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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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 tons
- Phosphorus: 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/

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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**	**$ 2,544,000**

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

Project		Grant ($)	319 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

Project	Final Report Status				
	In Preparation	In Review		Approved	
		DENR	EPA	DENR	EPA
Lewis & Clark Watershed Implementation Project Segment 4	X				
Upper Big Sioux River Watershed Implementation Project Segment 6				X	X
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
	$100,000.00	
Grant #C6-99813116		
Project	**Grant ($)**	**Status**
Skunk Creek – National Water Quality Initiative	$11,247.74	On Schedule
EDWDD Lake Monitoring Project	$60,000.00	On Schedule
DENR Contractual – Misc. Water Quality Analysis	$28,752.26	On Schedule
	$100,000	

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:

http://denr.sd.gov/dfta/wp/documents/NPSFundingTechnicalAssistanceGuide.pdf

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)	391	346,509	$14,834,066
Agricultural Conservation Easement Program (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	CWFCP	$275,000
South Central Watershed Implementation Project 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 (lbs. 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 Lake Faulkton Watershed Implementation Lake Hanson / Pierre Creek Implementation Lake Mitchell Watershed Assessment

	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 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 Kingsbury Lakes Implementation 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 Projects	Abandoned Well Sealing Animal Waste Management 1 & 2 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 Reference Site Validation & Bio-monitoring Riparian Area Restoration & Protection - Segment 1

	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

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 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

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 ($)	Total Match Required ($)	Expenditures thru 9/30/16($)	Match Required Against Expenditures($)	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	864,531	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 NONPOINT SOURCE PROGRESS REPORT
C9-99818511
October 1, 2015 – September 30, 2016

Cooperative Agreement Details

Cooperative Agreement: C9-99818511
Date of Award: June 01, 2011
Expiration Date: July 15, 2016
EPA Pass Thru Amount: $2,070,320
EPA Total: $2,744,000

Summary

A total of eight projects were approved for funding through the FY2011 Cooperative Agreement (Table 1). Three of the eight projects were awared $1,109,000 in base funds and six of the eight projects received $1,635,000 in incremental funding. The South Dakota Department of Environment and Natural Recourses (DENR) is using $673,680 of the base funding for staff and support. The Riparian Area Protection Project was assigned a new sponsor on 5/29/2012 "Northern Prairies Land Trust".

Table 1. Summary of Section 319 projects approved for funding through the FY11 Cooperative 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		$673,680.00	Complete, all 2011 funds spent
4	Belle Fourche River Watershed Mgmt. & Imp. Seg. 5	FY11	$332,000.00		$332,000.00	Completed, final report approved
2	Central Big Sioux River Watershed - Segment 2	FY11	$103,320.00	$75,486.08	$178,806.08	Completed final report approved
5	Lake Poinsett Project - Segment 2 (Amendment)	FY07		$178,124.69	$178,124.69	Completed, final report approved
6	Lewis and Clark Watershed Project - Segment 3	FY11		$492,000.00	$492,000.00	Completed final report approved
3	Riparian Area Protection - Segment 1	FY11		$18,410.90	$18,410.90	Project closed and remaining funds deob
7	Spring Creek Mgmt & Imp. Segment 1 (Amendment)	FY10		$91,393.40	$91,393.40	Completed final report approved
8	Vermillion Basin Watershed - Segment 1 (Amendment)	FY06		$92,000.00	$92,000.00	Completed final report approved
7	Spring Creek Mgmt & Imp. Segment 2	FY12		$160,606.60	$160,606.60	Completed final report approved
2	Vermillion Basin Project - Segment 2	FY12		$89,109.28	$89,109.28	Completed final report approved
2	303d Planning & Assistance Segment 3	FY13		$175,680.63	$175,680.63	On-schedule, all 2011 funds spent
3	Lewis and Clark Watershed Project - Segment 4	FY14		$108,994.50	$108,994.50	Completed final report being drafted
	Big Sioux River Watershed Segment 3	FY15		$153,193.92	$153,193.92	On-schedule, all 2011 funds spent
	Unobligated / Available			$0.00	$0.00	
	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 Reduced 319 Funding	**Base**	**Incermental**	**Total**
Projects Added			
Add $160,606.60 incremental to Spring Creek Seg. 2 from Spring Creek Seg. 1		$160,606.60	
Add $100,000 incremental funds to vermillion 2 from Riparian Project Seg 1		$100,000.00	
Add $119,909.10 incremental to unobligated from Riparian project seg 1		$119,909.10	
Add $153,875.31 incremental to unobligated from Lake Poinsett Seg 2		$153,875.31	
Add $248,000 incremental to 303d seg. 3 from unobligated		$248,000.00	
Add $25,784.41 incremental to Lewis & Clark seg. 4 from unobligated		$25,784.41	
Add $10,890.72 incremental to unobligated from Vermillion seg. 2		$10,890.72	
Add $153,193.92 incremental to Big Sioux River seg.3 from Central Big Sioux seg. 2		$153,193.92	
Add $72,319.37 project funds to Lewis & Clark seg. 4 from 303d seg. 3		$72,319.37	
Add $10,890.72 project funds to lewis & clark seg. 4 from unobligated		$10,890.72	
		$1,055,470.15	
Projects reduced			
Move $160,606.60 incremental from Spring Creek Seg. 1 to Spring Creek Seg. 2		($160,606.60)	
Reduce Riparian project by $219,909.10 inc funds to Vermillion 2 and unobligated		($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)	
Reduce 303d seg. 3 by $72,319.37 Project funds to Lewis & Clark seg. 4		($72,319.37)	
Reduce Unobligated by $10,890.72 Project funds to Lewis & Clark seg. 4		($10,890.72)	
		($1,055,470.15)	