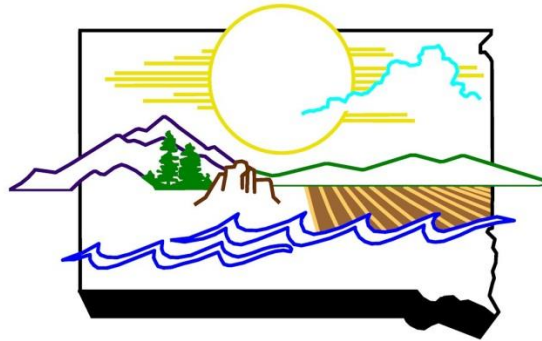


South Dakota
Nonpoint Source Pollution Program Annual Report

Federal Fiscal Year 2019

Prepared By The
Watershed Protection Program

South Dakota Department of
Environment and Natural Resources



Protecting South Dakota's Tomorrow ... Today

Joe Foss Building
Pierre, South Dakota 57501

February 2020

South Dakota Nonpoint Source Program Fact Sheet Federal Fiscal Year (FFY) 2019

Date of FFY 2019 Section 319 Project Grant Award: July 1, 2019

Amount of FFY 2019 Section 319 Project Grant: \$2,574,000

For EPA grant award purposes, half of the grant award 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 2019 Project Funds: \$1,287,000
- Amount FFY 2019 Program Funds: \$1,287,000

FFY 2019 Third-Party Section 319 NPS Projects Awarded:

- Belle Fourche River Watershed Partnership – \$816,000 for the Belle Fourche River Watershed Project – Segment 9
- Day County Conservation District – \$250,000 for the Northeast Glacial Lakes Watershed Project – Segment 4 (Amendment)
- South Dakota Discovery Center – \$104,000 for the South Dakota Nonpoint Source Information and Education Project – Segment 5 (Amendment)
- James River Water Development District – \$216,000 for the South Central Watershed Implementation Project - Segment 1 (Amendment)
- South Dakota Soil Health Coalition – \$75,000 for the Soil Health Improvement and Planning Project – Segment 1 (Amendment)
- South Dakota Grassland Coalition – \$69,000 for the Grassland Management and Planning Project – Segment 5 (Amendment)
- Moody County Conservation District – \$450,000 for the Big Sioux River Watershed Project Segment 3 (Amendment)
- City of Watertown – \$50,000 for the Upper Big Sioux River Watershed Implementation Project – Segment 7 (Amendment)

Total number of Active Section 319 NPS Projects in FFY 2019: 9

- Bacteria in Sediment Transport Project
- Belle Fourche River Watershed Project
- Big Sioux River Watershed Project
- Grassland Management and Planning Project
- Northeast Glacial Lakes Watershed Project
- Soil Health Improvement and Planning Project
- South Central Watershed Project
- South Dakota NPS Information and Education Project
- Upper Big Sioux River Watershed Project

FFY 2019 Total Pollutant Load Reduction Estimates:

- Sediment: 13,550 tons
- Phosphorus: 31,469 lbs.
- Nitrogen: 132,317 lbs.

Individual Section 319 NPS project load reductions for FFY19 can be found in Table 10.

In previous South Dakota NPS Annual Reports, total pollutant load reductions were reported by calendar year, and reductions for sediment, phosphorus and nitrogen were downloaded from the department's Tracker database. Load reductions in the 2019 Annual Report are provided for the federal fiscal year. Pollutant load reductions will be downloaded from EPA's Grant Reporting and Tracking System (GRTS) in order to maintain consistency between South Dakota's NPS Annual Report and the GRTS database.

Summary of BMPs implemented by South Dakota 319 NPS projects in FFY 2019:

- 5 animal waste management system designs
- 2 livestock feedlot relocations
- 5 nutrient management plans
- 2 animal waste management systems constructed
- 4 animal waste storage facilities
- 4 stream crossings
- 5 BMP plans
- 11 acres of conservation easements
- 21 acres of conservation cover
- 6,902 acres of cover crops
- 12,042 linear feet of terraces
- 49 alternative water sources/tanks/troughs
- 33 acres of tree/shrub establishment
- 3 mini-grants
- 4 meetings/events/workshops/tours
- 281 landowner conservation contacts
- 9 acres of conservation reserve program (CRP)
- 36,782 acres of grazing planned systems
- 6 grazing systems
- 118,265 linear feet of livestock pipeline
- 416 acres of riparian area management (RAM)
- 328 acres of seasonal RAM
- 37,277 linear feet of stream exclusion with grazing land management
- 18,518 linear feet of streambank and shoreline protection
- 2 water/sediment control basins
- 4 pond/dam cleanouts
- 22 samples collected
- 44,328 linear feet of fence
- 8 irrigation sprinkler systems
- 638 acres of irrigated by sprinkler system irrigation
- 4,370 linear feet of irrigation pipeline

EPA Approved Stream Restoration Success Stories:

South Dakota's 319 NPS Program submitted one Section 319 Watershed Success Story for publication in 2018. The Success Story was finalized in 2019 for Skunk Creek, a tributary of the Big Sioux River, was delisted for total suspended solids in the 2018 Integrated Report. Success Stories were published in 2011, 2013, 2014, 2015 and now in 2019. Those stories can be found at: <https://www.epa.gov/nps/success-stories-about-restoring-water-bodies-impaired-nonpoint-source-pollution#sd>

**South Dakota Department of Environment and Natural Resources
Nonpoint Source Pollution Program Annual Report
Federal Fiscal Year 2019**

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 protect the water quality of the state’s lakes, streams, and wetlands 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 more than 20 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	Izaak Walton League of America
Lower Brule Sioux Tribe	Natural Resources Conservation Service
Planning Districts	SD Cattlemen’s Association
SD Association of Conservation Districts	SD Conservation Commission
SD Chapter of the Sierra Club	SD Dept. of Environment and Natural Resources
SD Dept. of Agriculture	SD Dept. of Transportation
SD Dept. of Game, Fish and Parks	SD Farmers Union
SD Farm Bureau	SD Pork Producers
SD Grassland Coalition	South Dakota State University
SD Wheat, Inc.	US Fish and Wildlife Services
US Bureau of Reclamation	US Geological Survey
US Forest Service	
Water Development Districts	

319 Grant

The South Dakota Department of Environment and Natural Resources’ FFY 2019 Section 319 grant award from the Environmental Protection Agency (EPA) consisted of \$1,287,000 in Program funds and \$1,287,000 in Project funds. The \$2,574,000 total award was allocated as follows: Staff & Support - \$744,000 and 319 Projects - \$1,830,000. Projects awarded funding from the Department’s FFY 2019 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 \$200,000 in Clean Water State Revolving Fund (CWSRF) Water Quality Grant dollars to supplement the 319 pass through funds. See Table 8.

Table 2. FFY 2019 Section 319 Project Awards

Project	Grant (\$)		
	Program	Project	Total
Staff & Support			
DENR Staffing and Technical Support	\$ 744,000		\$ 744,000
Implementation			
Belle Fourche River Watershed – Segment 9	\$543,000	\$273,000	\$816,000
Big Sioux River Watershed Project – Segment 3 (Amendment)		\$450,000	\$450,000
Grasslands Management & Planning Project – Segment 5 (Amendment)		\$69,000	\$69,000
Northeast Glacial Lakes Watershed – Segment 4 (Amendment)		\$250,000	\$250,000
Soil Health Improvement & Planning Project – Segment 1 (Amendment)		\$25,000	\$25,000
South Central Watershed Project – Segment 1 (Amendment)		\$141,000	\$141,000
SD Nonpoint Source I&E Project – Segment 5 (Amendment)		\$29,000	\$29,000
Upper Big Sioux River Implementation Project – Segment 7 (Amendment)		\$50,000	\$50,000
Total 319 Funds	\$ 1,287,000	\$ 1,287,000	\$ 2,574,000

Projects awarded additional Section 319 funding during FFY 2019 using prior year funds reverted from closed watershed projects that did not expend their total grant award are listed in Table 3.

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

Project	Grant (\$)	319 Grant
		Year
Water Quality Planning Project -- SDACD	\$ 17,038.78	2015
Total	\$ 17,038.78	

Active 319 Projects

A list of Section 319 projects funded by previous grant awards that were open during the FFY 2019 reporting period is provided in Appendix A. Projects are listed by river basin.

Completed 319 Projects

Table 4 contains a list of 319 projects closed during FFY 2019. The status of the final report is listed for each project.

Table 4. 319 Projects Closed During FFY 2018

Project	Final Report Status				
	In Preparation	In Review		Approved	
		DENR	EPA	DENR	EPA
Water Quality Planning Project			X	X	
Belle Fourche River Watershed Implementation Project – Segment 8					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 2019, DENR continued activities to close out all 319 grants awarded to the department by their expiration date. The 2015 grant is on target for being completed on time in 2020. See Appendix F for the final FFY 2014 report.

604(b) Grant

South Dakota had four 604(b) grants open during the FFY 2019 reporting period. The Section 604(b) project activities are detailed in Table 5.

Table 5. 604(b) Projects Active in FFY 2019

Grant #C6-99813116 1-Oct-16 through 30-Sep-2018		
Project	Grant (\$)	Status
Skunk Creek – National Water Quality Initiative	\$ 24,905.30	Completed
Eastern SD Lakes Assessment	\$48,896.14	Completed
Central SD WQ Monitoring Project	\$8,112.00	Completed
Turner CD – West Vermillion River Sampling	\$450.83	Completed
DENR Time/Travel/Contractual/Water Samples	\$3,922.71	Completed
Equipment	\$13,697.30	Completed
Indirect	\$15.64	Completed
	\$ 100,000	

Grant #C6-96854617		
1-Oct-17 through 30-Sep-2019		
Project	Grant (\$)	Status
SDACD Water Quality Planning Project	\$ 46,339.33	Completed
Central SD WQ Monitoring Project	\$11,288.00	Completed
DENR Time/Travel/Contractual/Water Samples	\$42,372.67	Completed
	\$ 100,000	
Grant #C6-96854618		
1-Oct-18 through 30-Sep-2020		
Project	Grant (\$)	Status
South Central WQ Monitoring Project	\$73,790.00	On Schedule
SDACD Water Quality Planning Project	\$9,046.25	Completed
DENR Time/Travel/Contractual/Water Samples	\$17,163.75	On Schedule
	\$ 100,000	
Grant #C6-96854619		
1-Oct-19 through 30-Sep-2021		
Project	Grant (\$)	Status
Rotating Basins Project	\$76,800.00	On Schedule
DENR Time/Travel/Contractual/Water Samples	\$23,200.00	On Schedule
	\$ 100,000	

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

Section 106 Categorical Grant

South Dakota had three 106 Supplemental Categorical grants open during the FFY 2019 reporting period. The Section 106 project activities are detailed in Table 6.

Table 6. Section 106 Categorical Grant Activities

Grant #I-96840801-0	
1-Jul-16 through 31-Dec-19	
Project	Grant (\$)
DENR Stream Reference Site Development	\$95,000
National and Statewide Lake Assessments	\$206,000
Use Attainability Assessments	\$16,000
Stage/Discharge Relationship Development	\$59,400
	\$377,300

Grant #I-96843218-1 1-Oct-17 through 31-Oct-21	
Project	Grant (\$)
NRSA, Statewide Probabilistic Stream Survey and Reference Site Development	\$414,820
Statewide Lakes Monitoring and Assessment	\$55,000
Use Attainability Analysis	\$24,000
USGS Gaging Station Water Use Agreement	\$48,800
Rotating Basin Monitoring Strategy and TMDL Development	\$140,560
	\$683,180
Grant #I-96858801-0 1-Oct-19 through 30-Sep-22	
Project	Grant (\$)
DENR Reference Site Development	\$50,000
Statewide Lakes Monitoring and Assessment	\$27,265
Use Attainability Analysis	\$19,000
USGS Gaging Station Water Use Agreement and Stream Flow Monitoring	\$55,000
	\$151,265

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

Grants Reporting and Tracking System

South Dakota enters 319 project information into the EPA Grants Reporting and Tracking System (GRTS) database. The GRTS database contains information about project funding, goals, and tasks. DENR entered annual evaluations for all projects active in FFY 2019. The reports detail project activities and progress for the period October 1, 2018 through September 30, 2019. The GRTS database can be accessed at:

<https://ofmpub.epa.gov/apex/grts/f?p=109:1:3697814748928::::>

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 2019. They also assisted prospective project partners with the preparation of project proposals and implementation plans. In FFY 2019, staff initiated twelve contracts obligating \$2,052,446 in federal funds (319, 106, & 604(b)) and processed 52 payment requests for federal funds totaling \$1,889,153; initiated seven contracts obligating \$3,563,550 in

state funds (Consolidated Water Facilities Construction Program grants and Clean Water State Revolving Fund program NPS Incentive loans and Water Quality grants) and processed 9 payment requests from these sources totaling \$242,162.05.

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, implementation tours and workshops, soil health demonstrations, and nutrient management workshops.

Project Guidance & Oversight

Watershed Protection Program 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 conduct onsite visits to each assigned project annually. During FFY 2019, the reviews resulted in the revision of several project implementation plans and budgets.

Information and Education

Since 2003, the NPS Information and Education (I & E) Program has been outsourced to the South Dakota Discovery Center. The Discovery Center was awarded an initial \$200,000 I&E grant in FFY 2004. During the FFY 2007 through 2018 time period, the Discovery Center was awarded an additional \$1,086,700 to continue the I&E program. In FFY 2019, the Discovery Center was awarded \$104,000 (\$29,000 of 319 funds and \$75,000 CWSRF Water Quality Grants) for SD Nonpoint Source Information and Education Project Segment 5. 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.

Information activities share information with the general public. Some of these activities are one-time projects such as the media campaign on pet waste or the planning for urban watersheds planned to start in this new segment. Other ongoing activities include volunteer monitoring, conference support, and the minigrants program.

The minigrant process awards small grants to local, regional, and state projects that promote watershed education. Ten to twelve minigrants are awarded typically during each project segment.

Education activities include educator trainings, Envirothon, Water Festivals, and youth and student outreach activities. The South Dakota Envirothon project builds natural resources literacy through a hands-on, environmental education program and team competition for high school students. Three teams competed in 2013, four in 2014, 5 in 2016, 7 in 2017, 12 in 2018 and 7 in 2019. No event was held in 2015.

Since 1992, South Dakota Water Festivals have delivered a strong water conservation message to an increasing number of fourth graders. More than 4,500 students and 240 teachers are served by 140 volunteers at Water Festivals each year.

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.

The National Water Quality Initiative (NWQI) was initiated in FFY 2012. The goal is to remove streams and other waterbodies from the State's 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. Skunk Creek was delisted for total suspended solids (TSS) from the State's 303(d) list in the 2018 Integrated Report. A NPS Success Story was finalized for Skunk Creek TSS in 2019.

In FFY 2017, DENR and NRCS agreed to discontinue work in two NWQI watersheds in the Skunk Creek watershed and identified three NWQI watersheds in the Firesteel Creek watershed. These watersheds are Storia, West Fork Firesteel Creek, and Lower West Fork Firesteel Creek. Firesteel Creek is a tributary to the James River and is impaired for bacteria and TSS. In-stream monitoring on Firesteel Creek began in 2016, and planning and implementation are currently ongoing in the three Firesteel Creek NWQI watersheds.

US Geologic Survey

The US Geologic Survey provides technical assistance to several South Dakota nonpoint source assessment and implementation projects. The US Geological Survey also provides water quality and water quantity data to help DENR develop and implement TMDLs. The survey is also an active participant in planning and conducting the Western 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 Wetland 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 2019 State Grants

Project	Funding Source	Grant Award (\$)
South Central Watershed Implementation -Segment 1	CWFCP	\$ 500,000
	Total	\$ 500,000

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 rate of 2 percent for loans with a term of 10 years or less, 2.25 percent for loans with a term of 11 to 20 years, and 2.5 percent for loans with a term greater than 20 years. Using the lower incentive interest rates of 1 percent, 1.25 percent, and 1.5 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 accessed NPS incentive program rate financing. In FFY 2019, three new CWSRF NPS Incentive Loan were 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	City of Aberdeen	\$ 1,156,259
Central Big Sioux Watershed -Segment 1	City of Sioux Falls	\$ 4,374,985
FFY 2006		
Upper Big Sioux River Watershed–Segment 4	City of Watertown	\$ 113,985
FFY 2007		
Upper Big Sioux River Watershed–Segment 5	City of Watertown	\$ 139,952
FFY 2009		
Firesteel Creek / Lake Mitchell Watershed	City of Mitchell	\$ 148,523
FFY 2011		
Central Big Sioux Watershed–Segment 2	City of Sioux Falls	\$ 1,901,014
Belle Fourche River Implementation–Segment 5	BF Irrigation District	\$ 200,000
FFY 2015		
Central Big Sioux Watershed–Segment 3	City of Sioux Falls	\$ 1,839,457
FFY 2016		
Central Big Sioux Watershed–Segment 3	City of Sioux Falls	\$ 449,000
FFY 2017		
Big Sioux River Watershed	City of Sioux Falls	\$ 559,125
FFY 2018		
Big Sioux River Watershed	City of Dell Rapids	\$337,700
South Central Watershed	City of Mitchell	\$682,000
Big Sioux River Watershed	City of Sioux Falls	\$429,000
FFY 2019		
South Central Watershed*	City of Mitchell	\$98,750
South Central Watershed	City of Mitchell	\$356,000
Big Sioux River Watershed	City of Sioux Falls	\$2,408,800
*Amendment to prior year CWSRF award		
Total		\$ 15,194,550

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 together 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 2019 were 132,317 pounds of nitrogen, 31,469 pounds of phosphorous and 13,550 tons of sediment.

Table 10. STEPL Load Reductions for Projects during FFY 2019

Project Name	Nitrogen (lbs. per year)	Phosphorus (lbs. per year)	Sediment (tons per year)
Bacteria in Sediment Transport Project	0	0	0
Belle Fourche River Watershed Implementation-Segment 8	2,372	1,552	3,686
Big Sioux River Watershed Implementation-Segment 3	18,356	4,084	1,380
Grassland Management and Planning-Segment 5	0	0	0
Northeast Glacial Lakes Watershed Implementation-Seg. 4	3,954	1,168	863
Soil Health Improvement & Planning Project	1,472	591	342
South Central Watershed Implementation-Segment 1	106,066	24,030	7,256
SD NPS Information & Education Project-Segment 4	0	0	0
Upper Big Sioux River Watershed Implementation-Seg. 7	97	44	23
Totals	132,317	31,469	13,550

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 9
Big Sioux River	Big Sioux River Watershed Implementation-Segment 3 NE Glacial Lakes Watershed Improvement-Segments 4 Upper Big Sioux River Implementation-Segment 7 Bacteria in Sediment Transport Project
Cheyenne River	None
Grand River	None
James River	South Central Watershed Implementation Project-Segment 1
Minnesota River	NE Glacial Lakes Project-Segment 4
Missouri River	South Central Watershed Implementation Project-Segment 1
Red River	None
Vermillion River	South Central Watershed Implementation Project-Segment 1
White River	None
Statewide / Regional Projects	Grassland Management & Planning-Segment 5 SD NPS Information & Education Partnership-Segment 5 Soil Health Management and Planning-Segment 1

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, 6, 7, and 8
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, & 3 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, & 3
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.

	<p>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</p>
Missouri River	<p>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</p>
Red River	<p>Lake Traverse Watershed Assessment</p>
Vermillion River	<p>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</p>
White River	<p>White River Phase I Assessment Little White River TMDL Assessment</p>
Statewide/Regional Projects	<p>303(d) Watershed Planning & Assistance-Segment 1, 2 & 3 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 Evaluating Vegetative Treatment Areas Grassland Management and Planning-Segment 1, 2, 3, & 4 Ground Water Monitoring Network</p>

	<p> 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 South Dakota Lake Protection Statewide Lake Assessment Water Quality Impacts of Winter Manure Spreading Water Quality Planning Project Wetlands Education Project </p>
--	--

(* 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	<p>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</p>
Vermillion River Basin	<p>Turkey Ridge Creek Watershed Assessment Project Vermillion River Basin Watershed Planning West Yankton Sanitary Sewer Survey</p>
White River Basin	<p>White River Preservation Project White River Watershed Data Collection Project White River/Little White River TMDL Project</p>
Statewide	<p>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 Stock growers Speaker Taxonomic Identification & Enumeration of Biological Samples Terry Redlin Institute Wetlands Education Project Water Quality Planning Project Water Quality Study of SD Glacial Lakes and Wetlands Wetland Assessment for the Nonpoint Source Program SDSU Cropland Planning for Water Quality Improvement</p>

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 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
Statewide Aquatic Macroinvertebrate Collection and Database (Specify)
Statistics Training Course
Upper Cheyenne River TMDL
Upper Rapid Creek Assessment
Use Attainability Assessments
USGS Gage Station Water Use Agreements

Appendix E

319 Matching Funds Accrued Through 9/30/19

Grant	Grant Award (\$)	Total Match Required (\$)	Expenditures thru 9/30/19(\$)	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	2,564,000	1,709,333	1,709,333
319 Imp / Admin 13	2,431,000	1,620,667	2,431,000	1,620,667	1,620,667
319 Imp / Admin 14	2,487,000	1,658,000	2,487,000	1,658,000	1,658,000
319 Imp / Admin 15	2,460,800	1,640,533	2,358,481	1,572,321	1,640,533
319 Imp / Admin 16	2,544,000	1,696,000	2,329,103	1,552,736	1,698,959
319 Imp / Admin 17	2,631,000	1,754,000	2,550,716	1,700,477	1,754,000
319 Imp / Admin 18	2,600,000	1,733,000	1,092,709	728,473	2,302,704
319 Imp / Admin 19	2,574,000	1,716,000			
Total	70,466,588	47,330,094	65,987,579	44,344,423	47,653,359

Appendix F

SOUTH DAKOTA NONPOINT SOURCE PROGRESS REPORT
C9-99818514
October 1, 2016 – September 30, 2017

Cooperative Agreement Details

Cooperative Agreement: C9-99818514

Date of Award: May 09, 2014

Expiration Date: April 30, 2019

EPA Pass Thru Amount: \$1,887,000

EPA Total: \$2,487,000

Summary

A total of four projects were approved for funding through the FY2014 Cooperative Agreement (Table 1). Two of the four projects were awarded \$643,500 in program funds and three of the four projects received \$1,243,500 in project funding. The South Dakota Department of Environment and Natural Resources (DENR) is using \$600,000 of the program funding for staff and support.

Table 1. Summary of Section 319 projects approved for funding through the FY14 Cooperative Agreement.

2014 Projects (Current as of December 2016)	Master Grant	Program	Project	Total	Status
Staff & Technical Support	FY14	\$600,000.00		\$600,000.00	Complete all FY14 funds spent
Belle Fourche River Watershed - Segment 6	FY13	\$437,000.00		\$437,000.00	Completed final report approved
Lewis and Clark Watershed - Segment 4 **	FY14	\$206,500.00	\$693,500.00	\$900,000.00	Completed final report approved
Northeast Glacial Lakes Segment 3	FY14		\$208,713.58	\$270,737.16	Completed final report approved
NPS Information & Education Segment 4	FY14		\$279,262.84	\$279,262.84	Completed final report approved
Big Sioux River TMDL - RESPEC Consulting	FY14		\$0.00		
South Central Implementation Project Segment 1	FY16		\$62,023.58		
Unobligated / Available			\$0.00		
Total		\$1,243,500.00	\$1,243,500.00	\$2,487,000.00	
Pass Thru Grants Total		\$643,500.00	\$1,243,500.00	\$1,887,000.00	
Remaining to be Spent as of 2/18/2019: \$0					
* Original FY14 Projects					

Table 2. Projects Added for 319 Funding and Projects Reduced 319 Funding

Projects Added	Program	Project	Total
Add \$12,523.58 project funds to South Central Implementation Seg 1		\$ 12,523.58	
Add \$4,500 project funds to Big Sioux TMDL - RESPEC		\$4,500	
Add \$45,000 project funds to Big Sioux TMDL - RESPEC		\$45,000.00	
Add \$29,262.84 project funds to NPS I&E Seg. 4 from Northeast Glacial Lakes Seg. 4		\$29,262.84	
Add \$62,023.58 to unobligated FFY 14 from NE Glacial Lakes Segment 3		\$62,023.58	
Add \$49,500 project funds to the South Central Implementation Seg 1		\$49,500.00	
		\$ 202,810.00	
Projects reduced			
Reduce Unobligated \$12,523.58 project funds to South Central Implementation Seg 1		\$(12,523.58)	
Reduce Unobligated \$4,500 project funds to Big Sioux TMDL - RESPEC		\$(4,500)	
Reduce Unobligated \$45,000 project funds to Big Sioux TMDL - RESPEC		\$45,000.00	
Reduce Northeast Glacial Lakes Seg. 3 by \$29,262.84 project funds to NPS I&E Seg. 4		\$(29,262.84)	
Reduce Northeast Glacial Lakes Seg. 3 by \$62,023.58 project funds to unobligated FFY 14		\$(62,023.58)	
Reduce Big Sioux River TMDL-RESPEC Consulting by \$49,500 project funds		\$(49,500.00)	
		\$(202,810.00)	

** Assigned Sponsorship of the Lewis and Clark Project Segment 4 to the James River Water Development District on July 14, 2015.