# **South Dakota**

# Nonpoint Source Pollution Program Annual Report Federal Fiscal Year 2021

# **Prepared by**

# **South Dakota Department of Agriculture and Natural Resources**

# **Watershed Protection Program**



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# South Dakota Nonpoint Source Program Fact Sheet Federal Fiscal Year (FFY) 2021

Date of FFY 2021 Section 319 Project Grant Award: July 26, 2021 Amount of FFY 2021 Section 319 Project Grant: \$2,755,000

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 2021 Project Funds: \$1,377,500

Amount FFY 2021 Program Funds: \$1,377,500

#### FFY 2021 Third-Party Section 319 NPS Projects Awarded:

- Belle Fourche River Watershed Partnership \$213,000 for the Belle Fourche River
   Watershed Project Segment 9 (Amendment)
- Day County Conservation District -- \$400,000 (\$200,000 of 319 funds and \$200,000 of CWSRF-WQ funds) for the Northeast Glacial Lakes Watershed Project – Segment 5
- James River Water Development District \$1,500,000 for the South Central Watershed
   Implementation Project Segment 2

#### Total number of Active Section 319 NPS Projects in FFY 2021: 7

- Belle Fourche River Watershed Project
- Big Sioux River Watershed 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 2021 Total Pollutant Load Reduction Estimates:

Sediment: 12,673 tonsPhosphorus: 42,689 lbs.Nitrogen: 199,999 lbs.

Individual Section 319 NPS project load reductions for FFY21 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 2021 Annual Report are provided for the federal fiscal year. Pollutant load reductions will be downloaded from EPA's Grant Reporting and

Tracking System (GRTS) 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 2021:

- Ag Waste System
  - 5 nutrient management plans
  - 6 engineering designs
  - 3 livestock feedlot relocations
  - 4 waste management systems
  - 1 waste storage facility
- Bank Stabilization
  - 5 stream crossings
  - 16,940636.1 feet of streambank and shoreline protection
- Conservation Tillage
  - 1737.66 acres of conservation tillage
- Critical Area Planting
  - 60 acres of conservation cover
- Cropland BMPs
  - 101.66 acres of conservation crop rotation
  - o 1440.13 acres of cover crops
  - 40 acres of filter strips
- Grazing Management
  - 140 acres of cover crops
  - 3 grazing management plans
  - 11,870.76 acres of grazing planned systems
  - o 33,332 feet of livestock pipeline

- 15 livestock water tanks/troughs/alternative water sources
- 24.5 acres of tree/shrub establishment
- Information and Education
  - 5 news articles
  - 5 presentations
  - o 3 tours
- In-Lake Bio-manipulation
  - Evaluation of Clearas Water recovery
- Irrigation Water Management
  - 2 irrigation systems
- Perennial Vegetation
  - o 19.02 acres of pollinator habitat
- Riparian Restoration/Protection
  - 53.4 acres of conservation reserve program
  - 636.1 acres of riparian area management
  - 109.6 acres of conservation easements
  - 45,592 feet of fencing and stream exclusion
  - 119.5 acres of seasonal riparian area management

# South Dakota Department of Agriculture and Natural Resources Nonpoint Source Pollution Program Annual Report Federal Fiscal Year 2021

#### **South Dakota NPS Program Structure and Management**

The South Dakota Nonpoint Source (NPS) Pollution Program is administered by the South Dakota Department of Agriculture and Natural Resources' (DANR) 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 DANR's NPS activities visit:

https://danr.sd.gov/Conservation/WatershedProtection/default.aspx

The South Dakota Nonpoint Source Task Force is DANR'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:

https://danr.sd.gov/Conservation/WatershedProtection/NonpointSource.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 Agriculture and Natural Resources
Water Development Districts	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	

#### 319 Grant

The South Dakota Department of Agriculture and Natural Resources' FFY 2021 Section 319 grant award from the Environmental Protection Agency (EPA) consisted of \$1,377,500 in Program funds and \$1,377,500 in Project funds. The \$2,755,000 total award was allocated as follows: Staff & Support - \$842,000 and 319 Projects - \$1,913,000. Projects awarded funding from the Department's FFY 2021 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 as well as protect unimpaired 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 2021 Section 319 Project Awards** 

Project	Grant (\$)		
Staff & Support	Program	Project	Total
DANR Staffing and Technical Support	\$ 842,000		\$ 842,000
Implementation			
Belle Fourche River Watershed – Segment 9 (Amendment)		\$213,000	\$213,000
Northeast Glacial Lakes Project – Segment 5 \$200,000 \$20		\$200,000	
South Central Watershed Project – Segment 2	\$ 535,500	\$964,500	\$1,500,000
Total 319 Funds	\$1,377,500	\$1,377,500	\$2,755,000

Projects awarded additional Section 319 funding during FFY 2021 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

		319 Grant
Project	Grant (\$)	Year
South Central Watershed Project – JRWDD	\$ 54,321.86	2017
South Central Watershed Project – JRWDD	\$ 245,678.14	2018
Total	\$ 300,000	

#### **Active 319 Projects**

A list of Section 319 projects funded by previous grant awards that were open during the FFY 2021 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 2020. The status of the final report is listed for each project.

Table 4. 319 Projects Closed During FFY 2021

		Final Repo	ort Status	3	
	In In Review Appro		oved		
Project	Preparation	DENR	EPA	DENR	EPA
Northeast Glacial Lakes Project		Х			
South Central Watershed Implementation Project	Х				

A historical list of Section 319 projects completed by DANR 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:

https://danr.sd.gov/Conservation/WatershedProtection/ReportsPublications.aspx

During 2021, DANR continued activities to close out all 319 grants awarded to the department by their expiration date. The 2017 grant is on target for being completed on time in 2022. See Appendix F for the final FFY 2016 report.

#### 604(b) Grant

South Dakota had three 604(b) grants open during the FFY 2021 reporting period. The Section 604(b) project activities are detailed in Table 5.

Table 5. 604(b) Projects Active in FFY 2020

Grant #C6-96854619		
1-Oct-19 through 30-Sep-202	21	
Project	Grant (\$)	Status
Rotating Basins Project (East Dakota Water Development		
District)	\$76,800	Completed
South Central Water Quality Monitoring Project (James River		
Water Development District)	\$20,000	Completed
Equipment	\$3,200	Completed
	\$ 100,000	
Grant #C6-96854620		
1-Oct-20 through 30-Sep-202	22	
Project	Grant (\$)	Status
Rotating Basins Project (East Dakota Water Development		
District)	\$60,000	Completed
South Central Water Quality Monitoring Project (James River		
Water Development District)	\$20,000	On Schedule
DENR Personnel and Summer Intern Salaries	\$20,000	On Schedule
	\$ 100,000	
Grant #C6-96854621		
1-Oct-21 through 30-Sep-202	23	
Project	Grant (\$)	Status
Rotating Basins Project (Black Hills)	\$80,000.00	On Schedule
South Central Water Quality Monitoring Project (James River		
Water Development District)	\$20,000.00	On Schedule
-	\$ 100,000	<del></del>

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

#### **Section 106 Categorical Grant**

South Dakota had one 106 Supplemental Categorical grants open during the FFY 2021 reporting period. Grant #I-96858801-2 includes the FFY19, FFY20, and FFY 21 grants. The Section 106 project activities for the FFY19, FFY20, and FFY21 are detailed in Table 6.

**Table 6. Section 106 Categorical Grant Activities** 

Grant #I-96858801-2	
1-Oct-19 through 30-Sep-24	
Project	Grant (\$)
2022 National Lakes Assessment (NLA)-State Scale Survey	\$225,900
Stream Reference Site Development	
Statewide Lakes Assessment/Harmful Algal Blooms	\$110,000
Use Attainability Analysis	\$59,000
Statewide Streamflow Monitoring Network	\$99,268
Rotating Basins Project	\$90,000
TOTAL	\$709,168

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. DANR entered annual evaluations for all projects active in FFY 2021. The reports detail project activities and progress for the period October 1, 2020 through September 30, 2021. 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 resource engineer and one program administrator. Visit the DANR website for contact information.

#### https://danr.sd.gov/ContactUs/default.aspx

Watershed staff provided funded projects with technical assistance and project oversight through onsite and electronic means during FFY 2021. They also assisted prospective project partners with

the preparation of project proposals and implementation plans. In FFY 2021, staff initiated five contracts obligating \$2,013,000 in federal funds (319, 106, & 604(b)) and processed 29 payment requests for federal funds totaling \$1,386,945; initiated one contract obligating \$200,000 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 20 payment requests from these sources totaling \$521,522.

#### **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 training videos created because of the COVID-19 pandemic.

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:

https://danr.sd.gov/Conservation/WatershedProtection/Section319/Guidance.aspx

Program project officers are encouraged to conduct onsite visits to each assigned project annually. During FFY 2021, 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 2019 period, the Discovery Center was awarded an additional \$1,190,700 to continue the I&E program. In FFY 2020, the Discovery Center was awarded \$300,000 (\$200,000 of 319 funds and \$100,000 CWSRF Water Quality Grants) for SD Nonpoint Source Information and Education Project Segment 6. DANR 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 public. Some of these activities are one-time projects such as the media campaign on pet waste or the planning for urban watersheds planned in previous segments. 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, Project WET, Water Festivals, volunteer water monitoring, and youth and student outreach activities.

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:

https://danr.sd.gov/Conservation/WatershedProtection/docs/319guidance2022.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 instream 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 nonpoint source pollution 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 DANR 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 2021 State Grants

Project	Funding Source	Grant Award (\$)
Northeast Glacial Lakes Project – Segment 5	CWSRF WQ Grant	\$200,000
	То	tal \$ 200,000

#### 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, six NPS project sponsors have accessed NPS incentive program rate financing. In FFY 2021, zero CWSRF NPS Incentive Loans 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
FFY 2020		
Big Sioux River Watershed	City of Dell Rapids	\$213,500
Firesteel Creek Watershed Restoration**	City of Mitchell	\$311,700
Firesteel Creek Watershed Restoration**	City of Mitchell	\$163,000
Big Sioux River Watershed	City of Sioux Falls	\$457,400
*Amendment to prior year CWSRF award		
** Firesteel Creek is within the South Central Watershed Project		
	Total	\$ 16,340,150

### **South Dakota Department of Agriculture**

In fiscal year 2021, the Departments of Agriculture and Environment and Natural Resources merged to form one department, the Department of Agriculture and Natural Resources (DANR). The newly formed department will provide state funds to conservation districts for the installation of conservation BMPs through the Conservation Grants Program. During this reporting period, SDDA (now DANR) awarded \$500,000 to conservation district projects. Many of these projects include NPS-related activities.

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

GFP assistance programs accessed by projects are like those offered by the USFWS and center mainly on managed grazing and wetlands.

The former Department of Agriculture and the GFP 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 public with interest in creating wildlife habitat and improving water quality.

For a description of the programs and practices cost shared visit:

https://habitat.sd.gov/

#### 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 Spreadsheet Tool for the Estimation of Pollutant Load (STEPL), Revised Universal Soil Loss Equation (RUSLE 2), and Annualized Agricultural Nonpoint Source (AnnAGNPS). In FFY 2007, DENR adopted STEPL as the primary load reduction estimation model for reporting annual and cumulative load reductions in GRTS. DANR will continue to us STEPL as its primary load reduction estimation model.

Annual load reductions/water quality improvements documented are entered in GRTS. Load reductions for waterbodies located in project areas during FFY 2021 were 199,999 pounds of nitrogen, 42,689 pounds of phosphorous and 12,673 tons of sediment.

Table 10. STEPL Load Reductions for Projects during FFY 2021

Project Name	Nitrogen (Ibs. per year)	Phosphorus (lbs. per year)	Sediment (tons per year)
Belle Fourche River Watershed Implementation-Segment 9	741	126	82
Big Sioux River Watershed Implementation-Segment 3	4,589	1000	332
Northeast Glacial Lakes Watershed Implementation- Segment 4	5,349	1,978	2,939
Soil Health Improvement & Planning Project-Segment 2	23,954	6,526	5,209
South Central Watershed Implementation-Segment 1	165,325	33,040	4,080
SD NPS Information & Education Project-Segment 6	0	0	0
Upper Big Sioux River Watershed Implementation-Segment 7	41	19	31
Totals	199,999	42,689	12,673

### 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 4
	NE Glacial Lakes Watershed Improvement-Segment 5
	Upper Big Sioux River Implementation-Segment 7
Cheyenne River	None
<b>Grand River</b>	None
James River	South Central Watershed Implementation Project-Segment 2
	NE Glacial Lakes Watershed Improvement-Segment 5
Minnesota River	NE Glacial Lakes Project-Segment 5
Missouri River	South Central Watershed Implementation Project-Segment 2
Red River	None
Vermillion River	South Central Watershed Implementation Project-Segment 2
White River	None
Statewide / Regional Projects	SD NPS Information & Education Partnership-Segment 6
	Soil Health Management and Planning-Segment 2

# 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, & 3
	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 & 4
	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
<b>Grand River</b>	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.

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	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
	South Central Watershed Implementation Project-Segment 1
	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
	South Central Watershed Implementation Project-Segment 1
	Spring Creek Implementation (Campbell Co.)-Segment 1
Red River	Lake Traverse Watershed Assessment
Vermillion River	Kingsbury County Lakes Assessment
	Kingsbury Lakes Implementation
	South Central Watershed Implementation Project-Segment 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 Projects	303(d) Watershed Planning & Assistance-Segment 1, 2 & 3
otatemae, negional i rojetto	Abandoned Well Sealing
	Animal Waste Management 1 & 2
	Animal Nutrient Management Team 3 & 4
	Animal Waste Team (Buffer salesmen)
	Bacteria in Sediment SDSU Project
	Black Hills Stream Temperature Assessment
	Bootstraps
	Buffer Planning and Assistance
	Coordinated Resource Management 1& 2
	East River Area Riparian Demonstration 1 & 2
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	East River Riparian Grazing I

**Evaluating Phosphorus Loss on a Watershed** 

**Evaluating Vegetative Treatment Areas** 

Grassland Management and Planning-Segment 1, 2, 3, 4 & 5

**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 - Segment 1, 2, 3, 4, & 5

Precision Manure Management to Improve WQ

**Rainfall Simulator** 

Reference Site Validation & Biomonitoring

Riparian Area Restoration & Protection-Segment 1

Riparian Grazing Workshop

Soil Health Improvement and Planning Project-Segment 1

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

# 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)				
	Eastern South Dakota Lakes Assessment				
	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				
	Rotating Basins Project				
	Sioux Falls – Big Sioux River TMDLs				
	Skunk Creek – National Water Quality Initiative				
	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				
	Central South Dakota Water Quality Monitoring Project				
	Eastern South Dakota Lakes Assessment				
	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				
	Rotating Basins Project				
Missouri River Basin	Burke Lake Diagnostic/Feasibility Study				
	Central South Dakota Lakes Assessment				
	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				
	Turner County Conservation District – West Vermillion River Sampling				
	Vermillion River Basin Watershed Planning				
	West Yankton Sanitary Sewer Survey				
White River Basin	White River Preservation Project				
Willie River Basili	White River Watershed Data Collection Project				
	White River/Little White River TMDL Project				
Statewide	Bacterial Source Typing: Sample Preparation and Analysis Project				
Statewide	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				

#### 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** 

EPA National Lakes Assessment (NLA)

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

Rotating Basins Project—Big Sioux/Red/Minnesota River Basins

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 9/30/21

+No report available

313 Matching Fullus Ac	0.0.0.0		TIVO TEPOTE available		
Grant	Grant Award (\$)	<b>Total Match</b>	Expenditures	Match Required	Match
		Required (\$)	thru 9/30/21(\$)	Against Expenditures (\$)	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 lmp / Admin 08	3,160,100	2,106,733	3,160,100	2,106,733	2,106,733
319 lmp / Admin 09	3,160,100	2,106,733	3,160,100	2,106,733	2,106,733
319 lmp / Admin 10	3,160,100	2,106,733	3,160,100	2,106,733	2,106,733
319 lmp / Admin 11	2,744,000	1,829,333	2,744,000	1,829,333	1,829,333
319 lmp / Admin 12	2,564,000	1,709,333	2,564,000	1,709,333	1,709,333
319 lmp / Admin 13	2,431,000	1,620,667	2,431,000	1,620,667	1,620,667
319 lmp / Admin 14	2,487,000	1,658,000	2,487,000	1,658,000	1,658,000
319 lmp / Admin 15	2,460,800	1,640,533	2,460,800	1,640,533	1,640,533
319 Imp / Admin 16	2,544,000	1,696,000	2,544,000	1,696,000	1,696,000
319 Imp / Admin 17	2,631,000	1,754,000	2,576,678	1,717,785	1,754,000
319 Imp / Admin 18	2,600,000	1,733,000	2,214,714	1,476,476	1,733,000

Total	75,904,588	49,118,761	67,854,477	45,589,021	47,675,473
319 lmp/ Admin 21+	2,755,000	1,836,667			
319 Imp/ Admin 20	2,683,000	1,788,667	768,512	512,341	236,151
319 lmp / Admin 19	2,574,000	1,716,000	1,550,113	1,033,408	1,320,575

#### Appendix F

#### SOUTH DAKOTA NONPOINT SOURCE PROGRESS REPORT C9-99818516 October 1, 2018 - September 30, 2019 **Cooperative Agreement Details** Cooperative Agreement: C9-99818516 Date of Award: May 19, 2016 Expiration Date: May 30, 2021 EPA Pass Thru Amount: \$1,864,000 EPA Total: \$2,544,000 Summary A total of five projects were approved for funding through the FY2016 Cooperative Agreement (Table 1). One of the five projects was awared \$592,000 in program funds and five of the five projects received \$1,272,000 in project funding. The South Dakota Department of Environment and Natural Recourses (DENR) is using \$680,000 of the program funding for staff Table 1. Summary of Section 319 projects approved for funding through the FY16 Cooperative Agreement. 2016 Projects (Current as of April 2020) Master Grant Program Project Total Status Staff & Technical Support FY16 \$824 228 36 \$824 228 36 Completed Belle Fourche River Watershed - Seg. 7 (Amendment) NPS Information & Education Segment 4 (Amendment) \$405.771.64 \$405.771.64 Completed final report approved FY15 Completed final report approved FY14 \$23,498,16 \$23,498,16 SDSU Bateria in Sediment Project FY16 \$187,389.36 \$187,389.36 Completed final report approved South Central Implementation Project Seg. 1 FY16 \$588,803.66 \$1,036,575.30 On-schedule \$447,771.64 Upper Big Sioux River Implementation Seg. 7 FY16 \$66,537.18 \$66,537.18 On-schedule Lewis and Clark Watershed - Segment 4 \$0.00 \$0.00 FY14 Unobligated / Available \$0.00 \$0.00 \$1,272,000.00 \$1,272,000.00 \$2,544,000.00 Pass Thru Grants Total \$592,000.00 \$1,272,000.00 \$1,864,000.00 Remaining to be Spent as of 06/30/2021: \$0.00 \* Original FY16 Projects Table 2. Projects Added for 319 Funding and Projects Reduced 319 Funding Projects Added Program Project Total Add \$64,199.55 project funds to Lewis & Clark Seg. 4 from South Central 1 Add \$85,800.45 project funds to unobligated from South Central Seg. 1 \$64.199.55 \$85.800.45 Add \$64,199.55 project funds to unobligated from Lewis & Clark Seg. 4 \$64.199.55 \$5,771.64 Add \$5,771.61 unobligated funds to Belle Fourche Seg 7 Add \$50,000 unobligated funds to Staff & Technical Support \$50,000.00 Add \$94,228.36 unobligated funds to Staff & Technical Support \$94,228.36 \$63,201.84 Add \$63,201.84 FY16 project funds to unobligated from NPS I&E Seg 4 Add \$1,575.64 FY16 project funds to unobligated from SDSU Sediment in Bacteria \$1,575.64 Add \$64,777.48 unobligated funds to South Central Seg 1 \$64,777.48 Add \$133,462.82 Upper Big Sioux River Seg 7 to South Central Seg 1 \$133,462.82 \$627,217.33 Projects reduced Reduce South Central Seg. 1 by \$150,000 project funds to Lewis & Clark Seg. 4 \$64,199.55 and \$85,800.45 to unobligated (\$150,000.00) Reduce Lewis & Clark Seg. 4 project funds \$64,199.45 to unobligated (\$64,199.55) (\$5,771,64) Reduce \$5,771.64 unobligated funds to Belle Fourche Seg 7 Reduce \$50,000 unobligated funds to Staff and Technical Support (\$50,000,00) Reduce \$94,228.36 unobligated funds to Staff and Technical Support (\$94,228,36) Reduce \$63,201.84 FY16 NPS I&E Seg. 4 project funds to unobligated (\$63,201.84) Reduce \$1,575.64 SDSU Sediment in Bacteria project funds to unobligated (\$1.575.64) Reduce \$64,777.48 unobligated funds to South Central Seg 1 (\$64,777.48) Reduce \$133,462.82 Upper Big Sioux Seg 7 to South Central Seg 1

(\$133,462.82) (\$627.217.33)