South Dakota Nonpoint Source Pollution Program Annual Report Federal Fiscal Year 2016

Prepared By The Watershed Protection Program

South Dakota Department of Environment and Natural Resources



Protecting South Dakota's Tomorrow ... Today

Joe Foss Building
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December 2016

South Dakota Nonpoint Source Program Fact Sheet Federal Fiscal Year (FFY) 2016

Date of FFY 2016 Section 319 Project Grant Award: May 19, 2016 Amount of FFY 2016 Section 319 Project Grant: \$2,544,000

For EPA grant award purposes, half is designated as Program Funds that can be used for all activities that support the goals of the state NPS Management Plan. The other half is designated as Project Funds that must be spent on watershed projects to restore impaired waters.

- Amount FFY 2016 Project Funds: \$1,272,000
- Amount FFY 2016 Program Funds: \$1,272,000

FFY 2016 Third-Party Projects Awarded:

- Belle Fourche River Watershed Partnership \$400,000 for the Belle Fourche Watershed Project Segment 7 (Amendment)
- City of Watertown \$200,000 for the Upper Big Sioux River Watershed Project Segment 7
- South Dakota Discovery Center \$86,700 for the SD NPS Information and Education Project Segment 4 (Amendment)
- James River Water Development District \$988,335 for the South Central Watershed
 Implementation Project Segment 1
- South Dakota State University \$188,965 for Bacteria In Sediment Project

Total # Active 319 Projects in FFY 2016: 13

FFY 2016 Total Pollutant Load Reduction Estimates:

Sediment: 11,337 tonsPhosphorus: 43,119 lbs.Nitrogen: 193,834 lbs.

Summary of BMPs implemented in FFY 2016:

- 8,680 linear feet (LF) of fence
- 9,769 acres grazing management systems
- 6,606 acres grazing systems planned
- 74,126 LF of water pipeline
- 2 stream crossings
- 7 animal waste management system designs
- 5 animal waste management systems constructed
- 3 livestock feedlot relocations
- 100 landowner conservation contacts
- 351 acres riparian area restoration
- 145 acres seasonal riparian area restoration

- 1,220 LF of stream bank restoration
- 644 LF shoreline protection
- 543 acres continuous CRP
- 485 acre cover crops
- 7 sediment retention ponds
- 29 pond/dam cleanouts
- 8 acres of filter strips
- 8 irrigation sprinkler systems
- 124 acres conservation tillage
- 6,500 LF of grassed waterways
- 6,531 LF of cropland riparian buffers
- 56,640 LF of livestock stream exclusion

EPA Approved Stream Restoration Success Stories:

http://water.epa.gov/polwaste/nps/success319/

South Dakota

Department of Environment and Natural Resources Nonpoint Source Pollution Program Annual Report Federal Fiscal Year 2016

South Dakota NPS Program Structure and Management

The South Dakota Nonpoint Source (NPS) Pollution Program is administered by the South Dakota Department of Environment and Natural Resources' (DENR) Watershed Protection Program. 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. For more information about DENR's NPS activities visit:

http://denr.sd.gov/dfta/wp/wp.aspx

The South Dakota Nonpoint Source Task Force is DENR's primary partner for implementation of the South Dakota NPS Program. The task force is a citizens' advisory group with a membership of approximately 25 agencies, organizations and tribal representatives (see Table 1). For additional information about the Task Force visit:

http://denr.sd.gov/dfta/wp/npstf.aspx

Table 1. NPS Task Force Core Agencies & Interest Groups

Corn Growers Association	SD Pork Producers
Izaak Walton League of America	SD Wheat, Inc.
Lower Brule Sioux Tribe	South Dakota State University
Natural Resources Conservation Service	US Bureau of Reclamation
Planning Districts	US Fish and Wildlife Services
Resource Conservation and Development Councils	US Forest Service
SD Assoc. of Conservation Districts	US Geological Survey
SD Cattlemen's Association	Water Development Districts
SD Chapter of the Sierra Club	
SD Conservation Commission	
SD Dept. of Agriculture	
SD Dept. of Environment and Natural Resources	
SD Dept. of Game, Fish and Parks	
SD Dept. of Transportation	
SD Farm Bureau	
SD Farmers Union	
SD Grassland Coalition	

319 Grant

The South Dakota Department of Environment and Natural Resources' FFY 2016 Section 319 grant award from the Environmental Protection Agency (EPA) consisted of \$1,272,000 in Program funds and \$1,272,000 in Project funds. The \$2,544,000 total award was allocated as follows: Staff & Support - \$680,000 and 319 Projects - \$1,864,000. Projects awarded funding

from the Department's FFY 2016 Grant are listed in Table 2. For EPA grant award purposes, half is designated as Program Funds that can be used for all activities that support the goals of the state NPS Management Plan. The other half is designated as Project Funds that must be spent on watershed projects to restore impaired waters.

The South Dakota Board of Water and Natural Resources awarded \$93,000 in Clean Water State Revolving Fund (CWSRF) Water Quality Grant dollars to supplement the 319 pass through funds. See Table 8.

Table 2. FFY 2016 Section 319 Project Awards

Project		Grant (\$)		
Staff & Support	Program	Project		Total
DENR Staffing and Technical Support	\$ 680,000		\$	680,000
Implementation				
Belle Fourche River – Segment 7 (Amendment)	\$ 400,000	\$ 0	\$	400,000
Upper Big Sioux – Segment 7	\$ 192,000	\$ 8,000	\$	200,000
SD NPS Information & Education – Segment 4 (Amendment)		\$ 86,700	\$	86,700
South Central Watershed Project – Segment 1		\$ 988,335	\$	988,335
SDSU Bacteria in Sediment Project		\$ 188,965	\$	188,965
Total 319	\$1,272,000	\$ 1,272,000	\$ 2	2,544,000

Projects awarded 319 funding during FFY 2016 using prior year funds reverted from projects that were completed but did not expend the total amount awarded are listed in Table 3.

Table 3. Projects Awarded Section 319 Grants from Prior Year Funds

			319 Grant
Project		Grant (\$)	Year
Implementation			
Northeast Glacial Lakes Project Segment 3	\$	100,000.00	2012
Lewis & Clark Implementation Project Segment 4	\$	36,675.13	2011
Lewis & Clark Implementation Project Segment 4	\$	304,173.94	2012
Big Sioux River Project Segment 3	\$	153,193.92	2011
Spring Creek Project Segment 3	\$	31,182.63	2013
Spring Creek Project Segment 3	\$	68,297.17	2012
	Total \$	693,522.79	

Active 319 Projects

A list of Section 319 projects funded by previous grant awards that were open during the FFY 2016 reporting period is provided in Appendix A. The list is arranged by river basin.

Completed 319 Projects

Table 4 contains a list of 319 projects closed during FFY 2016. The status of the final report is listed for each project.

Table 4. 319 Projects Closed During FFY 2016

		Final Repo	ort Statu	IS	
Project	In	In Re	view	Appro	oved
•	Preparation	DENR	EPA	DENR	EPA
Lewis & Clark Watershed Implementation Project Segment 4	Х				
Upper Big Sioux River Watershed Implementation Project Segment 6				Χ	Х
SDSU Impacts of Winter Manure Spreading	X				

A historical 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, a final report for each project has been filed with EPA, entered in the Grant Reporting and Tracking System (GRTS), and is available from the SD State Library. Several of the reports are also available by visiting:

http://denr.sd.gov/dfta/wp/wqinfo.aspx

During 2016, DENR continued activities to close out all 319 grants awarded to the department by their current expiration dates. The 2012 grant is on target for being completed on time in 2017. See Appendix F for the final 2011 report.

604(b) Grant

South Dakota had three 604(b) grants open during the FFY 2016 reporting period. The Section 604(b) project activities are detailed in Table 5.

Table 5. 604(b) Projects Active in FFY 2016

Grant #C6-99813114		
Project	Grant (\$)	Status
Skunk Creek – National Water Quality Initiative	\$29,973.02	On Schedule
SDSU Cropland Planning for Water Quality Improvement	\$21,133.09	Completed
Central SD Water Quality Monitoring Project	\$24,823.67	On Schedule
DENR Sampling Supplies	\$300.00	On Schedule
DENR Contractual – Misc. Water Quality Analysis	\$23,770.02	On Schedule
	\$100,000.00	
Projects	Grant (\$)	Status
Skunk Creek – National Water Quality Initiative	\$25,000.00	On Schedule

SDSU Cropland Planning for Water Quality improvement	\$2,360.77	Completed
West Vermillion River Sampling Project	\$10,000.00	On Schedule
Central SD Water Quality Monitoring Project	\$34,066.33	On Schedule
DENR Contractual – Misc. Water Quality Analysis	\$8,572.90	On Schedule
EDWDD Lake Monitoring Assessment Project	\$20,000.00	On Schedule
	\$100,000.00	
Grant #C6-99813116		
Grant #C6-99813116 Project	Grant (\$)	Status
	Grant (\$) \$11,247.74	Status On Schedule
Project	<u> </u>	
Project Skunk Creek – National Water Quality Initiative	\$11,247.74	On Schedule

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

Section 106 Categorical Grant

South Dakota had two 106 Supplemental Categorical grants open during the FFY 2016 reporting period. The Section 106 project activities are detailed in Table 6.

Table 6. Section 106 Categorical Grant Activities

Grant I-97893801-3 2-Jun-16 through 31-Dec-2019	
Projects	Grant (\$)
Stream Reference Site Development	\$95,000
National and Statewide Lake Assessments	\$128,900
Use Attainability Assessments	\$16,000
Stage/Discharge Relationship Development	\$59,400
Sediment Diatom Analysis	\$78,000
	\$377,300

Grant I-97895301-2 12-May-14 through 30-Sep-2018	
Project	Grant (\$)
DENR Stream Reference Site Development	\$184,599
State Scale Statistical Lake Survey	\$59,804
Use Attainability Assessments	\$25,908
Stage/Discharge Relationship Development	\$48,640
	\$318,951

A historical listing of completed Section 106 funded projects is located in Appendix D.

Grants Reporting and Tracking System

South Dakota enters information about 319 funded projects into the EPA Grants Reporting and Tracking System (GRTS) database. The GRTS database contains information about project funding, goals, and tasks. During FFY 2016, DENR entered annual evaluations for all active projects. The reports detail project activities and progress for the period October 1, 2015 – September 30, 2016. The program can be accessed at:

http://iaspub.epa.gov/pls/grts/f?p=110:199

Staff

During the reporting period, the Watershed Protection Program was authorized 13 full-time equivalents (FTE). Included in the number were 11 environmental scientists, one natural resources engineer and one program administrator. Visit the Watershed Protection website for contact information, areas of program responsibility and information about staff and support program goals.

http://denr.sd.gov/dfta/wp/staff.aspx

Watershed staff provided funded projects with technical assistance and project oversight through onsite and electronic means during FFY 2016. They also assisted prospective project partners with the preparation of project proposals and implementation plans. In FFY 2016, staff initiated five contracts obligating \$2,102,101 (319, 106, & 604(b)) in federal funds and processed 88 payment requests for federal funds totaling \$2,213,573 from all sources; initiated three contracts obligating \$808,000 (Clean Water State Revolving Fund, Consolidated Water Facilities Construction Program, and Clean Water State Revolving Fund – Water Quality) in state and other funds and processed 33 payment requests from these sources totaling \$1,344,554.

Training & Support

Training was provided for department program staff, local watershed implementation and assessment project staff, and stakeholder groups. This training consisted of onsite project assistance, specialized training for monitoring and assessment, and coordinator workshops. 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 would be volunteer water quality monitoring, managed grazing tours and workshops, soil health demonstrations, and nutrient management workshops.

Project Guidance & Oversight

Watershed staff provided project management assistance to project sponsors during all phases of project development, implementation and evaluation. The project guidance information and other documents are available at:

http://denr.sd.gov/dfta/wp/319.aspx

Program project officers are encouraged to complete at least two onsite visits to each assigned project each year. During FFY 2016, the reviews resulted in the revision of several project implementation plans and budgets.

Information and Education

The NPS Information and Education (I & E) Program is implemented through DENR's Watershed Protection Program. In FFY 2003, the decision was made to outsource the primary responsibility for the implementation of the statewide NPS Information & Education Program to the South Dakota Discovery Center. The Discovery Center was awarded a \$200,000 grant in FFY 2004 for that purpose. In FFY 2007, the Center was awarded \$200,000 to continue the project. In FFY 2010, they received \$300,000 for Segment 3. In FFY 2014, the Center received \$250,000 for Segment 4 with an additional \$86,700 awarded in 2016. DENR maintains a close working relationship with the Discovery Center to ensure program milestones are met and to ensure that the program is widely advertised. Additional outreach activities with which the department was involved during FFY 2016 are outlined below.

Dakota Water Watch is a system of trained citizen volunteers who take time each year to gather water quality information on lakes, streams and wetlands in their area. This helps fill data gaps and helps to monitor the water quality in eastern South Dakota. In FFY 2013, this program was expanded to the western part of the state.

Since 1992, South Dakota Water Festivals have delivered a strong water conservation message to an increasing number of fourth graders. Our goal is to provide a multi-topic, interdisciplinary, one-day water "science fair" where kids apply water education knowledge learned in the classroom to "real life" problem solving situations. More than 4,500 students and 240 teachers are served by 140 volunteers at Water Festivals each year.

The Leopold Conservation Award program in South Dakota was started in 2010. It has several positive outcomes. First, it recognizes and celebrates extraordinary achievement in voluntary conservation by private landowners. Second, it inspires countless other landowners by example. Third, it provides a prominent platform by which agricultural community leaders are recognized as conservation ambassadors to citizens outside of agriculture. Finally, the program builds bridges between agriculture, government, environmental organizations, industry and academia to advance the cause of private lands conservation.

Envirothon is North America's largest high school environmental education competition. The goal is to develop in young people an understanding of the principles and practices of natural resource management and ecology. Envirothon is a South Dakota NPS I&E project where three teams competed in 2013, four teams in 2014, no event was held in 2015, and 5 teams competed in 2016.

Financial and Technical Assistance Provided by Project Partners

While financial and technical assistance received from the Environmental Protection Agency provide the base for the South Dakota NPS Program, the resources available from 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 program partnerships, consult the *South Dakota Watershed Project Funding and Technical Assistance Guide*. An electronic copy of the guide is available by visiting:

USDA Natural Resources Conservation Service and Farm Service Agency

The USDA Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA) are active project partners in nearly all phases of the NPS Program. Financial assistance for NPS related activities provided by USDA administered programs during FFY 2016 is shown in Table 7.

Table 7. SD NPS Related Activities Funded during FFY 2016 by USDA Programs

Program	# Applications Funded	Acres	Funding (\$)
Conservation Stewardship Program (CSP)	435	881,140	\$18,565,211
Environmental Quality Incentives (EQIP) Agricultural Conservation Easement Program	391	346,509	\$14,834,066
(ACEP)	21	2,591	\$8,561,129
National Water Quality Initiative (NWQI) *	1		\$153,566

*The National Water Quality Initiative (NWQI) was initiated in FFY 2012. The goal is to remove streams and other waterbodies from the 303(d) list, from threatened status or from contributing to impairments. NWQI will assist producers to address high-priority water resource concerns in small watersheds. The State partnership selected four 12 digit Hydrologic Units in the Skunk Creek watershed, which drains to the Big Sioux River. The significance of this tributary is that it contributes pollutants that affect the city of Sioux Falls' ability to meet water quality standards for the portion of the Big Sioux River that flows through the city. During 2014, an in-stream monitoring project was initiated to determine progress toward Skunk Creek meeting its assigned beneficial uses and that progress is still moving forward today. In FY2016, the State and NRCS agreed to discontinue work in two NWQI watersheds in the Skunk Creek watershed and identify two new NWQI watersheds in the Firesteel Creek watershed. Firesteel Creek is a tributary to the James River and is impaired for bacteria and Total Suspended Solids. In-stream monitoring on Firesteel Creek began and planning and implementation are currently ongoing in the Firesteel Creek NWQI watersheds.

US Geologic Survey

The US 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. The survey is also an active participant in planning and conducting the Eastern South Dakota Water Conference and the Black Hills South Dakota Hydrology Conference.

US Fish and Wildlife Service

The US Fish and Wildlife Service (USFWS) provides technical and financial assistance to watershed projects for Best Management Practice (BMP) installation. This 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.

South Dakota Board of Water and Natural Resources Grant assistance

The Consolidated Water Facilities Construction Program (CWFCP) is administered by the South Dakota Board of Water and Natural Resources (BWNR). The program provides state grants and low interest loans for projects on the State Water Facilities Plan. NPS structural and construction BMPs, such as animal waste management systems (AWMS) and shoreline stabilization, are eligible for cost share funds through the program. Projects awarded Consolidated Water Facilities Construction Program funds during the reporting period are listed in Table 8.

The BWNR also provides Water Quality grant assistance to watershed projects from the Clean Water State Revolving Fund (CWSRF) Administrative Surcharge Fees. Projects awarded Water Quality grants during the reporting period are listed in Table 8.

Table 8. FFY 2016 State Grants

Project	Funding Source		Grant Award (\$)
South Central Watershed Implementation Project Segment 1 South Central Watershed Implementation Project	CWFCP		\$275,000
Segment 1	CWSRF WQ Grant	_	\$93,000
		Total	\$368,000

South Dakota Clean Water State Revolving Fund (NPS Incentive Loan Program)

The South Dakota Board of Water and Natural Resources administers the state's Clean Water State Revolving Fund (CWSRF) loan program. During 2004, the board established a nonpoint source incentive rate for nonpoint source projects. Projects for traditional wastewater or storm water that include a nonpoint source component are eligible for the nonpoint source interest rate. The annual principal and interest payment is calculated for a loan at the current base SRF interest rates of 2.25 percent for loans with a term of 10 years or less, 3 percent for loans with a term of 11 to 20 years, and 3.25 percent for loans with a term greater than 20 years. Using the lower incentive interest rates of 1.25 percent, 2 percent, and 2.25 percent, respectively, 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, five NPS project sponsors have used the NPS incentive program rate in partnership with municipalities. In FFY 2016, one new CWSRF NPS Incentive Loan was awarded. The NPS projects and loan amounts are shown in Table 9.

Table 9. CWSRF NPS 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 1	City of Sioux Falls	\$ 4,374,985
FFY 2006		
Upper Big Sioux River Watershed Project –Segment 4	City of Watertown	\$ 113,985
FFY 2007		
Upper Big Sioux River Watershed Project – Segment 5	City of Watertown	\$ 139,952
FFY 2009		
Firesteel Creek / Lake Mitchell Watershed Project	City of Mitchell	\$ 148,523
FFY 2011		
Central Big Sioux Watershed Project – Segment 2	City of Sioux Falls	\$ 1,901,014
Belle Fourche River Implementation Project – Segment 5	BF Irrigation District	_ \$ 200,000

FFY 2015		
Central Big Sioux Watershed Project – Segment 3	City of Sioux Falls	\$ 1,839,457
FFY 2016	·	
Central Big Sioux Watershed Project – Segment 3	City of Sioux Falls	\$ 449,000
, ,	Total	\$ 10,323,175

South Dakota Department of Agriculture

The South Dakota Department of Agriculture (SDDA) provides state funds to conservation districts for the installation of conservation BMPs through the Conservation Grants Program. During this reporting period, SDDA awarded \$500,000 to conservation district projects. Many of these projects include NPS related activities.

South Dakota Department of Environment & Natural Resources, Game, Fish & Parks and Agriculture worked togather to develop the Habitat Pays website. The Habitat Pays website focuses on compiling habitat and conservation funding programs and assistance from federal and state agencies. The information is easily accessible to South Dakota landowners and the general public with interest in creating wildlife habitat and improving water quality. For more information visit:

http://habitat.sd.gov/

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

The South Dakota Department of Game, Fish, and Parks (GFP) assistance programs accessed by projects are similar to those offered by the USFWS and center mainly on managed grazing and wetlands. For a description of the programs and practices cost shared, visit:

http://gfp.sd.gov/wildlife/private-land/default.aspx

319 Grant Match

Nonfederal match of 40 percent of project expenditures is required for Section 319 grants. South Dakota takes a conservative approach to approving nonfederal match submitted by its project partners. 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 E 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). In FFY 2007, DENR adopted STEPL as the primary load reduction estimation model for reporting annual and cumulative load reductions in GRTS.

Annual load reductions/water quality improvements documented are entered in GRTS. Load reductions for waterbodies located in project areas during FFY 2016 were 23,633 pounds of nitrogen, 6,044 pounds of phosphorous and 3,096 tons of sediment.

Table 10. Load Reductions for Projects during FFY 2016

Project Name	Nitrogen (Ibs. per year)	Phosphorus (lbs. per year)	Sediment (tons per year)
Big Sioux River Watershed Implementation Project Segment 3	11,265	2,744	441
Northeast Glacial Lakes Watershed Implementation Project Segment 3	4,291	1,036	619
Upper Big Sioux River Watershed Implementation Project Segment 6	970	302	24
Upper Big Sioux River Watershed Implementation Project Segment 7	1,511	313	36
Lewis & Clark Watershed Implementation Project Segment 4	4,852	1,166	788
South Central Watershed Implementation Project Segment 1	239	48	30
Belle Fourche River Watershed Implementation Project Segment 7	490	429	1,150
Spring Creek Watershed Implementation Project Segment 3	15	6	8
Totals	23,633	6,044	3,096

Appendix A

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

River Basin	Project
Bad River	None
Belle Fourche River	Belle Fourche River Watershed Management - Segment 7
Big Sioux River	Big Sioux River Watershed Implementation - Segment 3
	NE Glacial Lakes Watershed Improvement - Segments 3
	Upper Big Sioux River Implementation - Segment 6
Cheyenne River	Spring Creek Watershed Implementation - Segment 3
Grand River	None
James River	South Central Watershed Implementation Project - Segment 1
Minnesota River	NE Glacial Lakes - Segment 3
Missouri River	Lewis & Clark Watershed Implementation - Segment 4
Red River	None
Vermillion River	None
White River	None
Statewide / Regional Projects	Grassland Management & Planning - Segment 4
	SD NPS Information & Education Partnership - Segment 4
	303(d) Watershed Planning and Assistance - Segment 3
	Impacts of winter Manure Spreading
	Bacteria in Sediment Transport Project

Appendix B

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
	Upper Bad River Demonstration
Belle Fourche River	Bear Butte Creek Riparian Demonstration
	Belle Fourche River Assessment
	Belle Fourche River Watershed Management Plan - Segments 1, 2, 3,
	4, 5, and 6
Big Sioux River	Bachelor Creek Assessment
	Bachelor Creek Hydrologic Unit
	Big Sioux Bank Stability
	Big Sioux TMDL Through Sioux Falls
	Big Sioux Well Head Protection
	Blue Dog Lake Assessment
	Blue Dog Lake Watershed Improvement
	Central Big Sioux River Implementation - Segment 1 & 2
	Central Big Sioux River (Interim) Project
	Deuel County Lakes Implementation
	Enemy Swim Lake Implementation
	Lake Campbell Watershed Restoration
	Lakes Cochrane/Oliver Watershed Improvement
	Lakes Herman/Madison/Brant Implementation
	Lake Kampeska Watershed
	Lake Norden/Lake Albert/Lake St. John Assessment
	Lake Poinsett Watershed - Segment 1 & 2
	Lower Big Sioux River Implementation - Segment 1 & 2
	Northeast Glacial Lakes - Segment 1 & 2
	Pickerel Lake Protection
	Roy Lake Assessment
	Upper Big Sioux River Watershed - Segments 1, 2, 3, 4, 5, & 6
	Wall Lake Watershed Project
	Wall Lake Post Project Assessment
Cheyenne River	Whitewood Creek- Bear Butte Creek Temperature TMDL Phase 2
	Cheyenne River Phase I TMDL Assessment
	Foster Creek Riparian Demonstration - Stanley Co.
	Lower Cheyenne River TMDL Assessment - Phase I
	Lower Cheyenne River TMDL Assessment 2
	Piedmont Valley Assessment
	Rapid City Storm Water
	Spring Creek Implementation - Segment 1 & 2
Grand River	Shadehill Lake Protection Staffing & Support
James River	Brown County Implementation - Segment 2
	Clear Lake Assessment - Marshall Co.
	Cottonwood & Louise TMDL
	Elm Lake Implementation Project
	Firesteel Creek/Lake Mitchell Watershed Project - Segments 1 & 2
	Foster Creek Riparian Demonstration - Beadle Co.
	Jones Lake/ Rose Hill Lake TMDL
	Jones Lake/Rose Hill Lake Watershed Implementation
	Lake Byron Watershed
	Lakes Cottonwood and Louis Implementation
	Lakes Cottonwood and Louis Implementation Lake Faulkton Watershed Implementation
	Lakes Cottonwood and Louis Implementation Lake Faulkton Watershed Implementation Lake Hanson / Pierre Creek Implementation

	Lake Redfield Restoration
	Lower James River Assessment
	Lower James River Implementation - Segment 1, 2, & 3
	Loyalton and Cresbard Lakes TMDL
	Mina Lake Water Quality Assessment
	Moccasin Creek TMDL
	Ravine Lake Watershed
	Richmond Lake Watershed
	Richmond Lake Assessment
	Twin Lakes/Wilmarth Lake Assessment
	Upper James River Assessment
	Upper Snake Creek Implementation - Segment 1
	White Lake Dam TMDL
Missouri River	Burke Lake Assessment
inioodan ravoi	Burke Lake Restoration
	Lewis and Clark Implementation - Segment 1, 2, 3 & 4*
	Medicine Creek Assessment
	Medicine Creek Watershed Project - Segment 1
	Okobojo Creek Watershed Assessment
	Pocasse / Campbell Watershed Assessment
	South Central Lakes Watershed Assessment
	Spring Creek Implementation (Campbell Co.) - Segment 1
Red River	Lake Traverse Watershed Assessment
Vermillion River	Kingsbury County Lakes Assessment
verillillon Kivei	Kingsbury Lakes Assessment Kingsbury Lakes Implementation
	0 , 1
	Swan Lake Restoration
	Turkey Ridge Creek Implementation - Segment 1
	Vermillion River Basin Assessment
	Vermillion River Basin Implementation - Segment 1 & 2
White River	White River Phase I Assessment
	Little White River TMDL Assessment
Statewide/Regional	Abandoned Well Sealing
Projects	Animal Waste Management 1 & 2
1.10,0010	Animal Nutrient Management Team 3 & 4
	Animal Waste Team (Buffer salesmen)
	,
	Black Hills Stream Temperature Assessment
	Bootstraps
	Buffer Planning and Assistance
	Coordinated Resource Management 1& 2
	East River Area Riparian Demonstration 1 & 2
	East River Riparian Grazing I
	Evaluating Phosphorus Loss on a Watershed
	Grassland Management and Planning - Segment 1, 2 & 3
	Evaluating Vegetative Treatment Areas
	Ground Water Monitoring Network
	Manure Management Based on Soil Phosphorus
	Manure Management Based on Soil Phosphorus - Additional Soils
	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
	Nonpoint Source Information & Education 2004 - Segment 1
	Nonpoint Source Information & Education 2007 - Segment 2
	Nonpoint Source Information & Education 2010 - Segment 3
	Nonpoint Source Information & Education 2013 - Segment 4
	Precision Manure Management to Improve WQ
	Rainfall Simulator
	Rainfall Simulator

Riparian Grazing Workshop South Dakota Association of Conservation Districts 303(d) Watershed Planning & Assistance - Segment 1, 2 & 3* South Dakota Lake Protection Statewide Lake Assessment
Wetlands Education Project

(* indicates Final Report being drafted)

Appendix C

Completed Section 604(b) Projects by River Basin

Completed Section 604(I	, , ,
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
	Whitewood/Bear Butte Creek Temperature TMDL – Phase 1
	Whitewood/Bear Butte Creek Temperature TMDL – Phase 2
Big Sioux River Basin	Bacterial Source Tracking and Lower Big Sioux TMDL
	Big Sioux Aquifer Protection Project
	Big Sioux Aquifer Study
	Big Sioux River Bank Stabilization Demonstration Project
	Big Sioux River Riparian Assessment (Moody/Minnehaha)
	Brookings Area TMDL Sampling Project
	Covell Lake TMDL (Combined with Sioux Falls Big Sioux River TMDL
	Project)
	Pelican Lake Control Structure Feasibility
	Lake Alvin/Nine Mile Creek TMDL
	Lake Campbell TMDL Assessment
	Lakes Herman, Madison, Brandt Project Planning
	Lake Poinsett Project Planning and Design
	North Central Big Sioux/Oakwood Lake TMDL
	Sioux Falls – Big Sioux River TMDLs
	Upper Big Sioux Watershed AGNPS
Cheyenne River Basin	Develop NPS BMPs Western Pennington Co. Drainage District
Cheyenne River Basin	French Creek Assessment
	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 Campbell/Spring Creek TMDL
	Lewis and Clark TMDL Project
	Platte Lake Planning
	Randall RC&D Implementation Planning
	Randali Road Implementation Flaming

Vermillion River Basin	Turkey Ridge Creek Watershed Assessment Project
	Vermillion River Basin Watershed Planning
	West Yankton Sanitary Sewer Survey
White River Basin	White River Preservation Project
	White River Watershed Data Collection Project
	White River/Little White River TMDL Project
Statewide	Bacterial Source Typing: Sample Preparation and Analysis Project
	Black Hills & Eastern SD Taxonomic analyses of 2007 & 2008 samples
	Black Hills Biological Sampling - 2006 samples
	Black Hills Biological Sampling - 2007 samples
	Black Hills Biological Sampling - 2008 samples
	Black Hills Biological Sampling - 2009 and 2010 samples
	Black Hills Stream Temperature TMDL 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
	North Central RC&D HU Implementation
	Pesticide and Fertilizer Groundwater Study
	Pesticide and Nitrogen Program
	Riparian Area Forestry Project
	Statewide Lake Surveys 2011 - 2012
	Statewide Mercury TMDL Project
	Stockgrowers Speaker
	Taxonomic Identification & Enumeration of Biological Samples
	Terry Redlin Institute Wetlands Education Project
	Water Quality Study of SD Glacial Lakes and Wetlands
	Wetland Assessment for the Nonpoint Source Program
	SDSU Cropland Planning for Water Quality Improvement

Appendix D

Completed Section 106 Projects

Project

Center Lake Report Writing

Cottonwood Creek Watershed TMDL Assessment

DENR Monitoring Supplies and Equipment

DENR National Rivers and Streams Evaluation & Reference sites

DENR Stream Reference Site Development

Digital Line Graphs

Digitized SD Soil Survey

East Dakota WDD 2012 Water Quality Monitoring

Equipment for Lower Big Sioux and Spring Creek Assessment

EPA In-Kind for Lab Services

Fish Lake/Lake Alice Assessment

Gauging Equipment

Gauging Stations

Lake Hanson Assessment Project

Lewis and Clark Watershed Assessment

Lower Cheyenne River TMDL Assessment - Phase I

Lower James River TMDL Assessment

Mercury Sampling

Missouri River Monitoring

Northern Glaciated Plains Ref. Site Validation & Bio Toolkit

Northwest Great Plains Reference Site Development

Remote Sensing - AGNPS Crop Layers

School - Bullhead Watershed Assessment - TMDL

Sediment Diatom Analysis

Sediment Diatom Dating through Radiochemistry

Selection and & Validation of Stream Reference Sites

Spring Creek/Sheridan Lake Assessment

Stage/Discharge Relationship Development

Statewide Lakes Assessment (2002 - 2006)

Statewide Aquatic Macro-invertebrate Collection

Statistics Training Course

Upper Cheyenne River TMDL

Upper Rapid Creek Assessment

Use Attainability Assessments

Appendix E

319 Matching Funds Accrued Through 9/30/16

Grant	Grant Award (\$)	Total Match	Expenditures	Match Required	Match	
		Required (\$)	thru 9/30/16(\$)	Against Expenditures(\$)		
319 Implementation 89	1,594,000	1,062,667	1,594,000	1,062,667 1,315,		
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	864,531	860,355	
319 Implementation 99	2,791,400	1,860,933	2,791,400	1,860,933	1,861,025	
319 Implementation 00	3,008,897	2,005,931	3,008,897	2,005,931	2,005,931	
319 Implementation 01	3,267,900	2,178,600	3,267,900	2,178,600	2,356,825	
319 Implementation 02	3,142,900	2,095,268	3,142,900	2,095,268	2,095,268	
319 Implementation 03	3,215,964	2,143,976	3,215,964	2,143,976	2,143,976	
319 Implementation 04	3,090,200	2,060,133	3,090,200	2,060,133	2,060,769	
319 Implementation 05	2,651,624	1,767,750	2,651,624	1,767,750	1,767,750	
319 Implementation 06	2,583,000	1,722,000	2,583,000	1,722,000	1,722,000	
319 Implementation 07	2,470,700	1,647,133	2,470,700	1,647,133	1,678,147	
319 Imp / Admin 08	3,160,100	2,106,733	3,160,100	2,106,733	2,106,733	
319 Imp / Admin 09	3,160,100	2,106,733	3,160,100	2,106,733	2,106,733	
319 Imp / Admin 10	3,160,100	2,106,733	3,160,100	2,106,733	2,106,733	
319 Imp / Admin 11	2,744,000	1,829,333	2,744,000	1,,829,333	1,829,333	
319 Imp / Admin 12	2,564,000	1,709,333	2,432,860	1,621,907	1,709,334	
319 Imp / Admin 13	2,431,000	1,620,667	2,328,362	1,552,241	1,620,677	
319 Imp / Admin 14	2,487,000	1,658,000	2,275,725	1,517,150	1,658,000	
319 Imp / Admin 15	2,460,800	1,640,333	1,456,364	970,909	1,357,909	
319 Imp / Admin 16	2,544,000	1,696,000	277,549	185,033	280,481	
Total	62,661,588	42,126,894	58,945,430	37,820,333	41,895,564	

Appendix F

	SOUTH DAKOTA Octob	C9-998185 er 1, 2015 – Sept	511	S REPORT			
	Co	operative Agree	ment Details				
Cooperat	tive Agreement: C9-99818511						
	ward: June 01, 2011						
	Date: July 15, 2016						
PA Pass	s Thru Amount: \$2,070,320						
PA Tota	1: \$2,744,000						
total of	eight projects were approved for funding through the FY	2011 Cooperative	Agreement (Tah	le 1) Three of the	eight projects w	ere awared	_
31,109,00 Recourse 5/29/2012	00 in base funds and six of the eight projects received \$1 s (DENR) is using \$673,680 of the base funding for staff 2 "Northern Prairies Land Trust".	,635,000 in increr and support. The	mental funding. T Riparian Area P	he South Dakota D rotection Project w	epartment of En	vironment and Natura	al
	Summary of Section 319 projects approved for fundi	ng through the i	FY11 Cooperativ	e Agreement.			
GRTS Project Number							
	2011 Projects (Current as of October 2016)	Master Grant	Base	Incremental	Total	Status	
1	Staff & Technical Support	FY11	\$673,680.00			Complete, all 2011	
4	Belle Fourche River Watershed Mgmt. & Imp. Seg. 5	FY11	\$332,000.00			Completed, final rep	
2	Central Big Sioux River Watershed - Segment 2	FY11	\$103,320.00	\$75,486.08		Completed final rep	
5	Lake Poinsett Project - Segment 2 (Amendment)	FY07		\$178,124.69		Completed, final rep	
6	Lewis and Clark Watershed Project - Segment 3	FY11		\$492,000.00		Completed final rep	
3	Riparian Area Protection - Segment 1	FY11		\$18,410.90		Project closed and	
7	Spring Creek Mgmt & Imp. Segment 1 (Amendment)	FY10		\$91,393.40		Completed final rep	
8	Vermillion Basin Watershed - Segment 1 (Amendment)	FY06		\$92,000.00		Completed final rep	
7	Spring Creek Mgmt & Imp. Segment 2	FY12		\$160,606.60		Completed final rep	
2	Vermillion Basin Project - Segment 2	FY12 FY13		\$89,109.28	\$89,109.28		
3	303d Planning & Assistance Segment 3	FY14		\$175,680.63 \$108.994.50		On-schedule, all 20 Completed final rep	
3	Lewis and Clark Watershed Project - Segment 4 Big Sioux River Watershed Segment 3	FY14 FY15		\$153,193.92		On-schedule, all 20	
	Unobligated / Available	1113		\$0.00	\$0.00	Off-Scriedule, all 20	i i iulius spelit
	Ollobilgated / Available			\$0.00	40.00		
	Total		\$1,109,000,00	\$1,635,000.00	\$2,744,000,00		
	Pass Thru Grants Total		\$435,320.00	\$1,635,000.00	\$2,070,320.00		
	Remaining to be Spent as of 06/30/2016: \$0.00						
	* Original FY11 Projects						
Table 2	Projects Added for 319 Funding and Projects Reduce	ad 319 Eunding	Base	Incermental	Total		
rojects		ta o ro r unumg	Dusc	meermentar	Total		
	,606.60 incremental to Spring Creek Seg. 2 from Spring	Creek Sen. 1		\$160,606,60			
	,000 incremental funds to vermillion 2 from Riparian Proj			\$100,000.00			
	,909.10 incremental to unobligated from Riparian project			\$119,909.10			
	,875.31 incremental to unobligated from Lake Poinsett S			\$153,875.31			
	,000 incremental to 303d seg. 3 from unobligated	1		\$248,000.00			
Add \$25,	784.41 incremental to Lewis & Clark seg. 4 from unobliga-			\$25,784.41			
	890.72 incremental to unobligated from Vermillion seg. 2			\$10,890.72			
	,193.92 incremental to Big Sioux River seg.3 from Centre		2	\$153,193.92			
	319.37 project funds to Lewis & Clark seg. 4 from 303d			\$72,319.37			
Add \$10,8	890.72 project funds to lewis & clark seg. 4 from unobligation	ated		\$10,890.72	12		
				\$1,055,470.15			
	reduced						
	0,606.60 incremental from Spring Creek Seg. 1 to Sprin			(\$160,606.60)			
	tiparian project by \$219,909.10 inc funds to Vermillion 2			(\$219,909.10)			
Reduce Lake Poinsett Seg 2 by \$153,875.31 incremental funds to unobligated			(\$153,875.31)				
Reduce unobligated by \$248,000 incremental to 303d Seg. 3			(\$248,000.00)				
Reduce unobligated by \$25,784.41incremental to Lewis & Clark seg. 4			(\$25,784.41)				
Reduce Vermillion seg. 2 by \$10,890.72 incremental to unobligated			(\$10,890.72)				
Reduce Central Big Sioux seg. 2 by \$153,193.92 incremental to Big Sioux seg.3			(\$153,193.92)				
	03d seg. 3 by \$72,319.37 Project funds to Lewis & Clark			(\$72,319.37)			
reauce U	nobligated by \$10,890.72 Project funds to Lewis & Clark	seg. 4		(\$10,890.72)			
				(\$1,055,470.15)			