a TMDL and
- specific implementation project activities:
  1. planning, administration, salaries and travel and monitoring/evaluation activities;
  2. information and education activities;
  3. animal nutrient management system design and construction with a 25 percent minimum landowner contribution required; and
  4. riparian buffers, shoreline stabilization and practices required to exclude livestock.

During FFY 2006, criteria for cost sharing the manure management components of monoslope barns and hoop structures were developed in cooperation with the Natural Resource Conservation Service (NRCS) and the South Dakota Department of Agriculture (SDDA):

- cost share is based on $75.00/head with a maximum award of $150,000 and
- additional assistance authorized on a case-by-case basis to bring the assistance to the level that would be needed to construct a conventional system at a new location when a relocation is necessary to address the required pollution reduction.

With the change, funding for other project activities and many of the BMPs previously cost-shared using 319 funds was moved to other funding sources such as the USDA conservation programs, the SD Soil and Water Grant Program, US Fish and Wildlife Service, and private organizations such as Ducks Unlimited and Pheasants Forever.

While the size, target audience, and structure of South Dakota's NPS projects vary, 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 TMDLs,;
- comply with threatened and endangered species, historic preservation, storm water construction control, and 404 and 401 permit requirements;

- implement TMDLs on a watershed basis; and
- disseminate information about effective solutions to NPS pollution.

Projects applications are developed:

- on a watershed basis to either develop or implement a cluster of TMDL(s) or support TMDL development or implementation,
- in partnership with local, state and federal agencies and organizations, and
- with assistance from DENR.

Project applications are solicited by:

- mailings and other correspondence to the NPS task force members, conservation districts other agency and private organization entities expressing an interest in making application;
- box ads in daily newspapers; and
- posting the request for proposals on the Watershed Protection website home page:

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

The website also contains EPA and South Dakota 319 project guidelines, application information and deadlines for submitting applications to DENR.

Project applications submitted are reviewed using a competitive process. The initial review is by the NPS task force. The task force provides its recommendations for funding to the South Dakota Board of Water and Natural Resources (BWNR). The BWNR is the designated governmental entity that provides South Dakota's 319 funding recommendations to EPA. In addition to recommendations from the task force, the BWNR considers input from DENR NPS staff and concerned citizens who may be in attendance at the board meeting or provide written input. The board periodically conducts meetings using video conferencing at remote sites plus the main studio in Pierre. Normally there are three remote sites, one in western SD; two in eastern. Holding meetings using video conferencing reduces travel costs and allows a greater number of citizens to participate in the decision making process.

The projects selected for funding fit into one of three categories:

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

Although most projects fit into one of the categories, several have included components of each.

The primary purposes of assessment/development projects are:

- identify beneficial use impairments or threats to specific water bodies,

- determine the extent to which the threats or impairments originate from NPS pollution, and
- develop TMDLs.

Assessment priority is given to waterbodies on the 303(d) list of impaired water bodies. The current list is contained in the state's *2006 Integrated Report for Water Quality Assessment*. A copy of the report is available from DENR or may be accessed at:

http://www.state.sd.us/denr/DFTA/WatershedProtection/tmdl.htm

TMDLs are developed for the listed water bodies as a part of an assessment project. The department prefers to develop the TMDLs in clusters that include all of the NPS TMDLs needed for a river basin. For larger basins, such as the Big Sioux, the basins are studied by dividing the basin into multiple TMDL sub-basins.

Activities completed during an assessment and TMDL development project typically include an inventory of existing data and information and supplemental monitoring, as needed, to accurately identify sources of water quality impairment. DENR and its project partners use the information 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.

Assessment/development projects typically range from one to three years in length.

For information about the location, status and results of South Dakota assessment projects visit:

http://www.state.sd.us/denr/DFTA/WatershedProtection/tmdl.htm

Information and education (I & E) projects are designed to provide information about NPS pollution issues and solutions or develop BMPs. I & E projects usually range from one to five years in length.

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. Many of the publications are available on the department's website at:

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

then click on publications in the box located on the left hand side of the screen.
BMP development projects are typically completed through partnerships with the academic community, South Dakota Cooperative Extension Service, the United States Department of Agriculture, Natural Resource Conservation Service (USDA NRCS), and private consultants.

To ensure the BMPs developed are accepted by the resources mangers who will install the practices, industry trade groups are involved in planning the projects and commonly provide financial assistance. The South Dakota Cattlemen's, Pork Producers and Corn Grower's associations, Grassland Coalition, South Dakota Forest Resources Association, and South Dakota Association of General Contractors are examples of commodity groups and trade associations, respectively, that have been involved in recent statewide BMPs development and training projects.

Watershed implementation projects are the most comprehensive of the projects implemented through the South Dakota NPS Pollution Program. Implementation projects are typically long-term in duration and designed to implement clusters of TMDLs that address NPS pollution sources and beneficial use impairments. Common implementation 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 using models and targeted monitoring.

South Dakota watershed implementation projects typically range from four to ten years in length with the duration dependant on the size of the watershed and extent of the NPS pollution s that must be addressed. During 2004, the department determined that funding projects for longer than three to four years was not an efficient use of limited financial resources nor did it allow the flexibility needed to install practices needed to attain TMDLs for large watersheds. To address the issues, an incremental funding strategy was initiated for large projects.

Large projects that require longer than three to four years to complete are funded in segments as continuation projects. The initial request for funding contains an outline of the practices needed to attain the TMDL/water quality goal established during an assessment project. Subsequent requests are modified to address progress toward the goal and ongoing re-evaluation(s) of practices needed to attain the goal. A final report is required for each project segment. The report summarizes the accomplishments of the segment and the cumulative accomplishments of project previous segments.

The implementation of incremental funding for large projects has proven to be a sound strategy both from both a financial and BMP installation aspect:

- projects are funded adequately for the short term with long term needs identified,
- DENR and local staff are able to more effectively monitor project progress and make necessary changes to the types of BMPs that will be installed to attain the project goal and TMDLs and the installation milestones, and
- projects that are not progressing are identified sooner and can be closed out with unexpended funds redirected to address other priorities.

NPS Management Plan

Implementation of the South Dakota NPS Pollution Management Program is guided by the South Dakota NPS Management Plan. EPA approved South Dakota's revised NPS Management Plan during March 2000. The plan:

- addresses the nine mandated elements required to access Section 319 incremental funds,
- expands 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 attain the TMDLs developed as part of the assessment process.

The 2006 Integrated Report (combined 303(d) and 305(b) reports) was developed using recent monitoring and assessment data. The 303(d) list includes 86 streams or stream segments and 61 lakes which need assessments and nonpoint source pollution TMDLs.

To date, EPA has approved forty-six nonpoint source TMDLs developed by DENR and its project partners. The TMDLs are available by visiting:

http://www.state.sd.us/denr/DFTA/WatershedProtection/tmdl.htm

During FY 2006:

- eight TMDLs were approved by EPA,
- six TMDLs were completed and submitted for public comment but were not approved before the end of the FFY, and
- twenty-five stream segments or lakes have been delisted as a result of data available to prepare the 2006 Integrated Report.

Progress in implementing the management plan, with the exception of post-project assessments, is on schedule as summarized below:

- TMDL assessments have been completed for 52 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, was suspended to redirect limited staff resources to TMDL related priorities,
- task 28, post-project assessments, is behind schedule because of limited resources and TMDL related priorities, and
- all other tasks are on schedule, have been completed, or exceeded planned outputs.

319 Grant

The South Dakota Department of Environment and Natural Resources' FFY 2006 Section 319 Grant award from EPA consisted of $1,624,400 in base funds and $1,638,600 in incremental funds. The $3,263,000 total award was allocated as follows:

- Staff & Support - $680,000 and
- 319 Projects - $2,583,000 ($1,638,600 incremental and $944,400 base).

Projects awarded funding from the department's 2006 FFY 319 Grant are listed in the Table 1.

Table 1. FFY 2006 Section 319 Project Awards.

Project	**Project Grant ($)**		
Assessment	**Base**	**Incremental**	**Total**
Lake Pocasse/Cambell Watershed Assessment	120,000		120,000
Implementation			
Deuel County Lakes Improvement Project Expansion	235,850		235,850
Lewis and Clark Watershed Project – Segment I	300,000		300,000
Turkey Ridge Creek Watershed Project Segment II	285,550	236,700	522,250
Central Big Sioux Watershed Project [1]	3,000	193,100	196,100
Belle Fourche Watershed Management Project Segment III		1,208,800	1,208,800
Total	944,400	1,638,600	2,583,000

Two projects (Table 2) were awarded 319 funding during FFY 2006 using prior year funds reverted from projects that were completed but did not expend the total amount awarded.

Table 2. Projects Awarded Section 319 Grants From Prior Year Reverted Funds.

Project	**Project Grant ($)**
Vermillion River Basin Watershed Assessment	30,000
Implementation	
Manure Management Based on Soil P – Additional Soils	97,033
Total	127,033

Active 319 Projects

A list of Section 319 projects funded by previous grant awards that were open during the FFY 2006 reporting period is provided in the Appendix B. The list is arranged by river basin. Examples of the BMPs installed are shown in Appendix C.

Completed 319 Projects

Table 3 contains a list of 319 projects closed during FFY 2006. The status of the final report is listed for each project. Load reductions achieved for implementation projects closed during the year are shown in Table 15.

Table 3. Projects Closed During FFY 2006.

Project	Final Report Status				
	In Preparation	In Review		Approved	
		DENR	EPA	DENR	EPA
Bachelor Creek Hydrologic Unit Project				X	X
Bell Fourche River Watershed Assessment	X[1]				
Bell Fourche River Watershed Management Plan				X	X
Blue Dog Lake Watershed Improvement				X	X
Jones Lake/Rose Hill Lake Watershed				X	X
Lakes Herman/Madison/Brant Implementation				X	X
Lake Faulkton Watershed Restoration		X			
Lake Traverse Watershed Assessment	X				
Manure Management Based on Soil Phosphorus				X	X
Okobojo Creek Watershed Assessment		X			
SD Nonpoint Source Information and Education - 98	X[2]				

[1] Final report in preparation by consultant.
[2] Final report preparation by DENR NPS staff.

A comprehensive list of Section 319 projects completed by DENR and its project partners is provided in Appendix B. The projects are listed alphabetically by river basin. Unless otherwise indicated (superscript), a final report for each project has been filed with EPA, entered in GRTS, and is available from the SD State Library. Several of the reports are also available by visiting:

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

During the 2006, DENR continued activities initiated during FFY 2005 to close out all 319 grants awarded to the department prior to FFY 2000 and all subsequently issued grants by the end of the initial grant period. The activities resulted in closure of all 319 grants awarded prior to 1999 and the 1999, 2000, and 2001 grants being on target for closure by their current expiration dates.

604(b) Grant

Two administrative actions took place during the FFY 2006 reporting period:

1. Grant C6 99813105-02 was amended to decrease the award by $64,000 in order to de-obligate unexpended funds. The amended grant total is $269,232.

2. An application for $100,000 in FFY06 funds and a request for recertification of the de-obligated $64,000 from Grant C6 99813105-03 was submitted. The application is pending approval. After the actions described, $164,000 will be available to DENR to fund the projects listed in Table 4.

Table 4. 604(b) Projects Open/Funded During FFY 2006.

Project	Project Grant ($)
Covell Lake/Lake Campbell TMDL Assessment Project	112,809
Black Hills Biological Sampling	15,000
Program Administration/Travel	36,191
Total	164,000

Program administrative costs include:

- preparing grant applications, project workplans, and sub-agreements with project partners;
- providing project oversight;
- attending meetings with project partners and department staff ; and
- processing requests for reimbursement received from sub-grantees.

604(b) Projects Completed and Closed

During the reporting period, several previously funded 604(b) projects were closed or shifted to other funding sources. These included the:

- James River TMDL Project (other funds),
- Lewis and Clark TMDL Project (project complete),
- Belle Fourche Fecal TMDL Project (TMDL drafted),
- Bacterial Source Tracking and Lower Big Sioux TMDL Assessment Project (other funds), and
- Lake Pocasse/Lake Campbell/Spring Creek TMDL (other funds).

The data from the bacterial tracking project referenced above as well as that from previous source tracking projects will be used to support completing the development of a statewide bacterial source tracking database.

A historical listing of completed 604(b) funded projects is located in Appendix B.

Section 106 Grant

The Water Resources Assistance Program has provided financial assistance to 19 projects using Section 106 grant funds. Eleven of the projects initiated or increased support for lake, watershed, and TMDL assessments. Seven funded additional tools or information DENR and its partners needed to more effectively develop, implement, and evaluate TMDLs. The seven active

projects supported totally or in part by 106 Grant funds are listed in Table 5; the 12 completed projects in Table 6.

Table 5. Active Projects Supported Using 106 Grant Financial Assistance.

Project	Grant Award ($)
Statewide Lakes Assessment (2006)	17,000
Gauging Equipment	25,471
Mercury Sampling	26,000
Upper Cheyenne River TMDL	292,700
Lewis and Clark Watershed Assessment	273,500
Missouri River Monitoring	172,447
School – Bullhead Watershed Assessment - TMDL	55,522
Total	862,640

Table 6. Closed Projects Supported Using 106 Grant Financial Assistance.

Project	Grant Award ($)
Statewide Lakes Assessment (2002 – 2005)	82,118.24
Center Lake Report Writing	20,000.00
Fish Lake/Lake Alice Assessment	5,414.23
Lake Hanson Assessment Project	10,848.54
Lewis and Clark Watershed Assessment	273,500.00
Missouri River Monitoring	172,447.00
Remote Sensing – AGNPS Crop Layers	92,004.00
Statistics Training Course	23,500.00
Digital Line Graphs	65,000.00
Digitized SD Soil Survey	130,000.00
Gauging Stations	382,937.00
Equipment for Lower Big Sioux and Spring Creek Assessment	227.50
Total	1,257,996.51

Performance Partnership Grant

Assessment projects designed to develop TMDLs for one creek and two rivers were funded wholly or in part using Performance Partnership Grant (PPG) carryover funds. The projects are listed in Table 7.

Table 7. Projects Funded using PPG Carryover Funds.

Project	Grant Award ($)
Cottonwood Creek TMDL Assessment	39,000
Lower Cheyenne Phase 1 TMDL Assessment	114,000.00
Lower James TMDL Watershed Assessment	177,223.00
Total	330,223.00

EPA Region VIII Priorities Grant Program

DENR encourages local stakeholders to apply for EPA Region 8 Priorities Grant Program (formerly Consolidated Funding Process) grants. The program is promoted at SD NPS Task Force meetings, by personal contact with groups that have inquired about potential sources of financial assistance and on the Watershed Protection website. In addition, the department offers stakeholder groups assistance with preparing an application when requested so to do.

Three DENR - NPS project partnerships have been supported with financial assistance provided through the Region 8 Priorities Grant Program:

- Lower Big Sioux River TMDL Project ,
- SD Volunteer Water Quality Monitoring Program, and
- Terry Redlin Freshwater Institute Education Program.

The Lower Big Sioux TMDL Project was awarded $300,000 from the 104(b) (3) TMDL Program Funding pool ($100,000 FFY 2001 and $200,000 FFY 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 activities in the portion of the watershed located in their respective state with South Dakota also monitoring the main channel. Iowa received a similar grant from USEPA Region VII for the project. A final report for Consolidated Funding Process Grant funded activities was accepted by EPA during April 2005. Financial assistance for the completion of the assessment project is being provided by other funds available to the partners.

The South Dakota Discovery Center and Aquarium coordinates the SD NPS Information and Education (I & E) effort using a Section 319 Grant awarded through DENR. The project grant includes support for the SD Volunteer Water Quality Monitoring Program. The Discovery Center partners with the Rocky Mountain Watershed Network for support of some of the activities necessary to maintain the volunteer monitoring program.

The Terry Redlin Freshwater Institute was awarded $25,000 from the FY 2004 Wetlands Funding pool. The grant provided additional funds for activities funded by a $70,000 319 grant awarded through DENR during FY 2004. The project sponsor anticipates completing activities included in the amended workplan during FFY 2007.

Grants Reporting and Tracking System

South Dakota enters information about 319(h) funded projects into the EPA Grants Reporting and Tracking System (GRTS) database. The database contains information about project funding, goals, and tasks. During FFY 2006, DENR entered:

- mid-year and annual evaluations for existing projects,
- mandated elements for new projects funded during the year, and
- worked with EPA Region VIII staff to complete reconciliation of project grant awards with cumulative grant awards from EPA.

During FFY 2006, mid-year evaluations, covering project activities from October 1 – March 31, were entered during May and June; annual, year-end reports, during November and December. The reports contain:

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

DENR is:

- taking actions needed to become current with GRTS entries not completed during the May – August GRTS transition,
- reviewing entries for completed projects to determine final report status and reconciling EPA "status" definition with project reports,
- using STEPL to estimate load reductions realized from BMPs installed, and
- increasing the capability to generate GRTS reports/information using the SD NPS Project Management System and other web based report preparation tools.

The department continues to improve proficiency and consistency in meeting reporting requirements by:

- adding features to the program's electronic, web based reporting program that allow the department's project partners to incorporate tables, figures and photographs into the GRTS report. The program can be accessed at:
  http://www.state.sd.us/denr/DFTA/WatershedProtection/GRTS.htm
- working with EPA to finalize the procedures for nutrient and sediment load reductions such as: delineation of watersheds (based on TMDL and appropriate reduction methodology),
- providing input to EPA Regional and headquarters staff during their efforts to modify the regional mandates list,
- continuing to work with EPA Region VIII staff to reconcile cumulative grant and project award totals in the system, and
- attending the EPA Region VIII and national GRTS meetings.

Staff & Support

During the reporting period, the Watershed Protection Program was authorized 15.5 full time equivalents. Included in the number were 12 environmental scientists, two natural resources engineers, a secretary and a half time office administrator. Visit the Watershed Protection

website for contact information and areas of program responsibility:

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

Program staff has ready 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.

The 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 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 (I & E) work plan and activities that 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. To maximize the department's activities to attain the goals, Water Resources Assistance Program staff maintains close working relationships with several stakeholder groups and agencies. Staff routinely attends meeting of the SD Association of Conservation Districts Board of Directors, SD Board of Water and Natural Resources, SD Conservation Commission, USDA NRCS SD Technical Committee and program subcommittees, SD Nonpoint Source Task Force and local conservation districts that were sponsors of or are considering sponsoring nonpoint source control projects. Program staff also meets periodically with 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 other state agencies, local governmental units, universities, agricultural producer groups, and industry and environmental interest organizations.

Program staff provided funded projects with technical assistance and project oversight through onsite and electronic means during FFY 2006. They also assisted prospective project partners with the 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:

- nine contracts obligating $2,170,833 and processed 305 payment requests totaling $3,369,704.12 in federal funds from all sources, and
- twelve contracts obligating $1,477,160 in state funds and processed 104 payment requests totaling $1,152,639.80 in state funds.

Training

Training was provided for department program staff, local watershed implementation and assessment project staff, stakeholder groups, and volunteer water quality monitors. A description of the training provided follows.

Watershed Implementation and Assessment Project Staff

Two types of training are provided for local project personnel:

1. onsite assistance, 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 (GRTS and load reduction models),
- use of the computer based SD NPS Project Management System program (The Tracker Program),
- EPA and DENR NPS Program guidance and policies, and
- how to access financial and technical assistance from other project partners.

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.

In-depth project management and water quality monitoring training is provide to local project coordinators and technicians, agency project partner representatives, and DENR program staff at workshops. The workshops are held every one to two years with the frequency based on the number of new coordinators hired and program changes instituted since the last workshop. The state's assigned EPA Region VIII Project Officer is invited to participate in all workshops scheduled. A workshop was not held during FFY 2006. A joint North Dakota/South Dakota workshop is planned for February 12-13, 2007.

The preliminary agenda includes sessions covering:

- Animal nutrient management alternatives,

- Riparian management alternatives,
- Partnership opportunities, and
- Concurrent breakout sessions for each state program.

Training Opportunities Provided Through Project Partners

In addition to the training opportunities provided with direct involvement by the department, training is provided by 319 implementation project sponsors. Examples of training opportunities provided follow.

1. 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 Discovery Center and Aquarium with support from DENR. Additional support for the volunteer monitoring program is provided by the East Dakota Water Development District and Rocky Mountain Watershed Network.

2. Managed Grazing

   The South Dakota Grassland Coalition in partnership with South Dakota State University and NRCS sponsored the fourth Annual South Dakota Grazing Workshop with financial assistance from the Grassland Management and Planning grant. The two day plus workshop includes both classroom and field exercises designed to acquaint ranchers and resource mangers with the principles needed to establish and operate a managed grazing system. Attendance is limited to 30 participants each year with no more than 10 of the number being from agencies.

   The Coalition also sponsors a series of instructional field days at the managed grazing system demonstration sites funded by the Grassland Management and Planning grant. Information gained from field monitoring of the sites is summarized on the project website located at:

   http://www.sdconservation.org/grassland/managing/gmd/index.html

   In addition to the workshop and field demonstration sites, the coalition sponsors other grazing workshops and field days during the year. These and local grazing workshops, such as the Coteau Grazing Conference, sponsored by other watershed projects are leading to the increased adoption of managed grazing by producers across the state. The Coteau conference, cosponsored by the Poinsett and Upper Big Sioux Watershed Projects, was attended by approximately 300 individuals. The Coteau conference is of special note as it indicates increased interest in grazing management in the eastern portion of the state where agriculture is dominated by row crop production.

Department Program Staff

Several department program staff persons received specialized training during the FY 2006 to acquire additional or improve skills needed to manage a successful nonpoint source program. Training included:

- operation of monitoring equipment provided by company representatives or the assessment team,
- river morphology and applications courses to increase habitat and stream sediment loading assessment capabilities,
- GIS/ARC View applications, and
- Historic Preservation Act compliance.

Project Guidance & Oversight

DENR staff works closely with project sponsors during all phases of project development, implementation,and evaluation. Project management assistance is provided using a combination of onsite visits, verbal and written communications, and publications.

Program project officers are encouraged to complete at least two onsite visits to each assigned project each year. During the visits the project officers:

- review project financial records,
- evaluate project progress in relation to established milestones and goal attainment,
- identify needed workplan revisions, and
- verify construction and operation and maintenance of BMPs installed.

The primary resources used during the visits included:

- the project management notebook provided to each coordinator at the 2004 coordinator's workshop with updates provided at the 2005 workshop, and
- EPA and state nonpoint source guidance documents and policy papers.

The department uses the information gained during the onsite visits, project annual reports, and communications with the project sponsor and coordinator to complete an annual review of all 319 projects. The information gained from the review is used by program staff to assist project sponsors with the development of workplan revisions that may be needed to facilitate attaining the project goal.

During FFY 2006, the review resulted in the revision of several project implementation plans and closure of one project. The decision to close the project was based on the determination that the lack of progress toward completing the project workplan because of low producer interest in installing BMPs in the watershed indicated the likelihood of realizing success was doubtful.

A project oversight tour was conducted with the EPA Region VIII project officer during April 2006. Projects visited included:

- Kingsbury Lakes Water Quality Improvement Project,
- Blue Lake Watershed Improvement Project,
- Enemy Swim Implementation Project,
- Big Stone Lake/Little Minnesota River Watershed project, and
- Upper Big Sioux Implementation Project.

During the tour, EPA and DENR NPS program staff met with local project staff and or board members to discuss project progress and items of concern and visited BMP implementation sites.

Information and Education

The South Dakota NPS Information and Education (I & E) Program has been operational for nearly 15 years. Until recently, the program was implemented through the Water Resources Assistance Program and relied primarily on community based partnerships to deliver NPS information and education opportunities to the state's residents. This approach resulted in an outreach and information transfer mechanism that:

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

The NPS Information and Education Program is implemented through DENR'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 other resource management groups and agencies actions;
- designed to effectively reach an identified target audience; and
- part of a statewide NPS I & E Strategy adopted by the South Dakota Task Force.

The NPS priority areas addressed by the strategy are:

- animal feeding operations (AFOs),
- nutrient management, and
- TMDLs.

Staff availability to continue delivery of the program became limited beginning mid – FFY 2003. This resulted in the decision to outsource primary responsibility for the implementation of statewide NPS I & E workplan to the South Dakota Discovery Center and Aquarium. The Discovery Center was awarded a $200,000, two year grant during FFY 2004 for that purpose. The Center has prepared an application for FFY 2007 Section 319 funds to continue the project.

The Discovery Center uses a combination of project staff and a mini-grants program to continue many of the programs previously provided assistance and expand the target audience reached. DENR maintains a close working relationship with the Discovery Center to ensure program milestones are met and that notices of opportunities for participation in the mini-grants program are widely advertised. Information about the mini-grants program is provided at NPS Task Force meetings at training sessions, through the Discovery Center's outreach activities, and is advertised on the Watershed Protection home page at:

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

Table 8contains a list of projects funded by the mini-grants program.

Table 8. Projects Funded by the NPS I & E Mini-grant Program.

Project	Project Sponsor	Total Project ($)	Grant ($)
KIDS Fair	Project Learning Tree	7,300	1,700.00
Water Quality for Live Stock	Miner Conservation District	6750.00	1,600.00
Wall Lake Interpretive Signage	Minnehaha Conservation District	6,620.10	3,973.10
Storm Water Public Education	SD Department of Transportation	31,250.00	12,500.00
My Home Planet Earth	North Central RC&D	15,500.00	5000.00
Kids Helping Kids	Growing Up Together	7,438.00	1,000.00
Lakes Are Cool	Day County Conservation District	$500.00	$99.00
WQ of Covered/Uncovered Ponds	Parkston School	2,000.00	500.00
Living Guide	Soil & Water Conservation District	9,605.00	4,500.00
Soil Survey	Minnehaha Conservation District	2,500.00	500.00
4H Hughes/Stanley	River 4H	500.00	100.00
Basic Limnology	SD State University	4,312.00	3,500.00
Bacteria Monitoring	SD Lakes and Streams Association	8,145.00	4,745.00
No Till Conference	SD No-Till Association	32,930.00	3,000.00
Groundwater Training	East Dakota Water Development District	7,500.00	4,500.00
Rapid Watershed Assessment	Codington County Conservation District	11,776.00	5,000.00
Total		$154,626.10	$52,217.10

Selected activities supported through partnerships using funds awarded through the department's 1998 Information and Education Grant and or with direct planning and completion assistance include (also see Training Section, page 14):

Ag Unity Interns

Ag Unity, a consortium of SD agricultural interest groups and associations sponsor an annual intern program. The program brings adults interested in learning more about the governmental

process and specific programs to Pierre when the state legislature is in session. Many of the interns elect to visit DENR during their three day experience. The main DENR programs visited are the feedlot and NPS Programs.

Manure as a Resource Series

The five publication manure as a resource series developed and printed through a partnership with NRCS, South Dakota State University (SDSU) Cooperative Extension Service, SD Department of Agriculture, and SD Association of Conservation Districts continues to be one of the primary resources used to provide the livestock industry with tools needed to better manage manure. Titles of the five publication series are:

- *Straight Talk on Manure*
- *Sampling Manure for Nutrient Management*
- *Using the Results of Manure Analysis*
- *Calibrating Manure Spreader Application Rates*
- *Sampling Soils for Nutrient Management*

The publications are available at local extension and conversation district offices and the DENR website at:

http://www.state.sd.us/denr/DES/Surfacewater/feedloteducate.htm

The publications are also distributed at manure/nutrient management training sessions conducted by the partners, industry workshops and commodity group conventions and with lab analysis reports sent to producers by SDSU

Volunteer Water Quality Network

Monitoring equipment is provided through the South Dakota Lakes and Streams Volunteers Activities Program. Lab fees for samples collected and submitted to the South Dakota Health Lab for analysis were paid by the information and education project.

Local Nitrate Testing and Education Outreach for Private Well Owners in Eastern SD

A private well nitrate testing outreach/demonstration project was completed through a partnership with East Dakota Water Development District (EDWDD). The project was patterned after a similar program developed by the Minnesota Department of Agriculture during the early 1990s. The project provides well owners with an inexpensive method of determining nitrate levels in private wells to the nearest 0.1 mg/L that gives immediate results rather than waiting for results from a lab. Five local clinics were conducted in a collaborative effort with local conservation districts; a sixth at the 2005 SD Association of Conservation districts Convention during the project. At the clinics, well owners were provided information about how they can prevent contamination at the wellhead and health problems if high nitrate levels were detected. The equipment was also used to support nitrate level investigations of four public drinking water supplies.

Local Watershed Project Coordinator's Workshop

A joint ND –SD Project Coordinators' workshop is planned for February 12 – 13, 2007. See the Training Section of this report for details.

Program Website

The Water Resources Assistance Program has maintained a website since 1998. The website provides ready access to water resources information, reports, opportunities for involvement, EPA national and Region VIII and state 319 Grant/program guidance, and project management programs to include GRTS, STEPL, and the SD Project Management System (The Tracker Program). To access the site visit:

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

Displays/Conferences

Displays were set up at one conference and four career fairs during the year. In addition, the program assisted other department programs and project partners with the development of displays for water related conferences and workshops. The SD NPS Coordinator was a member of the steering committee that planned the Eastern SD Water Conference which was held during November 2006.

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 integral components of many program activities. Selected partnerships active during the past year are summarized below. For additional information about these and other South Dakota program partnerships, consult the *South Dakota Watershed Project Funding and Technical Assistance Guide.* An electronic copy of the guide is available by visiting:

http://www.state.sd.us/denr/document.htm#Watershed%20Protection

USDA Natural Resources Conservation Service and Farm Service Agency

The USDA Natural Resources Conservation Service (NRCS) and Farm Service Agency are active project partners in nearly all phases of the NPS Program:

- NRCS and Farm Service Agency program funds are included in the budget of nearly all SD watershed projects;
- representatives from the SD Department of Agriculture, SD Association of Conservation Districts, DENR and the State Conservationist or upper program management meet several times each year to determine joint policy and coordinate efforts;

- Resource Conservation and Development Districts (RC&Ds) assist with project development and serve as the local sponsor of several SD watershed assessment and implementation projects;
- district conservationist work cooperatively with watershed project staff to design and install BMPs in project areas;
- program and project staff are offered the opportunity to participate in NRCS staff training sessions; and
- NRCS provided and supervised staff for the SD Animal Waste Management Team.

In addition to providing financial and technical assistance, during FY 2006 NRCS and NPS program staff worked cooperatively in the:

- revision of the 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,
- funding the design and construction of animal nutrient management systems,
- revision of practice standards,
- development and review of applications for Conservation Priorities and Rapid Watershed Assessment grants through the national Cooperative Conservation Partnership Initiative Grant Program and Conservation Innovation grants, and
- Implementation of Rapid Watershed Assessment Grant workplans.

Financial assistance for NPS related activities provided by several NRCS administered programs during FY 2006 is shown in the Table 9; conservation practices funded primarily by the EQIP program in Table 10.

Table 9. SD NPS Related Activities Funded During FFY 2006 by NRCS Programs.

Program	# Applications Funded	Acres	Funding ($)
Environmental Quality Incentives (EQIP)[1]	411	NA[2]	17,655,127
Ground and Surface Water Conservation (GSWC)	34	6,927	377,238
Wildlife Habitat Incentives Program (WHIP)	46	6,373	391,820
Wetland Reserve Program (WRP)	16	1,832	2,387,849
Grasslands Reserve Program (GRP)	7	18,043	2,058,245
Conservation Reserve Program (CRP)	631	46,347[3]	NA

1- Includes Sage Grouse Special Initiative and Wildfire Special Initiative
2- See Table 9 for conservation practices funded.
3– Current CRP Acres = 1,546,245

Table 10. Conservation Practices Funded by EQIP During FFY 2006.

Conservation Practice	Practice Unit	Extent
Waste Storage Facility (313)[1]	Number	90
Brush Management (314)	Acres	0
Composting Facility (317)	Number	2
Clearing and Snagging (326)	Feet	1
Conservation Cover (327)	Acres	0

Table 10. Conservation Practices Funded by EQIP During FFY 2006 Continued.

Critical Area Planting (342)	Acres	372.2
Sediment Basin (350)	Number	72
Well Decommissioning (351)	Number	16
Dike (356)	Feet	0
Diversion (362)	Feet	91,715
Pond (378)	Number	58
Windbreak/Shelterbelt Establishment (380)	Feet	335,435
Fence (382)	Feet	1,912,830
Riparian Herbaceous Cover (390)	Acres	0
Riparian Forest Buffer (391)	Acres	0
Filter Strip (393)	Acres	15.2
Grade Stabilization Structure (410)	Number	0
Grassed Waterway (412)	Acres	18.5
Hedgerow Planting (422)	Feet	2,220
Irrigation Land Leveling (464)	Acres	78.5
IWC High-Pressure, Underground Plastic Pipeline (430DD)[2]	Feet	31,729
IWC Low-Pressure, Underground Plastic Pipeline (430EE)[2]	Feet	3,789
IWC Steel Pipeline (430EE)[2]	Feet	2,777
Irrigation System, Sprinkler (442)[2]	Acres	3,682.1
Irrigation System, Tailwater (447)	Number	2
Irrigation Water Management (449)[2]	Acres	11,780.2
Use Exclusion (472)[4]	Acres	32,937.2
Mulching (484)	Acres	599.5
Obstruction Removal (500)	Acres	41
Pasture & Hay Planting (512)	Acres	19,863.3
Pipeline (516)	Feet	3,452,465
Prescribed Grazing (528)[3]	Acres	26,014.9
Pumping Plant (533)	Number	146
Grazing Land Mechanical Treatment (548)	Acres	505.1
Range Planting (550)	Acres	5,693.4
Heavy Use Protection (561)	Acres	33.7
Spring Development (574)	Number	5
Animal Trails & Walkways (575)	Feet	220
Stream Crossing (578)	Number	1
Streambank & Shoreline Protection (580)	Feet	1,400
Structure for Water Control (587)	Number	0
Pest Management (595)	Acres	40,892.8
Terrace (600)	Feet	56,900
Tree/Shrub Establishment (612)	Acres	9.2
Watering Facility (614)	Number	1,549
Underground Outlet (620)	Feet	0
Manure Transfer (634)	Number	14
Water and Sediment Control Basin (638)	Number	2
Water spreading (640)	Acres	39
Water Well (642)	Number	125
Upland Wildlife Habitat Management (645)	Acres	630.5
Wildlife Watering Facility (648)	Number	0
Windbreak/Shelterbelt Renovation (650)	Feet	36,954

1 – AFO/CAFO (94 systems funded at a total cost of approximately 8.9 million dollars = over 50% total EQIP allocation)
2 – Ground and Surface Water Provision of EQIP
3 – Wildfire Initiative
4 – Sage Grouse Habitat Development Special Initiative

Bureau of Reclamation

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

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

US Geologic Survey

The Geologic Survey provides technical assistance and water quality data to several South Dakota nonpoint source assessment and implementation projects, especially those that include large tracts of federal and tribal lands.

US Fish and Wildlife Service

The US Fish and Wildlife Service:

- provides technical and financial assistance to watershed projects for BMPs installation,
- coordinates many of its assistance efforts with the SD Association of Conservation Districts and SD Grassland Management and Planning Project staff, and
- works with local project sponsors, DENR and EPA Region VIII staff to complete threatened and endangered species clearance and related implementation issues.

- BMP installation assistance centers primarily on cost share for practices related to managed grazing systems and wetland habitat development. The main USFWS programs providing funds for BMPs are:

    - Partners for Fish and Wildlife Program, and
    - North American Waterfowl Conservation Act.

Commonly cost shared BMPs include:

- grass seeding,
- cross fencing,
- multiple purpose ponds, and
- riparian exclusion fencing.

The commitment of the Service to partnering with SD watershed projects is illustrated by the funds the Service is contributing through the Partners for Fish and Wildlife Program to the Upper Snake Creek and Belle Fourche River Watershed Projects. The funds provide for the services of a wildlife biologist to implement 319 funded grassland seeding, grazing systems, multiple purpose ponds and riparian fencing in the Upper Snake Creek project area and similar practices in the Belle Fourche. Both projects are multiple TMDL implementation efforts.

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. Examples of interactions include:

- 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,
- required use of the BMPs described in the *Forestry Best Management Practices for South Dakota* in timber harvest on lands the agency manages in South Dakota, and
- audits of BMPs installed at timber harvest sites.

The audit sites have included timber harvests on Bureau of Land Management, Forest Service, state land and two private sales. A report of the most recent audit is available by accessing:

http://www.state.sd.us/denr/DFTA/WatershedProtection/P2/P2.htm

then click on updated report in the entry labeled Silviculture BMPs.

South Dakota Water & Environment Fund

The South Dakota Board of Water and Natural Resources (BWNR) 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 Environment 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 are listed in Table 11.

Table 11. NPS Projects Awarded Consolidated Water Facilities and Fee Fund Grants.

Project	Funding Source	Grant Award ($)
Lake Pocasse/Campbell Watershed Assessment	Fee Fund	40,000
Conata Basin Watershed Project	Fee Fund	53,000
Total		**93,000**

South Dakota Clean Water State Revolving Fund

The South Dakota Board of Water and Natural Resources administers the state's Clean Water State Revolving Loan Fund program. During 2004, the board established a nonpoint source incentive rate for nonpoint source projects at 1.50 percent for loans with a term of 10 years or less and 2.25 percent for loans with a term greater than 10 years. Projects for traditional wastewater or storm water projects that include a nonpoint component are eligible for the nonpoint source rate. The annual principal and interest payments are calculated for a loan at the higher base SRF interest rates of 2.50 percent for loans with a term of 10 years or less and 3.25

percent for loans with a term greater than 10 years. Using the lower interest incentive rate, a loan is sized using the annual payment previously calculated. The difference in the two loan principal amounts is the amount of funding available for the NPS component of the project.

Since its inception, three NPS project sponsors used the NPS incentive program rate in partnership with municipalities. The projects and NPS loan amount are shown in Table 12.

Table 12. SRF NPS Incentive Loans.

Project	Municipality	SRF Loan ($)
FFY 2005		
Brown County Water Quality Improvement Project	City of Aberdeen	1,156,259
Central Big Sioux Watershed Project - Segment I	City of Sioux Falls	4,374,985
FFY 2006		
Upper Big Sioux River Watershed Project –Segment IV	City of Watertown	113,985
Total		5,645,229

Aberdeen is using the loan funds to reduce sediment and nutrient loading to several waterbodies located between the city and Elm Lake. Elm Lake is the primary source of the city's drinking water supply. BMPs planned include AWMS, managed grazing and shoreline stabilization.

Sioux Falls obtained the funds to install buffers and stabilize shoreline along the Big Sioux River and major tributaries within the city and north to the Moody County Line. The buffers will protect the city's water supply by reducing fecal coliform and sediment loading.

The city of Watertown was awarded Clean Water SRF financing using the NPS incentive rate terms of 2.25 percent for 20 years during FFY 2006 to provide nonfederal cost share funds for the Upper Big Sioux River Watershed project. Watertown is using the loan funds to reduce sediment and nutrient loading to the Upper Big Sioux River, Lake Kampeska, and Pelican Lake.

Clean Water SRF Administrative fee funds collected by DENR were allocated for the development of engineering designs needed to construct AWMS. While primarily designed for producers and livestock auction markets that are required to obtain NPDES permits, the systems constructed using the design will reduce the overall nutrient and sediment loads entering surface water in NPS project areas. Addressing the systems needing permits is also prompting many producers who are not required to obtain a permit, especially those whose operations are near a waterbody, to install AWMS before they are required to do so and no longer eligible for cost share assistance from the 319 program.

The program is implemented through a partnership with the department's surface water and pollution prevention programs, the SD Department of Agriculture, conservation districts and NRCS. The conservation districts provide the local financial and technical assistance contact point for program participants. Since the inception of the program during the latter part of FFY 2004, 106 producers and 19 livestock auction markets have been awarded design assistance funds. Financial assistance provided since the inception of the program by source of funds is shown in Table 13.

Table 13. AWMS Design Assistance Funds Awarded.

Assistance/Grant Program	Agency	Amount ($)
Soil and Water Conservation Grant Program	SD Dept. of Agriculture	345,365
CW SRF Administrative Fee Funds	DENR	566,360
Pollution Prevention incentives to States (P2)	DENR	145,415
Partnership Contribution	NRCS	105,000
Total		1,162,140

Of the total allotted, producers have received $810,609, auction markets $105,850 and the districts $167,000 .to date.

Producers and livestock auction markets have provided cash and inkind match in an amount equal to financial assistance awarded.

The program was awarded a 2006 EPA, Region VIII Environmental Achievement Award.

Because livestock auction markets are not eligible for financial assistance through USDA programs available to producers, the State of South Dakota developed the Livestock Auction Market Water Quality Grant Program. The program is funded with 2.5 million dollars in Clean Water SRF Administrative Fee funds.

The program, developed with input from two consulting engineering firms, provides a 75 percent construction grant with a $150,000 maximum per auction market and a 75 percent construction engineering oversight grant with a maximum of $12,500 per market. The construction grant maximum was established to be equivalent to the EQIP assistance available to producers.

Fifteen of the 42 licensed auction markets in SD have been identified as requiring a permit. During FFY 2006, the owner one of the auction markets awarded a design grant decided not to proceed with installing aAWMS. The decision reduced the total operations participating in design grant segment of the project to 19. The number includes 13 auction markets that require a permit; six that do not. Ten auction markets were awarded construction grants during FFY 2006 totaling $1,424,160 to bring the total construction grant awards to16 and a total of $2,240,632.

South Dakota Department of Agriculture

The South Dakota Department of Agriculture (SDDA):

- provides state funds to:
  1. conservation districts for the installation of conservation BMPs through the South Dakota Coordinated Soil and Water Conservation Grants Program, and
  2. producers through the department's low interest value added and beginning farmer loan programs.
- works cooperatively with DENR to address issues of common interest such as:
  1. animal feeding operation nutrient management,
  2. historic preservation, and
  3. financial assistance.

DENR staff coordinates funding of grant requests that could benefit from both the NPS and Soil and Water Grants programs with SDDA and participates in the grant application reviews. To maintain and build on the partnership with SDDA, program staff meets regularly with SDDA staff and attends the Conservation Commission meetings.

The cooperation between the two agencies during the past year resulted in the adoption of a docket that establishes a unified cost share level for BMPs eligible for installation using both Soil and Water Conservation and 319 grant funds.

During this reporting period, the commission awarded $832,848 in grants. NPS projects and project related activities included in the total are listed in Table 14.

Table 14. NPS Projects and Related Activities Conservation Grants During FFY 2006.

Project	**Grant ($)**
Beadle CD* Well Development/Grazing Management Project	75,000
Stanley CD Riparian/Rangeland Enhancement	60,000
Deuel CD School, Bullhead, Round, Wigdale Lakes Improvement	12,900
Minnehaha CD Vegetative Treatment Areas for Animal Nutrient Management Systems	100,000
Campbell CD Spring Creek Watershed Assessment	18,000
Bon Home CD Conservation Enhancement Program	62,471
Moody CD Central Big Sioux River Implementation	54,800
Hamlin CD Hamlin/Lake Poinsett	4,000
Total	387,171

* CD – Conservation District

South Dakota Department of Game, Fish, and Parks

The South Dakota Department of Game, Fish and Parks (GFP):

- offers financial and technical assistance for the installation of BMPs that provide both wildlife habitat benefits and reduce NPS pollution, and
- provides DENR and local project sponsors assistance with identifying and developing strategies to comply with threatened and endangered species issues.

As with USFWS, GFP assistance programs accessed by projects center mainly on managed grazing and wetlands. For a description of the programs and practices cost shared, visit:

http://www.sdgfp.info/Wildlife/privatelands/PrivatelandsIndex.htm

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 the construction and implementation of BMPs, a large proportion of the match requirement for

many projects is documented during the later phases of a project. See Appendix A for a summary of nonfederal match documented for each of the department's 319 grants.

Water Quality Improvements

The South Dakota NPS Program considers quantification of load reductions and resultant water quality improvements essential to evaluating project goal attainment and reaching the TMDLs established for priority waterbodies. The quantification process uses a combination of modeling and water quality sample results. Commonly used models include:

- Revised Universal Soil Loss Equation (RUSLE 2),
- Annualized Agricultural Nonpoint Source (AnnAGNPS), and
- Spreadsheet Tool for the Estimation of Pollutant Load (STEPL).

During FFY 2006, the program adopted STEPL as the primary load reduction estimation model for reporting annual and cumulative load reductions in GRTS.

The availability of load reduction/water quality improvement data is anticipated to increase as the projects progress and program staff and project coordinators become more proficient with data collection.

Annual and cumulative load reduction/water quality improvements documented are entered in GRTS. Load reduction data for waterbodies located in project areas where the project was closed during FFY 2006 are summarized in Table 15.

Table 15. Cumulative Load Reductions Achieved by Projects Closed During FFY 2006.

Lake/Waterbody	Pollutant	Load Reduction		TMDL (Y/N)
		Target	Cumulative	
Brant	Total Phosphorus	3,951 lbs	1,857 lb	Y
	Sediment		4,561 T	N
Bachelor Creek	Phosphorus	16,299 lbs	16,991 lbs	N
	Nitrogen	43,569 lbs	53,759 lbs	N
	Sediment	2,417 T	3,753 T	N
Belle Fourche River Segment I	Total Suspended Solids Above Reservoir Below Reservoir	 189 mg/L 108 mg/L	 0 9.61 mg/L	Y
Blue Dog	Phosphorus		5,550 lbs/yr	Y
	Sediment		9,938 T/yr	N

Table 15. Cumulative Load Reductions Achieved by Projects Closed During FFY 2006 Cont'd

Faulkton	Inlake Sediment Phosphorus	 144,000 cu yd 4,017 Kg/yr	 115,799 cu yd 3,232 Kg/yr	 Y
	Watershed Phosphorus	 978 Kg/yr	 397 Kg/yr	 Y
Herman	Total Phosphorus	16,779 lbs	1,125 lbs	Y
	Sediment		4,103 T	N
Jones	Total Phosphorus	847 kg	3.5 kg	Y
	Sediment		139 metric T/yr	N
Madison	Total Phosphorus	25,181 lbs	1,684 lbs	Y
	Sediment		4,518 T	N
Rose Hill	Total Phosphorus	1,518 kg	1.7 kg	Y
	Sediment		68 metric T/yr	N
	Nitrogen	1,843 kg/yr	45.6 kg/yr	Y

1. Average of three years.

APPENDIX A

319 MATCHING FUNDS Accrued Through 9/30/06

Grant	Grant Award ($)	Total Match Required ($)	Expenditures thru 9/30/06 ($)	Match Required Against Expenditures($)	Match Documented ($)
319 Implementation 89	1,594,000	1,062,667	1,594,000	1,062,667	1,315,016
319 Implementation 90	800,137	885,994	800,137	885,994	885,994
319 Implementation 91	655,851	437,234	655,797	437,198	437,199
319 Implementation 92	795,000	530,000	794,836	529,891	535,421
319 Implementation 93	1,090,839	727,227	1,090,839	727,227	779,175
319 Implementation 94	1,415,142	943,508	1,415,142	943,508	1,188,561
319 Implementation 95	1,699,669	1,133,119	1,699,669	1,133,119	1,154,183
319 Implementation 96	1,126,685	751,123	1,126,685	751,123	787,159
319 Implementation 97	1,253,790	835,902	1,253,790	835,902	1,484,877
319 Implementation 98	1,296,790	864,531	1,296,790	864,530	1,684,393
319 Implementation 99	2,791,400	1,861,025	2,486,746	1,657,830	1,861,025
319 Implementation 00	3,008,897	2,005,931	2,780,096	1,805,398	2,165,825
319 Implementation 01	3,267,900	2,178,600	2,990,091	1,993,393	2,356,825
319 Implementation 02	3,142,900	2,095,268	2,227,092	1,484,728	2,153,244
319 Implementation 03	3,125,96	2,085,800	1,116,566	744,378	1,281,115
319 Implementation 04	3,090,200	2,060,133	1,372,950	915,300	1,308,492
319 Implementation 05	2,602,600	1,735,067	583,240	388,826	513,890
319 Implementation 06	2,583,000	1,722,000	15,000	10,000	0
Total	35,340,764	23,111,137	25,299,466	17,171,012	21,892,394

Appendix B

Open NPS Projects Funded by Previous Section 319 Grants by River Basin

River Basin	Project
Bad River	Bad River National Watershed Monitoring
Belle Fourche River	Belle Fourche River Watershed Management (Segments I, II, & III)
Big Sioux River	Bachelor Creek Hydrologic Unit Blue Dog Lake Clear Lake Implementation Central Big Sioux Watershed Implementation (Segment I) Deuel County Lakes Watershed Improvement 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 Segment IV
Cheyenne River	None
Grand River	None
James River	Amsden Dam Assessment Brown County Water Quality Improvement Elm Lake Implementation Firesteel Creek/Lake Mitchell Implementation Jones Lake/ Rose Hill Lake Watershed Implementation Lake Hanson/Pierre Creek Implementation Lakes Cottonwood and Louis Implementation Lake Faulkton Watershed Implementation Lower James River Watershed Assessment Upper Snake Creek Watershed (Segment I)
Minnesota River	Big Stone Lake/Little Minnesota
Missouri River	Okobojo Creek Watershed Assessment Medicine Creek Watershed Implementation South Central Lakes Assessment
Red River	Lake Traverse Watershed Assessment
Vermillion River	Kingsbury Lakes Water Quality Improvement Turkey Ridge Creek Watershed (Segment I) Vermillion River Basin Assessment
White River	None
Statewide / Regional Projects	Animal Waste Team IV Evaluating Phosphorus Loss on a Watershed Basis Evaluating Vegetated Treatment Areas Grassland Management Technical Assistance Manure Management BMPs Base on Soil Phosphorus Nonpoint Source Information and Education -1998 Precision Manure Management to Improve Water Quality SD NPS Information & Education Partnership Terry Redlin Institute Wetlands Education Project 303(d) Watershed Planning and Assistance Project

Completed Section 319 Projects by River Basin

River Basin	Project
Bad River	Bad River Water Quality Project (Phase II) Bad River Water Quality Project (Phase III) Hayes and Waggoner Lakes TMDL[1] Upper Bad River Demonstration
Belle Fourche River	Bear Butte Creek Riparian Demonstration Belle Fouche River Assessment[1] Belle Fourche River Watershed Management Plan
Big Sioux River	Bachelor Creek Assessment Bachelor Creek Hydrologic Unit Big Sioux Well Head Protection Blue Dog Lake Assessment Blue dog Lake Watershed Improvement Enemy Swim Lake Implementation Lake Campbell Watershed Restoration Lake Kampeska Watershed Lakes Cochrane/Oliver Watershed Improvement Lakes Herman/Madison/Brant Implementation Pickerel Lake Protection Upper Big Sioux River Watershed Segments I, II, & III Wall Lake Watershed Project Wall Lake Post Project Assessment[1]
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 Loyalton and Cresbard Lakes TMDL Foster Creek Riparian Demonstration - Beadle Co. Jones Lake/ Rose Hill Lake TMDL Jones Lake/Rose Hill Lake Watershed Implementation Lake Faulkton Watershed Implementation Lake Mitchell Watershed Assessment Lake Redfield Restoration Mina Lake Water Quality Assessment Moccasin Creek TMDL Ravine Lake Watershed Richmond Lake Watershed Richmond Lake Assessment[3] Twin Lakes/Wilmarth Lake Assessment[1] White Lake Dam TMDL[1]
Minnesota River	Big Stone Lake Big Stone Lake Restoration II Cochrane & Oliver TMDL Lakes Cochrane/Oliver Watershed Improvement Lake Cochrane Protection Lake Hendricks Watershed

Completed Section 319 Projects by River Basin (Continued)

Missouri River	Burke Lake Assessment[2] Burke Lake Restoration Medicine Creek Assessment Okobojo Creek Watershed Assessment[2] South Central Lakes Watershed Assessment[1]
Red River	Lake Traverse Watershed Assessment
Vermillion River	Swan Lake Restoration Kingsbury County Lakes Assessment[1]
White River	White River Phase I Assessment[2] Little White River TMDL Assessment[2]
Statewide/Regional Projects	Abandoned Well Sealing Animal Waste Management I Animal Waste Management II Animal Nutrient Management III Animal Waste Team (Buffer salesmen) Bootstraps Buffer Planning and Assistance 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 Manure Management Based on Soil Phosphorus Nitrogen & Pesticides in Ground Water Nonpoint Source Information & Education 1989 Nonpoint Source Information & Education 1994 Nonpoint Source Information & Education 1996 Nonpoint Source Information & Education 1998[1] Rainfall Simulator Riparian Grazing Workshop South Dakota Association of Conservation Districts South Dakota Lake Protection Statewide Lake Assessment Wetlands Education Project

[1] Final Report in Preparation – Hayes /Waggoner (Hayes approved; Waggoner in preparation) SC Lakes – (Corsica approved; Dante in review by EPA; Geddes, Platte and Academy in preparation)
[2] Final Report/TMDL in review by DENR
[3] Final Report/TMDL in review by EPA

Completed 604(b) Projects by River Basin

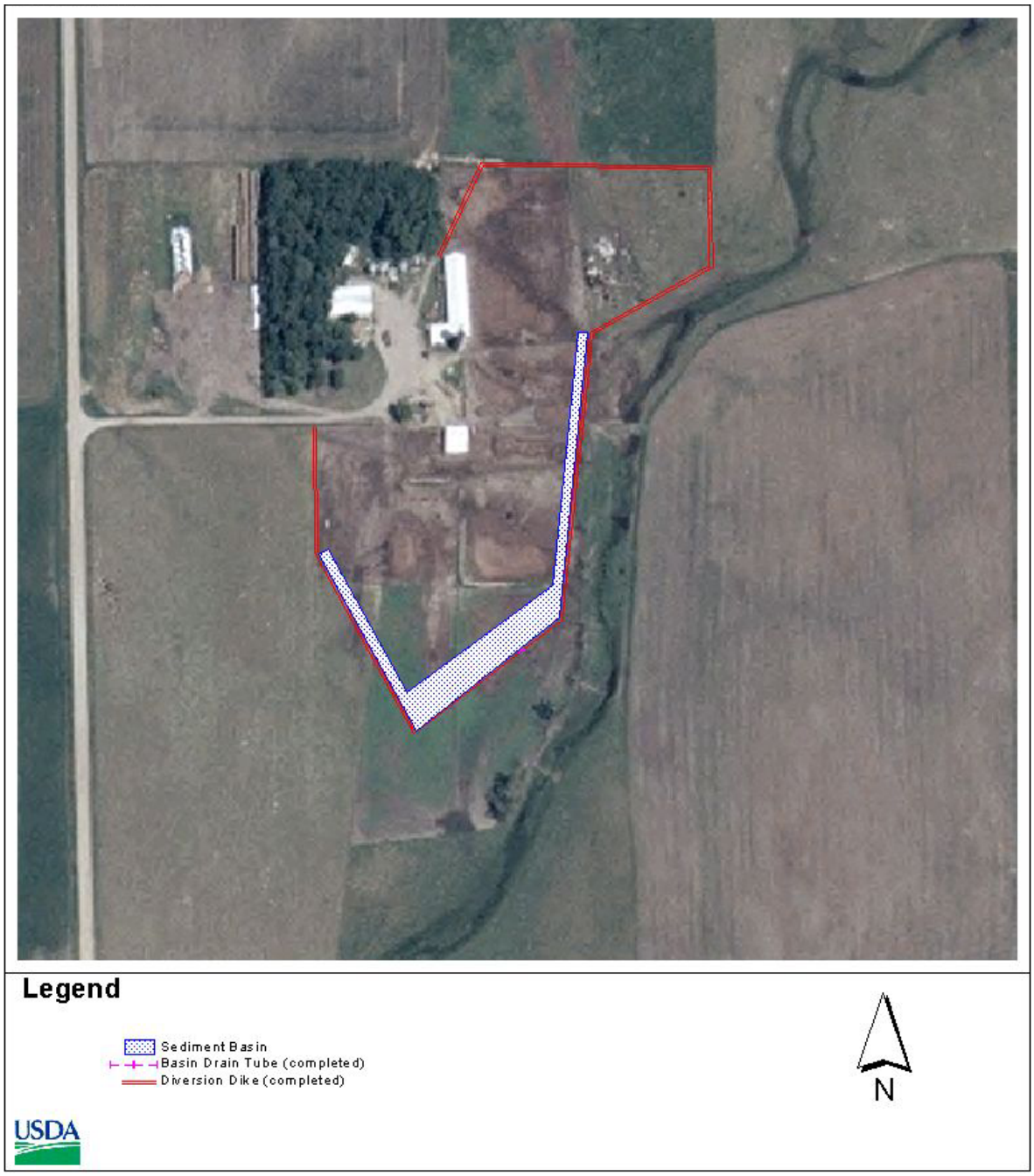
Bad River Basin	Bad River Phase IA Bad River Phase IB
Belle Fourche River Basin	Belle Fourche River TMDL Project Streambank Erosion Assessment-Upper Whitewood Creek Whitewood Creek Streambank Assessment Project Whitewood Creek Watershed Project Planning Whitewood Creek Bacterial Source Tracking
Big Sioux 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) Pelican Lake Control Structure Feasibility Lake Alvin/Nine Mile Creek TMDL Lakes Herman, Madison, Brandt Project Planning Lake Poinsett Project Planning and Design Upper Big Sioux Watershed AGNPS
Cheyenne River Basin	Develop NPS BMPs Western Pennington Co. Drainage Dististrict Galena Fire Project Rapid Creek and Aquifer Assessment Project Rapid Creek NPS Assessment Project Rapid Creek Stormwater Impact Prioritization Custer State Parks Lakes Assess. Report Preparation Spring Creek Bacterial Source Tracking
Grand River Basin	Grand River Watershed TMDL
James River Basin	Broadland Creek Watershed Study Firesteel Creek/Lake Mitchell WQ Needs Assessment James River TMDL Project* 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	Blue Dog Lake/Enemy Swim Septic Leachate Survey Fish Lake Water Level and Quality Study Lake Cochrane/Oliver TMDL Lake Hendricks Restoration Assessment Lake Traverse/Little Minnesota River Land Inventory
Missouri River Basin	Burke Lake Diagnostic/Feasibility Study Lake Andes Watershed Treatment Project Lake Pocasse/Lake Cambell/Spring Creek TMDL* Lewis and Clark TMDL Project Platte Lake Planning Randall RC&D Implementation Planning
Vermillion River Basin	Vermillion River Basin Watershed Planning West Yankton Sanitary Sewer Survey Turkey Ridge Creek Watershed Assessment Project
White River Basin	White River Preservation Project White River Watershed Data Collection Project

Completed 604(b) Projects by River Basin Continued.

Statewide	Bacterial Source Tracking and Lower Big Sioux TMDL Bacterial Source Typing: Sample Preparation and Analysis Assessment Project * Chemical Containment Demonstrate Slash Pile Use Control Erosion on Fragile Soils Detention Cell Demonstration Project Digitize Soils Maps for South Dakota 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

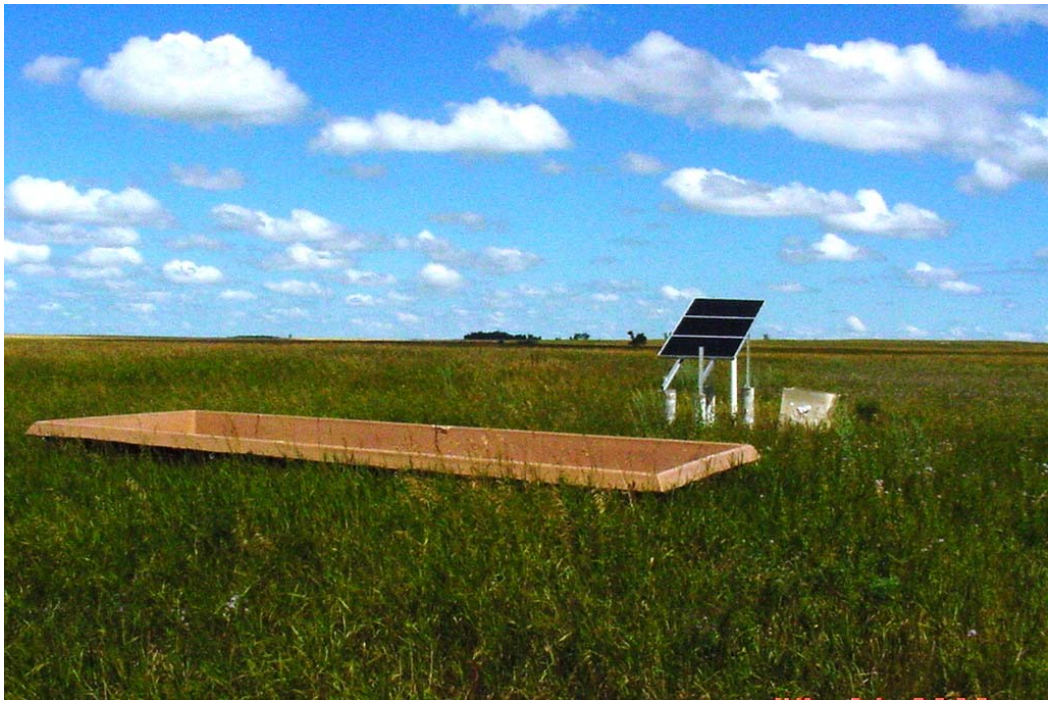
*moved to another funding source 06)

Appendix C



Clean Water Diversion System Installed at an Animal Feeding Operation (Blue Dog Lake Watershed Project).

Managed Grazing System Installed On Land with an Expired Conservation Reserve Program Contract (Blue Dog Lake Watershed Project).

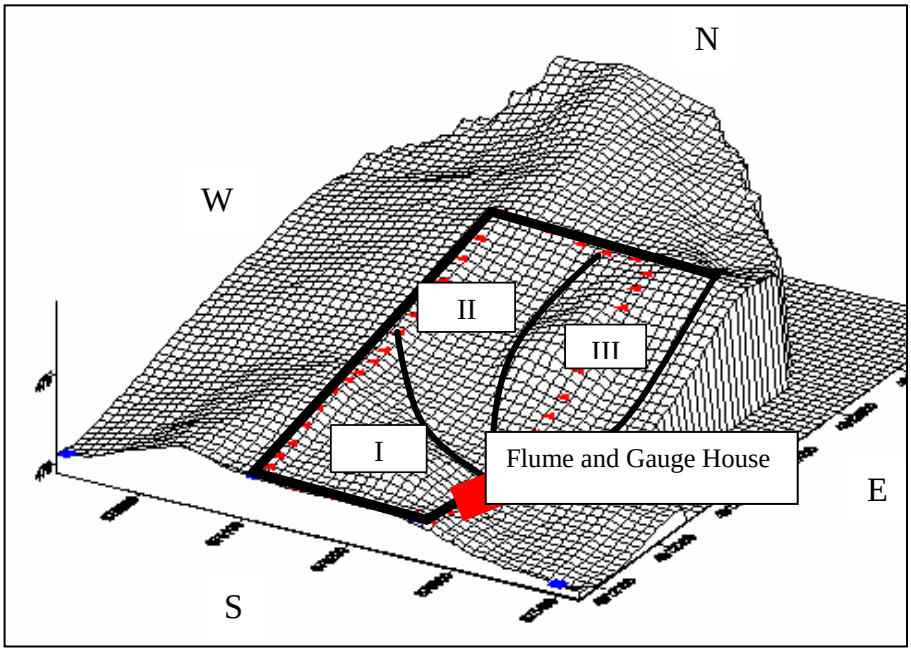


Solar Powered Well and Stock Watering Tank Installed to Provide an Alternate Water Source for a Managed Grazing System (Blue Dog Lake Watershed Project).

Dam with Accompanying Wetland Constructed to Provide Alternative Water Source for a Managed Grazing System (Brown County WQ Improvement Project).

Riparian Area Before Restoration (Elm Lake Implementation Project).

Riparian Area After Restoration (Elm Lake Implementation Project).



Three Small Watersheds Delineated to compare Phosphorus Loss Under Field Conditions in Relation to Soil P Levels. (Evaluating P Loss on a Watershed Scale).

Flumes and Gauge House located above the flumes

Instrumentation located inside the gauge house.

Monitoring Equipment Installed to Compare Phosphorus Loss From three (Evaluating P Loss on a Watershed Scale)

Filter Strip Installed in the Firesteel Creek Watershed Using The Continuous Conservation Reserve Program (Firesteel Creek/Lake Project). Mitchell

Stream Bank Restored Using Soft Practices (Poinsett Watershed Project).

Rock Crossing Installed to Reduce Bank Erosion (Bachelor Creek HU Project).

Dredge On Lake Faulkton (Lake Faulkton Watershed Restoration Project).