

South Dakota
Nonpoint Source Pollution Program Annual Report

Federal Fiscal Year 2023

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) 2023

Date of FFY 2023 Section 319 Project Grant Award: June 28, 2023

Amount of FFY 2023 Section 319 Project Grant: \$2,756,000

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 2023 Project Funds: \$1,378,000
- Amount FFY 2023 Program Funds: \$1,378,000

FFY 2023 Third-Party Section 319 NPS Projects Awarded:

- Minnehaha Conservation District – \$651,500 of Section 319 funds for the Big Sioux River Project – Segment 4 (Amendment)
- South Dakota Discovery Center – \$250,000 of Section 319 funds and \$100,000 of CWSRF-WQ funds for the South Dakota Nonpoint Source Information and Education Project – Segment 7
- Day Conservation District – \$426,500 of Section 319 funds and \$100,000 of CWSRF-WQ funds for the Prairie Coteau Watershed Project – Segment 1
- South Dakota Soil Health Coalition – \$657,000 of Section 319 funds for the Soil Health Improvement and Planning Project – Segment 3

Total number of Active Section 319 NPS Projects in FFY 2023: 6

- Belle Fourche River Watershed Management and Implementation Project – Segment 10
- Big Sioux River Watershed Project – Segment 4
- Northeast Glacial Lakes Watershed Improvement and Protection Project – Segment 5/Upper Big Sioux River Watershed Project – Segment 7/Prairie Coteau Watershed Improvement and Protection Project – Segment 1
- Soil Health Improvement and Planning Project – Segment 2
- South Central Watershed Implementation Project – Segment 2
- South Dakota NPS Information and Education Project – Segment 7

FFY 2023 Total Pollutant Load Reduction Estimates:

- Sediment: 13,737 tons
- Phosphorus: 30,988 lbs.
- Nitrogen: 135,566 lbs.

Individual Section 319 NPS project load reductions for FFY23 can be found in Table 10.

Load reductions in the 2023 Annual Report are provided for the federal fiscal year using reductions that have been reported to the Department's Tracker database. 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 2023

- Ag Waste Systems
 - 3 comprehensive nutrient management plans
 - 4 engineering plans
 - 1 feedlot closure
 - 3 waste management systems
- Conservation Tillage
 - 5,783 acres of conservation tillage residue management
- Cropland BMPs
 - 488 acres of conservation crop rotation
 - 7,013 acres of cover crops
 - 62 acres of grass seeding
- Grazing Management
 - 67,699 linear feet of fence
 - 4 grazing management plans
 - 7,816 acres of grazing planned systems
 - 55,254 feet of livestock pipeline
 - 30 livestock water tanks/troughs/alternative water sources
- 348 acres of range planting
- 40 acres of tree/shrub establishment
- Information and Education
 - 31 meetings and workshops
 - 9 presentations
 - 7 tours and events
- Irrigation Water Management
 - 3 irrigation systems-sprinklers
- Perennial Vegetation
 - 32 acres of grass seeding/pollinator habitat
- Riparian Restoration/Protection
 - 7 acres of riparian area management
 - 166 acres of seasonal riparian area management
 - 25,914 feet of stream exclusion with grazing land management
- Urban BMPs
 - 3 stormwater wetlands
 - 1 vegetated filter

Table 1. Summary of BMP Expenses

Description	319	State	Local	Other Federal	Total
Ag Waste System	\$50,165.16	\$141,310.99	\$1,582,598.68	\$1,228,768.23	\$3,002,843.06
Cropland BMPs	\$102,149.14	\$22,384.12	\$226,069.39	\$10,167.00	\$360,769.65
Grazing Management	\$95,162.41	\$97,230.48	\$520,425.82	\$849,624.91	\$1,562,443.62
Information and Education	\$2,136.55	\$0.00	\$6,752.08	\$0.00	\$8,888.63
Irrigation Water Management	\$133,325.26	\$0.00	\$144,691.65	\$0.00	\$278,016.91
Perennial Vegetation	\$19,010.26	\$5,000.00	\$42,394.58	\$0.00	\$66,404.84
Riparian Area Management	\$0.00	\$854.14	\$0.00	\$0.00	\$854.14
Riparian Restoration/Protection	\$6,202.00	\$238,328.29	\$3,303.00	\$0.00	\$247,833.29
Urban BMPs	\$0.00	\$674,448.20	\$0.00	\$0.00	\$674,448.20
Water Quality Monitoring	\$37,500.00	\$0.00	\$0.00	\$0.00	\$37,500.00
Totals	\$811,297.25	\$1,336,523.93	\$2,653,398.78	\$2,245,387.28	\$7,046,607.24

**South Dakota Department of Agriculture and Natural Resources
Nonpoint Source Pollution Program Annual Report
Federal Fiscal Year 2023**

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 2). For additional information about the Task Force visit:

<https://danr.sd.gov/Conservation/WatershedProtection/NonpointSource.aspx>

Table 2. NPS Task Force Core Agencies & Interest Groups

Corn Growers Association	Izaak Walton League of America
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	Natural Resource Conservation Service

319 Grant

The South Dakota Department of Agriculture and Natural Resources’ FFY 2023 Section 319 grant award from the Environmental Protection Agency (EPA) consisted of \$1,378,000 in Program funds and \$1,378,000 in Project funds. The \$2,756,000 total award was allocated as follows: Staff & Support - \$771,000 and 319 Projects - \$1,985,000. Projects awarded funding from the Department’s FFY 2023 Grant are listed in Table 3. 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 3. FFY 2023 Section 319 Project Awards

Project	Grant (\$)		
	Program	Project	Total
Staff & Support			
DANR Staffing and Technical Support	\$ 771,000		\$ 771,000
Implementation			
Big Sioux River Project – Segment 4 (Amendment)		\$651,500	\$651,500
SD NPS Information and Education Project – Segment 7	\$250,000		\$250,000
Prairie Coteau Implementation Project – Segment 1		\$426,500	\$426,500
Soil Health Improvement and Planning Project – Segment 3	\$357,000	\$300,000	\$657,000
Total 319 Funds	\$1,378,000	\$1,378,000	\$2,756,000

Projects awarded additional Section 319 funding during FFY 2023 using prior year funds reverted from closed watershed projects that did not expend their total grant award are listed in Table 4.

Table 4. Projects Awarded Section 319 Grants from Prior Year Funds

Project	Grant (\$)	319 Grant Year
Soil Health Improvement and Planning Project – Segment 2	\$150,000	2019
Belle Fourche River Watershed Project – Segment 10	\$300,000	2019
Total	\$450,000	

Active 319 Projects

A list of Section 319 projects funded by previous grant awards that were open during the FFY 2023 reporting period is provided in Appendix A. Projects are listed by river basin.

Completed 319 Projects

Table 5 contains a list of 319 projects closed during FFY 2023. The status of the final report is listed for each project.

Table 5. 319 Projects Closed During FFY 2023

Project	In Preparation	Final Report Status			
		In Review		Approved	
		DANR	EPA	DANR	EPA
Upper Big Sioux Watershed Project Segment 7*				X	
Northeast Glacial Lakes Project Segment 5	X				
SD NPS Information and Education Project Segment 6	X	X			

Soil Health Improvement and Planning Project Segment 2	X
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The Upper Big Sioux Watershed Project was merged with the Northeast Glacial Improvement and Protection Project in FFY2022. A final report was submitted by the project coordinator prior to his retirement.

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 2023, DANR continued activities to close out all 319 grants awarded to the department by their expiration date. In 2024, the 2019 grant is on target for being completed on time. There is some remaining reverted money that will be spent prior to the end date for the FY2019 grant. See Appendix F for the final FFY 2018 report.

604(b) Grant

South Dakota had three 604(b) grants open during the FFY 2023 reporting period. The Section 604(b) project activities are detailed in Table 6.

Table 6. 604(b) Projects Active in FFY 2023

Grant #C6-96854621		
1-Oct-2021 through 30-Sep-2023		
Project	Grant (\$)	Status
Rotating Basins Project (Black Hills)	\$80,000	Complete
South Central Water Quality Monitoring Project (James River Water Development District)	\$20,000	Complete
	\$ 100,000	
Grant #C6-96854622		
1-Oct-2022 through 30-Sep-2024		
Project	Grant (\$)	Status
Rotating Basins Project (Black Hills)	\$88,000.00 (BIL Funds)	On Schedule
Rotating Basins Project (Black Hills)	\$5,000 (Emerging Contaminants)	On Schedule
South Central Water Quality Monitoring Project (James River Water Development District)	\$50,000	On Schedule
DANR Salaries and Water Quality Samples	\$7,000	On Schedule
	\$150,000	

Grant #C6-96854623					
1-Oct-2023 through 30-Sep-2025					
Project	FY2023 Base Funds	FY2023 BIL Funds	BIL Emerging Contaminants	Total	Status
Rotating Basins Project		\$88,000	\$6,000	\$94,000	On Schedule
South Central WQ Monitoring Project	\$30,000	\$15,000	\$5,000	\$50,000	On Schedule
DANR Personnel & WQ Samples	\$7,000			\$7,000	On Schedule
Total	\$37,000	\$103,000	\$11,000	\$151,000	

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

Section 106 Categorical Grant

South Dakota had two 106 Supplemental Categorical grants open during the FFY 2023 reporting period (#I-96858801-2 and #I-96872401-2). Grant #I-96858801-2 includes the FFY19, FFY20, and FFY 21 grants. Grant #I-96872401-2 includes the FFY22 and FFY23 grants. The Section 106 project activities for both are detailed in Table 7. Note that as of the end of CY2023 Grant #I-96858801-2 was fully expended and officially closed out.

Table 7. 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	\$125,000
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
Grant #I-96872401-2	
1-Oct-22 through 30-Sep-27	
Project	Grant (\$)
2023-24 National Rivers/Streams Assess (NRSA) – State Scale Survey	\$296,286
Stream Reference Site Development	\$59,155

Statewide Lakes Assessment/Harmful Algal Blooms	\$90,000
Use Attainability Analysis	\$50,000
Statewide Streamflow Monitoring Network	\$49,240
Rotating Basins Project	\$80,000
Region 8 303(d) Conference	\$5,000
TOTAL	\$629,681

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 2023. The reports detail project activities and progress for the period October 1, 2022, through September 30, 2023. 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 14 full-time equivalents (FTE). Included in the number were 12 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 Protection Program staff provided funded projects with technical assistance and project oversight through onsite and electronic means during FFY 2023. They also assisted prospective project partners with the preparation of project proposals and implementation plans. In FFY 2023, staff initiated five contracts obligating \$2,035,000 in federal funds (319, 106, & 604(b)) and processed 41 payment requests for federal funds totaling \$1,134,338.41. Staff also initiated two contracts obligating \$200,000 in state funds (Consolidated Water Facilities Construction Program grants and Clean Water State Revolving Fund Program Water Quality grants) and processed 18 payment requests from these sources totaling \$283,911.19.

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>

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 2022 period, the Discovery Center was awarded an additional \$1,490,700 to continue the I&E program. In FFY 2023, the Discovery Center was awarded \$350,000 (\$250,000 of 319 funds and \$100,000 CWSRF Water Quality Grants) for SD Nonpoint Source Information and Education Project – Segment 7. DANR maintains a close working relationship with the South Dakota 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 planning for urban watersheds in previous segments. Other ongoing activities include volunteer monitoring, conference support, water festivals, 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/319guidance2023.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.

Many of our 319 projects leverage NRCS funds with Environmental Quality Incentive Program (EQIP), Conservation Stewardship Program (CSP), Regional Conservation Partnership Program (RCPP) and other programs.

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 nonpoint source pollution Success Story was finalized for Skunk Creek TSS in 2019.

In FFY 2017, DENR (now DANR) 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.

In FFY 2023, DANR was approached by NRCS to discontinue work in the three watersheds in the Firesteel Creek watershed and recommend future watersheds to implement. Work was started in two HUCs in the Dawson Creek watershed around 2021. So, a third watershed was required. DANR contacted all the watershed coordinators, and it was decided that three HUCs in the South Fork of the Whetstone River in Grant County would be next up for the NWQI program.

US Geologic Survey

The US Geologic Survey (USGS) provides technical assistance to several South Dakota nonpoint source assessment and implementation projects. The USGS also provides water quality and water quantity data to help DANR develop and implement TMDLs. They are 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 2023 State Grants

Project	Funding Source	Grant Award (\$)
South Dakota Nonpoint Source Information and Education Project – Segment 7	CWSRF WQ Grant	\$100,000
Prairie Coteau Watershed Improvement and Protection Project – Segment 1	CWSRF WQ Grant	\$100,000
	Total	\$ 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 2023, one 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	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
FFY2022		
Big Sioux River Watershed Restoration	City of Dell Rapids	\$259,388
Firesteel Creek Watershed Restoration**	City of Mitchell	\$1,733,374
FFY2023		
Big Sioux River Watershed Improvements	City of Sioux Falls	\$1,240,000
*Amendment to prior year CWSRF award		
** Firesteel Creek is within the South Central Watershed Project		
Total		\$ 19,572,912

South Dakota Department of Agriculture and Natural Resources Conservation Commission Grant

In fiscal year 2021, the Department of Agriculture and Department of 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, 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. In FFY 2007, DANR adopted STEPL as the primary load reduction estimation model for reporting annual and cumulative load reductions in GRTS. DANR will transition to using the Pollutant Load Estimation Tool (PLET) model to calculate load reductions in FFY2024.

Annual load reductions/water quality improvements documented are entered in GRTS. Load reductions for waterbodies located in project areas during FFY 2023 were 135,566 pounds of nitrogen, 30,988 pounds of phosphorous and 13,737 tons of sediment.

Table 10. STEPL Load Reductions for Projects during FFY 2023

Project Name	Nitrogen (lbs. per year)	Phosphorus (lbs. per year)	Sediment (tons per year)
Belle Fourche River Watershed Implementation-Segment 10	663	542	911
Big Sioux River Watershed Implementation-Segment 4	28,017	5,485	682
Northeast Glacial Lakes Watershed Implementation-Segment 5	4,595	863	772
Soil Health Improvement & Planning Project-Segment 2	54,264	13,999	9,824
South Central Watershed Implementation-Segment 2	48,027	10,099	1,548
SD NPS Information & Education Project-Segment 7	0	0	0
Totals	135,566	30,988	13,737

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 10
Big Sioux River	Big Sioux River Watershed Implementation-Segment 4 NE Glacial Lakes Watershed Improvement-Segment 5 Upper Big Sioux River Implementation-Segment 7 Prairie Coteau Watershed Improvement and Protection-Segment 1
Cheyenne River	None
Grand River	None
James River	South Central Watershed Implementation Project-Segment 2 NE Glacial Lakes Watershed Improvement-Segment 5 Prairie Coteau Watershed Improvement and Protection-Segment 1
Minnesota River	NE Glacial Lakes Project-Segment 5 Prairie Coteau Watershed Improvement and Protection-Segment 1
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 SD NPS Information & Education Partnership-Segment 7 Soil Health Management and Planning-Segment 2 Soil Health Management and Planning-Segment 3

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, 8, & 9
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, & 5 Pickerel Lake Protection Roy Lake Assessment Upper Big Sioux River Watershed-Segments 1, 2, 3, 4, 5, 6, & 7 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 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</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 South Central Watershed Implementation Project-Segment 1 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 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</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) 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 East River Riparian Grazing I</p>

	<p>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, & 6 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 & 2 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>
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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 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 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		+As of 9/30/23		*As of 11/30/23	
Grant	Grant Award (\$)	Total Match Required (\$)	Expenditures thru 9/30/23(\$)	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	2,460,800	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	2,631,000	1,754,000	1,754,000
319 Imp / Admin 18+	2,600,000	1,733,333	2,600,000	1,733,333	1,733,333

319 Imp / Admin 19*	2,574,000	1,716,000	2,165,347	1,433,565	1,716,012
319 Imp/ Admin 20*	2,683,000	1,788,667	2,116,577	1,411,051	1,426,212
319 Imp/ Admin 21*	2,755,000	1,836,667	2,610,439	1,740,293	1,838,560
319 Imp/ Admin 22*	2,755,000	1,836,667	333,891	222,594	903,348
319 Imp/Admin 23*	2,756,000	1,837,333	28,920	19,280	10,066
Total	81,415,588	54,629,761	75,147,544	50,441,065	52,975,227

Appendix F

SOUTH DAKOTA NONPOINT SOURCE PROGRESS REPORT C9-99818518 October 1, 2018 – September 30, 2019						
Cooperative Agreement Details						
Cooperative Agreement: C9-99818518						
Date of Award: June 21, 2018						
Expiration Date: June 30, 2023						
EPA Pass Thru Amount: \$1,861,000						
EPA Total: \$2,600,000						
Summary						
A total of three projects were approved for funding through the FY2018 Cooperative Agreement (Table 1). One of the three projects was awarded \$561,000 in program funds and three of the three projects received \$1,300,000 in project funding. The South Dakota Department of Environment and Natural Resources (DENR) is using \$739,000 of the program funding for staff and support.						
Table 1. Summary of Section 319 projects approved for funding through the FY18 Cooperative Agreement.						
	2018 Projects (Current as of December 2019)	Master Grant	Program	Project	Total	Status
	Staff & Technical Support	FY18	\$739,000.00		\$739,000.00	On-schedule
	Belle Fourche River Watershed Project Seg 8 (Amendment)	FY17		\$189,255.13	\$189,255.13	Completed final report approved
	Big Sioux River Watershed Project Seg 3 (Amendment)	FY15		\$382,686.87	\$382,686.87	Completed final report approved
	South Central Implementation Project Seg 1 (Amendment)	FY16	\$561,000.00	\$536,199.64	\$1,097,199.64	Completed final report approved
	Big Sioux River TMDL-RESPEC Consulting	FY14		\$49,500.00	\$49,500.00	
	Belle Fourche River Watershed Project Seg 10	FY22		\$86,524.00	\$86,524.00	On-schedule
	South Central Implementation Project Seg 2 (Amendment)	FY21		\$55,834.36	\$55,834.36	On-schedule
	Unobligated / Available				\$0.00	
	Total		\$1,300,000.00	\$1,300,000.00	\$2,600,000.00	
	Pass Thru Grants Total		\$561,000.00	\$1,300,000.00	\$1,861,000.00	
	Remaining to be Spent as of 8/28/2023: \$0					
	* Original FY18 Projects					
Table 2. Projects Added for 319 Funding and Projects Reduced 319 Funding FY2018 Grant						
			Program	Project	Total	
Projects Added						
	Add \$12,523.58 to unobligated FFY18 from South Central Implementation Project Segment 1			\$12,523.58		
	Add \$49,500 to Big Sioux River TMDL-RESPEC Consulting from South Central Implementation Project Segment 1			\$49,500.00		
	Add \$83,704.79 to unobligated FFY18 from South Central Implementation Project Segment 1			\$83,704.79		
	Add \$60,744.87 to unobligated from Belle Fourche River Watershed Project Seg 8			\$60,744.87		
	Add \$245,678.14 of unobligated to South Central Implementation Project Segment 1			\$245,678.14		
	Add \$2,750.13 to unobligated from South Central Implementation Project Segment 1			\$2,750.13		
	Add \$86,524.00 to Belle Fourche Segment 10 from unobligated			\$86,524.00		
	Add \$55,834.36 to South Central Segment 2 from unobligated			\$55,834.36		
				\$597,259.87		
Projects reduced						
	Reduce South Central Implementation Project Segment 1 by \$12,523.58 project funds to unobligate FFY18			(\$12,523.58)		
	Reduce South Central Implementation Project Segment 1 by \$49,500.00 project funds to Big Sioux River TMDL-RESPEC Consulting			(\$49,500.00)		
	Reduce South Central Implementation Project Segment 1 by \$83,704.79 project funds to unobligate FFY18			(\$83,704.79)		
	Reduce Belle Fourche River Watershed Project Seg 8 by \$60,744.87 project funds to unobligate FFY18			(\$60,744.87)		
	Reduce unobligated by \$245,678.14 to South Central Implementation Project Segment 1			(\$245,678.14)		
	Reduce South Central Segment 1 by \$2,750.13			(\$2,750.13)		
	Reduce unobligated by \$86,524.00 to Belle Fourche Segment 10			(\$86,524.00)		
	Reduce unobligated by \$55,834.36 to South Central Segment 2			(\$55,834.36)		
				(\$597,259.87)		