

# **GRASSLANDS MANAGEMENT AND PLANNING PROJECT**

**Segment 5**

**August 1, 2017 – July 31, 2019**

**Project Implementation Plan**

**October 1, 2016**

**SPONSOR**

**SOUTH DAKOTA GRASSLAND COALITION**

**SUBMITTED TO:**

**South Dakota Department of Environment and Natural Resources**

**PROJECT SUMMARY SHEET**

**PROJECT TITLE:** Grassland Management and Planning Project Segment 5

**PROJECT PERIOD:** August 1, 2017 –July 31, 2019

**PROJECT SPONSOR:** Sponsor: **South Dakota Grassland Coalition**

Contact Name: Jim Faulstich  
Contact Title: Chairman  
Contact Address: PO Box 401  
Contact Phone: Presho, SD 57568  
Contact Email: [faulstich@venturecomm.net](mailto:faulstich@venturecomm.net)  
Primary Contact: Judge Jessop Phone: 605-280-0127  
24690 299<sup>th</sup> St.  
Presho, SD 57568  
[judge.jessop@sdconservation.net](mailto:judge.jessop@sdconservation.net)

**STATE CONTACT PERSON:** Ms. Anine Rosse  
Environmental Scientist  
Anine.Rosse@state.sd.us  
PHONE: 605.773.5617  
FAX: 605.773.4068

**319 NONPOINT SOURCE FUNDS:** \$368,880  
**MATCH:** \$246,600  
**OTHER FEDERAL FUNDS:** \$208,900  
**TOTAL PROJECT COST:** \$824,380

**319 FUNDED FULL-TIME PERSONNEL:**

**PROJECT TYPES:** [ ] PLANNING [ X ] WATERSHED [ ] I&E [ ] GROUNDWATER

**PROJECT LOCATION:** Statewide

**303(d) Listed Stream:** No

**HYDROLOGIC UNIT CODE:** All

**Counties:** All **Latitude:** **Longitude:**

**NPS CATEGORY select and list percent**

- [ X ] AGRICULTURE: [ ] CONSTRUCTION
- [ ] AFOs [ ] HYDRAULIC MODIFICATION
- [ ] URBAN RUNOFF [ ] SILVICULTURE
- [ ] RESOURCE EXTRACTION [ ] OTHER

**NPS FUNCTIONAL CATEGORY- select and list percent**

- [ X ] BMP IMPLEMENTATION [ ] TECHNICAL ASSISTANCE
- [ ] INFORMATION AND EDUCATION [ ] PLANNING
- [ ] WATERSHED ASSESSMENT [ ] GROUNDWATER
- [ ] WATER QUALITY MONITORING [ ] OTHER

**NPS POLLUTANTS TO BE ADDRESSED**

- [ X ] EXCESS NITROGEN [ ] PESTICIDES
- [ X ] EXCESS PHOSPHORUS [ ] OIL AND GREASE

- SEDIMENTATION
- PATHOGENS/BACTERIA
- METALS
- LOW DISSOLVED OXYGEN

- TEMPERATURE
- pH
- OTHER
- OTHER

**SUMMARY STATEMENT: This project will reduce nonpoint source pollution by assisting producers improve the range condition of managed grasslands.**

**PROJECT GOALS:**

The goal of the Grassland Management and Planning Project is to:

Reduce sediment, nutrients and fecal coliform bacteria loading of surface waters in South Dakota.

By attaining the goal, water quality and wildlife habitat will be improved, biodiversity increased, and grassland manager economic sustainability improved.

The project segment goal will be attained by continuing and expanding previous project activities that provide:

1. Grassland managers with the technical assistance needed to the plan and implement grazing management systems.
2. Resource managers and the state’s citizens with information and education opportunities that support implementation of practices that reduce nonpoint source pollution attributable to converting grassland to cropland or degrade the ecological status of existing grasslands.

**PROJECT DESCRIPTION:**

The project is a two year continuation of the current statewide Grassland Management and Planning project. During this project segment the sponsor and its partners will:

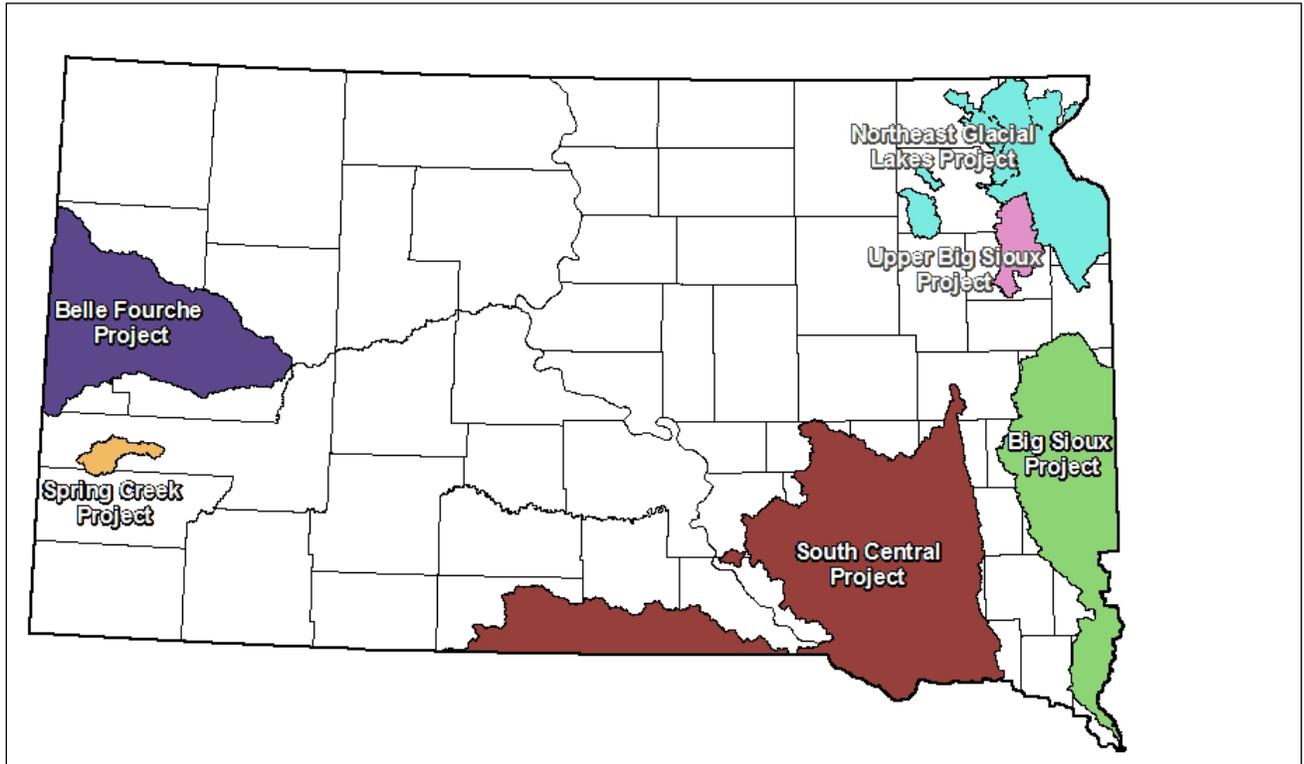
Provide grassland managers with accelerated technical assistance to:

1. Plan 100,000 acres of intensive grassland management systems implement.
2. Implement 100,000 acres of intensive grassland management systems.
3. Transfer grassland management information gained from on-ranch demonstration projects and systems implemented to ranchers, researchers, agency specialists and the public.

Priority for assistance will be given to Grassland managers in TMDL implementation project areas where additional technical assistance to plan and implement improved grassland and riparian management will support implementing TMDLs. Active TMDL project areas are shown in Figure 1. How these project areas relate to impaired waterbodies may be observed by comparing the map shown in Figure 1 with that in Figure 2.

## 2.0 Statement of Need

This project segment will continue the South Dakota Grassland Coalition’s (SDGLC) leadership in providing South Dakota livestock producers with practices that reduce nonpoint source (NPS) pollution from grasslands and promote sustainable agriculture.



**Figure 1. Active 319 Implementation Projects**

Nearly fifty percent (23 million acres) of South Dakota’s of 48,614,000 acres of land are grasslands. According to the Census of Agriculture, approximately 75 percent of the state’s (= 23,000) farm/ranch operations graze livestock. The stock raised is the primary source of income for approximately 12,000 of the operations.

The sustainability of a farm/ranch enterprise based on grazing is related to the stocking rates its pastures can support without reducing forage production capability. Whether forage production decreases, is maintained or improved is dependent on the management practices employed by the producer.

Resource managers categorize grasslands using a similarity index that compares forage production at a site to the potential a plant community could produce at its historic climax. Comparison values range from 0 – 100 percent with 100 being the most similar to climax production. Similarity values for SD rangelands reported in the USDA Natural Resources Conservation Service’s (NRCS) National Resource Inventory (NRI) rate:

- 60 percent at 50 percent or less than potential
- 28 percent at 75 - 50 percent potential and
- 12 percent realizing potential.

Continuous or season-long grazing, coupled with stocking rates greater than forage production can support, has been linked to degraded riparian areas and low ecological status. Conversely, management systems that include proper stocking rates and rotational grazing promote functioning riparian systems and higher range ecological status.

In contrast to low ecological status rangelands, those with high ecological status:

- provide greater biodiversity,
- produce more and better quality forage,
- raise more pounds of marketable livestock/animal unit, which translates to increased economic stability for the operation,
- provide better wildlife habit,
- yield 25 percent of the precipitation received as runoff (Welch et.al, 1991) versus 45 percent for low condition sites dominated by sod forming grasses, and 75 percent for bare ground,
- have sediment peaks at least 20 percent lower than those from low condition grasslands,
- characteristically have less prominent gullies, headcuts and streambank erosion and
- contribute up to four times less nitrogen and phosphorus to the watershed.

Based the findings of Russell (2004, Iowa Beef Center) and Thelen (1996, Bad River Phase II Water Quality Project), reducing NPS pollution from grasslands may be accomplished by maintaining or improving rangelands to a higher ecological status.

Russell reported that sediment and phosphorus loads in pasture runoff can be reduced using rotational stocking to maintain adequate grass height, and/or maintaining buffer strips along pasture streams. This being particularly important in pastures with high soil phosphorus levels.

Thelen's study of the impact of grassland management on sediment transfer from clay soils found that:

- as grass production, percent canopy cover, vegetation height, and litter increase, runoff and sediment transfer decrease,
- sediment peaks were six to eight times higher for poor condition (low ecological status) grasslands than good and
- gullies and headcuts are accelerated in poor condition grasslands dominated by short grasses.

Practices implemented during previous (2001-2013) and the current project segment have provided livestock producers with management alternatives that implement practices Russell and Thelen found to be effective NPS reduction best management practices (BMPs).

The activities completed during previous project segments have met, exceeded or are on schedule to meet milestones established to monitor project success (Table 1). The benchmarks include planning and implementing managed grazing systems using USDA Natural Resource Conservation Service (NRCS)

practices and information transfer activities selected to reach the project’s primary targeted stakeholders - livestock grazers and grassland management professionals

The location of grazing systems installed during the previous and current project segments are shown in Figure 2.

**Table 1. Grassland Management and Planning Project Milestone Comparison (2001-2016).**

<b>Project Activity/Products</b>	<b>Planned</b>	<b>Accomplished<sup>1</sup></b>
Management Systems Planned/Total Acres	255 Systems / 615,000 acres	196 systems /661,282 acres
Management Systems Installed/Total Acres	252 /820,000 acres	189 / 908,788 acres <sup>2</sup>
<i>Practices Installed:</i>		
Fence	545000 lf	695,036 lf
Pipeline	460,000 lf	670,398 lf
Rural Water Hookups	2	0
Wells	22	16
Tanks	200	317
Pasture Pumps	5	0
Dugouts/Dams	32	8
Stream Crossing	2	1
Grass Seeding	1,450 acres	1,288 acres
<i>Information and Education</i>		
Demonstrations Sites	9	12
Web Site	330,000 hits	438,615 hits
Tours/Attendance	35/1,830	81/3,442
News/Media Events	33/1,039,600	39/4,371,891
5 program series aired on Today’s Ag Series segments merged into a video.	1	1
Workshops/Attendance	33/4,230	81/16,469
Grazing Schools/Attendance	12/310	16/492
Administration and Oversight	4	4

<sup>1</sup> Accomplished through August 2016

<sup>2</sup> Includes acres planned by project partners.

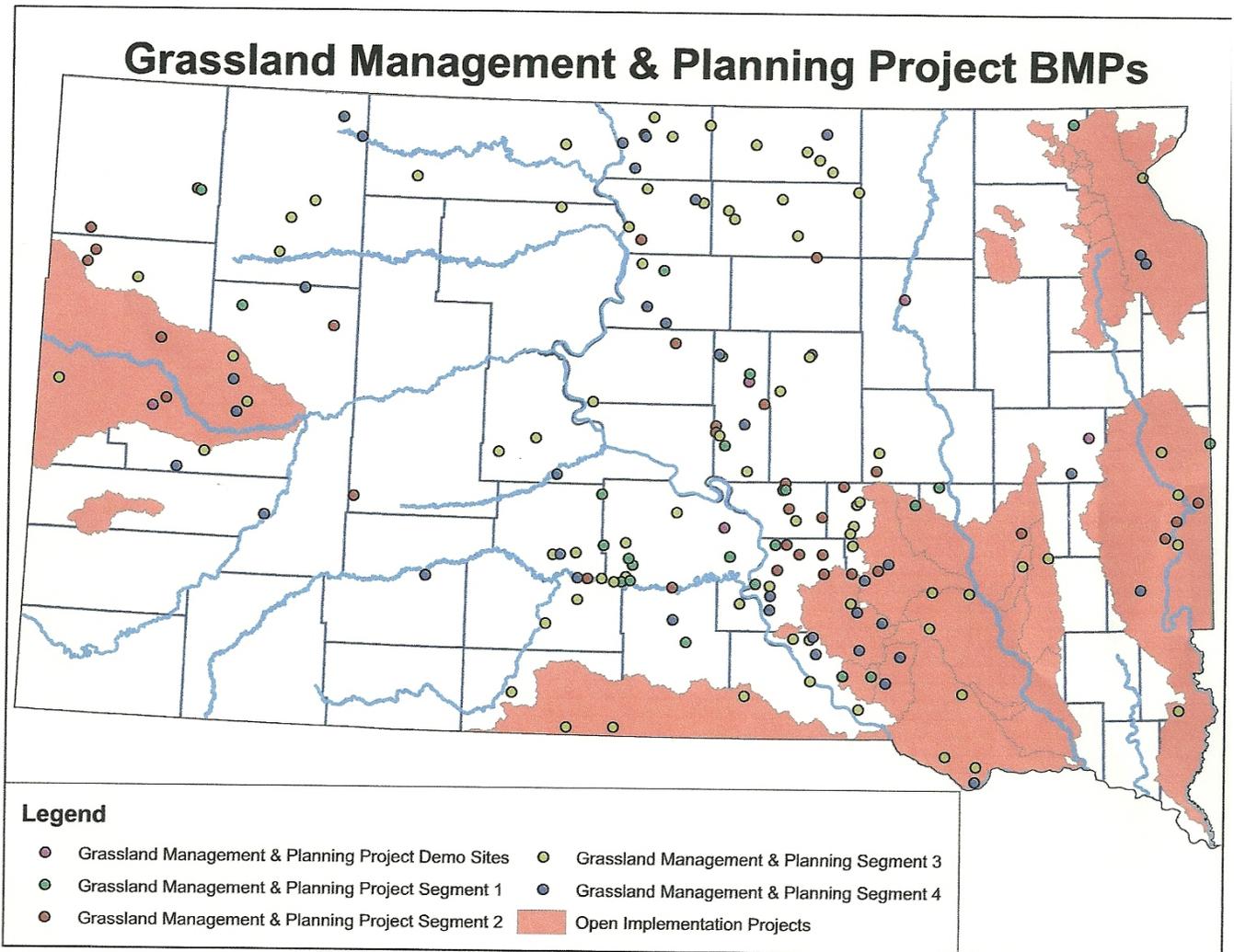
The practices installed have improved the ecological status of an estimated one million acres (4 percent) of the state’s grasslands. It is also estimated that the information and education activities have led to improved ecological status of an equal number of acres.

In addition, information included in the 2008 and 2012 *SD Integrated Report for Surface Waters* indicate that during the four year time period, the river and stream miles identified as impaired by grazing in riparian or shoreline zones decreased from 561 to 475 miles. During this same period, the river and stream miles impaired from pollutants originating from livestock grazing and feeding operations decreased from 1,750 to 1,350 miles. For additional information access the 2014 report at:

<http://denr.sd.gov/documents/14irfinal.pdf>

Information in the 2002, 2008 and 2012 reports indicate river and stream miles impaired by pollutants associated with grazing in riparian and upland areas decreased from 2,151 to 562 miles.

A comparison of data available in the 2012 report to that in the 2014 indicates that impairments attributed to livestock grazing and feeding operations was reduced from 1,912 to 1,684 miles and the number of lake/reservoir acres impaired by NPS' was reduced from 4,517 to 4,411 acres.



**Figure 2. Location of Grazing Systems installed.**

NPS load reductions realized from the practices installed to improve and maintain higher levels of range potential during previous and the current (Segment 4) projects, calculated using the Spreadsheet Tool for Estimating Pollutant Loads (STEPL) developed by EPA Region 5, equal:

- Nitrogen 577,472 lbs
- Phosphorous 109,602 lbs
- Sediment 63,889 tons

Practices employed to realize the reductions were installed on a total of nearly one million acres located:

- in more than 90 drainages
- on land managed by more than 200 producers
- located in more than 48 counties.

The size of the managed grazing systems implemented ranged from 30 to more than 31,500 acres. Previous project accomplishments demonstrate the ability of the SD Grassland Coalition to partner and coordinate activities with grassland stakeholders that provide effective, efficient services that reduce NPS pollution and have positive economic and environmental benefit. In addition, it is suggested that the partnerships developed will support attaining the goal of the state's Ring-necked Pheasant Management Plan. The report is available by accessing:

<https://gfp.sd.gov/hunting/docs/pheasant-mngmnt-planpdf.pdf>

Requests for planning and implementation assistance that are on hand and continue to be received indicate continued interest in using planned grazing systems to increase environmental stewardship and improve or stabilize a farm/ranch operation's economic viability.

The types of systems most commonly identified to accomplish these objectives are rotational systems that vary in management intensity - from simple two pasture switchback systems, to complicated multi-pasture rapid rotations. The water quality improvements realized from riparian buffers, shoreline stabilization, and livestock management (livestock exclusion, animal feeding areas) installed as the systems are developed are dependent on proper grazing management in the pasture, subwatershed area, and/or watershed associated with the site of BMP installation.

Implementation of new or improving current grazing management systems will be delayed in South Dakota without the availability of the grassland specialists employed by this project and its partners to continue providing the information and technical assistance needed to plan, implement, and operate managed grazing systems.

The South Dakota NPS Pollution Program priority funding areas include staffing, information transfer, animal nutrient management systems, riparian buffers, shoreline stabilization, and practices to exclude livestock from riparian areas. This project segment will continue to provide the grassland planning, implementation, and education activities necessary to effectively implement these funding priorities as part of the need for a landscape planning approach to reduce NPS pollution in South Dakota.

The project addresses a key watershed BMP, grassland management. It provides existing watershed projects with technical assistance and information that can be used to make targeted, measurable water quality improvements through improved grassland management. The planning, design, and implementation of grassland management systems will be based on whole farm/ranch plans that incorporate the goals of the individual producers. Factors addressed in the plans include family, production, natural resources, and finances.

This project is designed to meet the clean water, economic and wildlife goals of grassland managers and the citizens of South Dakota on a statewide basis, by accelerating the implementation of grassland management practices that improve plant diversity, net primary production and forage quality. These practices will lead to attaining the project goal by:

1. Reducing soil erosion and sediment transfer in runoff through:
  - a. increased water intake - reduced runoff reduces stream and river peak flow volumes and velocities, which in turn reduces stream bank erosion and abnormally long periods of flooding that damage wildlife habitat and
  - b. rainfall interception - soil anchoring and ground protection by vegetation decreases the dislodging of soil and subsequent transport in runoff.
2. Providing a buffer adjacent to wetlands, lakes, waterways and drainages to intercept sediment and nutrients transported by water.
3. Increasing vegetation production on grasslands, which will increase the sequestration of carbon in the grassland ecosystem.
4. Providing producers with additional profits from increased livestock or wildlife production, and/or decreased production cost.
5. Assist producers and agencies in improving information related to the occurrence of native grasslands and their function in regard to: biological diversity, resiliency, economics, and water quality

Completing activities that result in attaining the project goal will also support attaining the goal of the South Dakota NPS Management Plan. Management plan tasks supported include 3 – 14. A copy of the SD NPS Management Plan is available by accessing;

<https://denr.sd.gov/dfta/wp/documents/NPSMgmtPlan14.pdf>

Information describing how previous Grassland Management and Planning Project segments have supported attaining the state's NPS management plan is available by accessing;

<http://denr.sd.gov/dfta/wp/wqprojects/grasslands.pdf>

## **2.4 General Watershed and Grassland Information**

Except for two small areas in the northeastern corner of the state which are in the Red River and Minnesota River Watersheds, South Dakota is in the Missouri River watershed.

Western South Dakota is drained by six major rivers - Bad, Cheyenne, Belle Fourche, White, Moreau, and Grand - which flow west to east to the Missouri River. The area, which was not glaciated during the last ice age, is dominated by rolling, native grasslands with as little as 10–30 percent of many areas converted to crop production. While the traditional crops planted were forage crops, hay and wheat; the production of row crops has increased during recent years as no till practices have become the production system of choice and commodity prices risen to what may be historic highs.

The major rivers in eastern South Dakota - James, Vermillion, and Big Sioux - generally flow north to south to the Missouri River. Unlike the west, the topography was influenced by glacial activity. Eastern SD has less defined drainage patterns with numerous natural wetlands and lakes. Much of the native prairie has been converted to cropland which is mostly cropped using a corn – soybean rotation. Moving east from the Missouri River and toward the southeast corner of the state, row crop production increases from 20 to 80 percent of land use. Likewise, grasslands decrease in prevalence and become increasingly concentrated along streams, creeks, rivers, and wetlands.

Grasslands commonly occupy 70-90 percent of the land in western South Dakota watersheds. In eastern SD, grasslands cover from 20 to 80 percent a watershed with lower values being the norm. While lesser in extent in eastern SD, grasslands commonly occupy the environmentally sensitive lands adjacent to streams, wetlands, lakes, and rivers, where they cover riparian areas and sloping drainages, hills and/or breaks. Regardless of extent by region, grasslands in all parts of SD impact runoff volume and are the buffers that intercept pollutants carried by runoff and protect stream banks. Grasslands also provide habitat (nesting, winter cover, food, and reproductive range, etc.) for South Dakota’s wildlife.

Central SD, essentially west of US Highway 281 to the Missouri River, was traditionally dominated by diversified agriculture with producers involved with livestock production to an increasing degree with closer proximity to the 100<sup>th</sup> meridian. During recent years there has been an increasing shift toward row crop production. For example, during 2005 – 2006, 101,571 acres of grasslands in 16 counties in the area were converted to crop production (GAO-07-1054, September 2007). Visual observations and information relative to payment for lost production provided by the livestock producers and resource managers and the crop insurance industry, respectively, indicate the rate has accelerated since that time with a concern that claims filed/paid are disproportionate to other areas in the state and region.

<http://www.sdgrass.org/grassland-management-project.html>

Data presented to the SD Governor’s Pheasant Habitat Work Group by South Dakota State University showed the acres of grassland converted to cropland, inundated by water or lost to urban development the 2006 – 2012 time period totals 1.8 million acres.

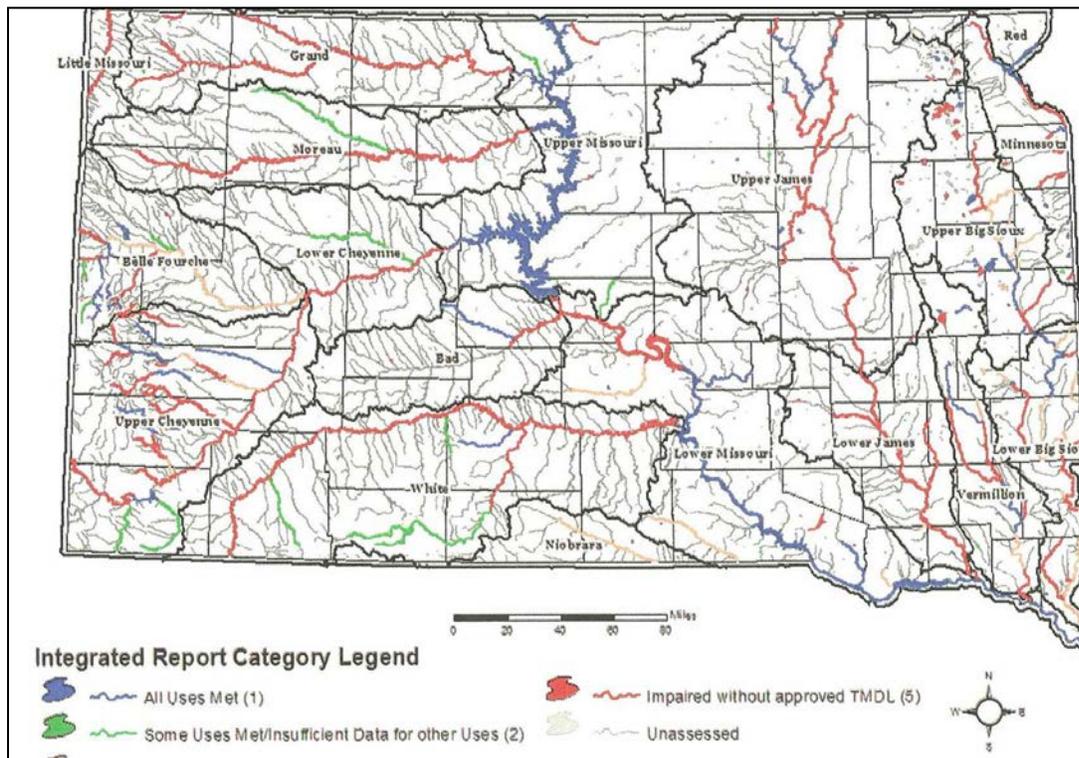
The river and stream miles and acres of lakes identified as having impaired water quality and the source of impairment are shown in Figure 3 and Table 2 respectively. As discussed previously (Project Description) information included in the 2008 and 2012 *SD Integrated Report for Surface Waters* indicate that during the four year time period, the river and stream miles identified as impaired by grazing in riparian or shoreline zones decreased from 561 to 475. During this same period, the river and stream miles impaired from pollutants originating from livestock grazing and feeding operations decreased from 1,750 to 1,350. Information in the 2002, 2008 and 2012 reports indicate river and stream miles impaired by pollutants associated with grazing in riparian and upland areas decreased from 2,151 to 562.

Table 2: Total Sizes of Waters Impaired by Various Source Categories in SD<sup>1</sup>

Rivers/Streams	Miles <sup>2</sup>
Impacts from Abandoned Mines	2
Drought-related Impacts	25
Streambank Modifications/destabilization	77
Municipal Area or Urban Runoff	117
Unknown Sources	127
Wildlife	508
Agricultural Crop Production	865
Natural Sources	1,110
Livestock -Grazing or Feeding	1,684
Lakes/Reservoirs	Acres
Unknown Sources	3,073
Nonpoint Sources	4,411
Natural Sources	5,125

<sup>1</sup>2014 SD Integrated Report for Surface Water

<sup>2</sup> Mileage values rounded to the nearest whole number.



**Figure 3. Water Quality Standards Status of SD Surface Waterbodies.**

A comparison of data available in the 2012 report to that in the 2014, the impairments attributed to livestock grazing and feeding operations were reduced from 1,912 to 1,684 miles and the number of lake/reservoir acres impaired by nonpoint sources was reduced from 4,517 to 4,411 acres. A comparison of the 2012 to 2014 data also indicates the proportion of river/stream miles impaired by livestock related nonpoint source pollutants declined an additional three percent, from approximately the 40 percent to 37. The primary pollutants identified as the cause of impairment were total suspended solids (TSS) and fecal coliform bacteria.

### 3.0. Project Description

The proposed project is Segment 5 of the Grassland Management and Planning Project. Activities planned for this project segment will:

1. Provide grassland managers with assistance to plan 100,000 acres.
2. Implement 100,000 acres of managed grazing systems.
3. Transfer information gained from on-ranch demonstration sites and systems implemented that offers producers viable options for developing a sustainable agricultural enterprise using practices that promote resource conservation and environmental protection.

As project sponsor, the South Dakota Grassland Coalition is responsible for completion of tasks selected to attain the project goal. The coalition will continue its management agreement with the South Dakota

Association of Conservation Districts (SDACD) for implementation, evaluation and reporting services. The services and personnel employed by SDACD to carry out the services include:

1. Administrative and management staff  
Accounting services, progress reports, hiring, training and supervising project staff and procure and maintain equipment, supplies, and vehicles.
2. Project Coordinator/Range Specialist  
Provide leadership, coordination, and technical assistance for all project activities; assist livestock producers with planning and installing managed grazing systems on approximately 50,000 acres.
3. Range Consultants, other agencies and TSPs  
Technical assistance providers contracted to provide planning and implementation technical assistance to landowners for 50,000 acres of grazing management.
4. Outreach Coordinator/Information Specialist.  
This position is 0.10 FTE of a South Dakota State University (SDSU) Department of Natural Resource Management staff person assigned to provide leadership to the Grassland Coalition and project staff for planning, and coordination of information transfer and outreach activities.

The project will continue funding technical assistance for the development of managed grazing system plans, and complete information transfer and outreach activities. Conservation practices considered when planning grazing system are anticipated to include, are but not limited to, those associated with water development, building cross and riparian exclusion fences, stream crossings and seeding grasses.

Sources of financial assistance to implement the plans will be identified and arranged as part of the planning process. Programs that provided implementation funds during previous project segments and, are anticipated to continue doing so include:

- DENR Watershed Protection Program – US Environmental Protection Agency (EPA) Clean Water Act Section 319 Grant to South Dakota,
- USDA Farm Service Agency (FAS) - Conservation Reserve Program Continuous Signup (CCRP) and Marginal Pastureland Practice (CP30),
- USDA Natural Resource Conservation Service (NRCS) - Environmental Quality Incentives Program (EQIP) and Farm Bill Implementation Technical Assistance funds,
- SD Department of Agriculture (SDDA) - SD Soil and Water Conservation Grants awarded through the SD Conservation Commission,
- SD Game, Fish, and Parks (GFP) – Private Lands Habitat and Access Program,
- US Fish & Wildlife (FWS) - Annual appropriation for habitat development,
- Ducks Unlimited (DU) - Sponsor Coalition activities,
- National Fish and Wildlife Foundation – Practice installation
- Pheasants Forever – Sponsor Coalition activities, and
- World Wildlife fund.- Sponsor Coalition activities.

Information transfer and outreach activities planned include:

- South Dakota Grassland Coalition web site,
- SD Grazing Schools,
- grassland workshops,
- grassland birding workshops,
- Leopold Conservation Award recipient ranch tours and
- news releases/media events.

Requests for technical assistance will be accepted by referral from TMDL implementation project coordinators, landowners, conservation districts SDSU Cooperative Extension Service and NRCS field offices. The application procedure and forms are available by accessing:

[http://www.sdgrass.org/uploads/1/8/6/5/18654664/attachment\\_c-assistance\\_request.pdf](http://www.sdgrass.org/uploads/1/8/6/5/18654664/attachment_c-assistance_request.pdf)

Technical assistance will be delivered using the priority system adopted during previous project segments. The priorities and estimated allocation of project resources to each category are:

Priority for assistance will be given to Grassland managers in TMDL implementation project areas where additional technical assistance to plan and implement improved grassland and riparian management are critical to implementing TMDLs.

Partnerships with conservation districts, Section 319 projects and NRCS will:

- provide support services and guidance to project staff,
- identify and assist producers with requesting assistance and
- provide maps, soils data and existing farm plans.

NRCS will provide project staff with access to the *SD Field Office Technical Guide*. The guide may be accessed at:

<http://www.sd.nrcs.usda.gov/technical/ConsPract.html>

A report that includes load reductions as indicator of the impact of the project on nonpoint source pollution in South Dakota will be filed at the end of the project period.

### 3.1 Project Goal

The project goal is:

Reduce sediment, nutrients and fecal coliform bacteria loading of surface waters in South Dakota.

By attaining the goal, water quality and wildlife habitat will be improved, biodiversity increased, and grassland manager economic sustainability improved.

The goal will be attained by providing technical assistance to grassland managers for the planning and implementation of grassland management systems and the completion of an information and education program.

### 3.2 Objectives and Tasks

**Objective 1:** Provide grassland managers with the technical assistance needed to plan 100,000 acres of managed grazing systems, and complete the implementation of systems on an additional 100,000 acres of grasslands.

**Task 1:** Provide livestock producers with the technical assistance needed to plan and operate grazing systems.

**Product 1:** Grazing Management Plans – 100,000 grassland acres.

Project staff, and range consultants will plan 50,000 acres of managed grazing systems (Prescribed Grazing – Practice Code 528). The remaining 50,000 acres will be planned by project partners.

The planning process:

- begins with a resource inventory of the land that will be included in the system and determination of the producer's management philosophy and capabilities.
- uses methods and practices outlined in the *NRCS National Planning Procedures Handbook*, *National Range and Pasture Handbook*, and the *South Dakota Field Office Technical Guide*,
- includes development of alternative water sources to facilitate excluding grazing in riparian area and
- considers a rural water hook up as the preferred alternative water source.

See Product 2 for the practices which are expected to be included in the plans developed.

Milestones:

25 grassland grazing system plans/year @ 2000 acres/plan x 2 years = 100,000 acres.

**Total Cost:** The technical assistance costs are included in the project personnel costs. Costs include salaries, travel and consulting contracts.

**Product 2:** Install grassland management systems on 100,000 acres of grasslands. The total includes 50,000 acres planned by the project and 50,000 acres planned project partners.

Financial assistance to install the practices will be provided by the SDGLC’s project partners. As indicated previously, programs from which funds are anticipated include:

- TMDL Implementation Projects,
- FSA - CRP Program,
- NRCS - EQIP and Farm Bill Implementation Technical Assistance Programs,
- SDDA – SD Soil and Water Conservation Grant Program,
- SD GFP – Partners for Wildlife,
- US FWS – Annual Appropriation for SD,
- Ducks Unlimited,
- Pheasants Forever,
- World Wildlife Fund, and
- NFWF – National Fish and Wildlife Foundation.

The practices, quantity of each and estimated cost to implement 100,000 acres of managed grazing systems are summarized in Table 3.

Milestones: 50,000 acres planned by project staff installed.  
50,000 acres planned by project partners installed.

**Total Cost: Task 1, Product 2: \$324,300                      319 Cost: \$0**

**Table 3. Conservation Practices Used to Install Managed Grazing Systems.**

Practice	Practice Code	Units	Unit Cost (\$)	Total (\$)
Marginal Pastureland CRP	CP 30	130acres	\$50.00/acre	6,500
Fence - Cross & Riparian Exclusion	382 Cross Fence	60,000 feet	\$ 0.80/foot	48,000
	390 Riparian Exclusion	40,000 feet	\$1.10/foot	44,000
Pipeline	516 Pipeline	80,000	\$1.60/foot	128,000
Rural Water Hook-ups	516 pipeline	2	\$4,000.00 each	8,000
Tanks	614 Watering Facility	25	\$1,200.00 each	30,000
Wells	642 Water Well	1	Large diameter - \$76.00 - \$91.00/ft. Artesian copper casement - \$31.00 - \$37.00/foot Artesian PVC casement - \$16.00 - \$19.00/foot Deep aquifer well > 6" diameter - \$44.00 - \$53.00/foot Plastic casement well > 100' - \$22.00 - \$27.00/ft. Shallow well < 100' -\$3,000.00 - \$3,600.00/well J 55 steel well - \$27.00 - \$32.00/well	75,000
Dams/Dugouts	378 Pond	2	\$10,000.00 each	20,000

Stream Crossings	578	1	Concrete \$61 – \$73.00/foot Rock – \$24 – \$28.00/foot	3,000
Grass Seeding	512 Introduced Species	50 ac	\$40.00/acre	2,000
	550-Native Species	50 ac	\$60.00/acre	3,000
		100 ac	Total Seedings	5,000
Total				324,300

## **RESPONSIBLE AGENCIES (Products 1 and 2)**

### **Technical Assistance Coordination:**

Project Coordinator  
South Dakota Association of Conservation Districts

### **Planning Assistance:**

Project Coordinator/Range Consultant/Range Specialist  
South Dakota Conservation Districts  
Natural Resources Conservation Service  
SD Department of Agriculture  
South Dakota State University  
SD Department of Game, Fish, and Parks  
US Fish and Wildlife Service  
NRCS certified TSPs  
Pheasants Forever

### **Implementation:**

Project Coordinator/Range Consultant/Range Specialist  
South Dakota Conservation Districts  
Natural Resources Conservation Service  
SD Department of Agriculture  
South Dakota State University  
SD Department of Game, Fish, and Parks  
US Fish and Wildlife Service  
NRCS certified TSPs  
Pheasants Forever  
Farmers and Ranchers

### **Financial Assistance:**

USDA Farm Service Agency  
Natural Resources Conservation Service  
TMDL Implementation Projects  
SD Department of Agriculture  
SD Department of Game, Fish, and Parks  
US Fish and Wildlife Service

Ducks Unlimited  
Pheasants Forever  
National Fish and Wildlife Foundation  
World Wildlife fund

**Objective 2:** Transfer grassland management information to South Dakota producers, researchers, grassland specialists and other individuals.

**Task 2:** Complete information and outreach activities that promote and provide opportunities for involvement in grassland management and bring about an awareness of the water quality impact(s) of improved grassland management targeted towards 319 TMDL implementation project areas, riparian areas, and grasslands in southeast South Dakota.

**Product 3:** Existing web site maintained, farmer/rancher workshops, grazing schools, news releases and summer grazing tours.

Grassland management information transfer and outreach activities will include maintaining the project web site, rancher/farmer workshops, grazing schools, news releases, and grassland tours.

The primary target audience for grazing system planning and implementation outreach activities is information farmers/ranchers, resource managers, the research community and university students; the secondary the general public.

The web site hosted and maintained by SD Grassland Coalition, can be accessed at:

<http://www.sdgrass.org/>

The SD Grassland Coalition also has a Facebook page:

<https://www.facebook.com/SouthDakotaGrasslandCoalition/>

Both the website and Facebook page contain information about upcoming workshops, tours and the grazing school hosted by the SD Grassland Coalition and its partners. Information is also shared about activities from other states and partner activities to assist with grassland management.

In partnerships with local organizations and agencies, grassland workshops will be held throughout the state, to include continuation of the successful summer birding tours. This project will also provide technical and financial assistance to continue the annual grazing school, summer grazing bus tours, and work with the print and electronic media (newspaper, magazine, TV, radio, etc.). In addition, this project will provide monitoring and evaluation materials such as grazing sticks and *Grasslands Plants of South Dakota and the Northern Great Plains* books to assist producers with their forage production and allocation as well as plant identification on the ranches and farms.

The quantities, milestones and cost of the activities are shown in Table 4. Update

**Table 4. Information Transfer and Outreach Activities with Costs.**

Activity	Milestone		Cost/Unit (\$)	Total Cost (\$)
	Contacts/Participants	Units		
Web site	60,000	2 years	200/year	400
Farmer/Rancher Workshops	180	6	1,500	9,000
Grazing Schools	50	2	8,800	17,600
Media Releases	96,000	4	Project Staff	0.00
Leopold Conservation Award Tours	150	2	2,500	5,000
Grassland "Birding" Tours	100	2	1,250	2,500
Total				34,500

**Activity team leader:** Project Coordinator and Information Specialist/Outreach Coordinator

**Milestones:** See Table above

**Total Cost – Task 2, Product 3:** \$34,500  
**319 Cost:** \$ 4,500

### **RESPONSIBLE AGENCIES**

#### **Technical Assistance and Coordination:**

Information Specialist/Outreach Coordinator  
Project Coordinator  
South Dakota Association of Conservation Districts

#### **Planning Technical Assistance:**

Information Specialist/Outreach Coordinator  
Project Coordinator/Range Consultants  
Natural Resources Conservation Service  
SD Department of Agriculture  
South Dakota State University  
Conservation Districts  
Demonstration Site Farmers/Ranchers

#### **Information Transfer:**

Information Specialist/Outreach Coordinator  
Project Coordinator  
SD Association of Conservation Districts  
Natural Resources Conservation Service  
South Dakota State University Cooperative Extension Service  
Demonstration Site Farmers/Ranchers

#### **Implementation:**

Information Specialist/Outreach Coordinator  
Project Coordinator

South Dakota State University  
USDA Natural Resources Conservation Service  
Demonstration Site Farmers/Ranchers  
World Wildlife Fund

**Financial Assistance:**

Natural Resources Conservation Service  
TMDL Implementation Projects  
South Dakota State University  
World Wildlife Fund

**Objective 5:** Monitor and evaluate project progress in relation to meeting established milestones and attaining the project goal.

**Task 8:** Monitor project activities and file reports as outlined in the project implementation plan to determine compliance with grant and contractual agreements, memoranda of understandings, reporting requirements, and the SDGLC by-laws.

**Product 9: Annual and final reports**

Monitoring of project progress, evaluation of data collected and reporting will be completed by the project coordinator and SDACD as outlined in the association's agreement with SDGLC and described in the monitoring and evaluation section of this application.

The information collected will be used to complete annual (October) and final reports and provide progress updates to SDGLC's project partners.

Annual reports will be prepared by the project coordinator using the electronic format provided by DENR to facilitate entry into GRTS. The reports will include:

- a cumulative summary and evaluation of activities completed relative to project milestones and progress toward attaining the project goal,
- information regarding amendments to the project implementation plan (PIP)
- a discussion of problems encountered and actions taken to address the challenge, and
- estimates of load reductions realized calculated using STEPL.

The final report will be prepared in the format provided by DENR and submitted to the department electronically.

**Milestones:**

- Annual reports - 2
- Final report - 1

**Total Cost: \$7,200**

**319 Cost: \$5,000**

## **RESPONSIBLE AGENCIES**

### **Coordination:**

Project Coordinator  
South Dakota Association of Conservation Districts  
South Dakota Grassland Coalition  
South Dakota Department of Environment and Natural Resources

### **Implementation:**

Project coordinator  
Grassland managers/producers,  
SDSU, Animal and Range Science Department staff (Outreach Coordinator)  
Project partners  
SDGLC Board of Director's members

### **Financial Assistance:**

Grassland Management and Planning Project – 319 Grant

### **3.3 Milestone Table**

See Attachment A. Grasslands Segment 4 Extended Milestones

### **3.4. Required Permits**

Permits and clearances required to install the practices selected to develop a managed grazing system will be identified during the planning process. The permits and clearances will be obtained by the agency or organization providing implementation technical assistance prior to installation of the practices.

Permits and clearances that may be required include:

- Section 401 and 404 permits for shoreline and riparian BMP installation,
- Section 402 stormwater construction permit if construction will disturb 1 acre or more or is located near to a waterbody,
- State Historical Preservation Office clearance for any BMPs involving ground disturbing activities and
- Threatened and endangered species habitat/presence determinations and compliance with the requirements identified in the clearance EPA completed for this project through consultation with the USFWS.

### **3.5. Lead Sponsor**

The SD Grasslands Coalition is the project sponsor. A summary of accomplishments that support the coalition continuing as the lead project partner follows.

The South Dakota Grassland Coalition has:

- developed partnerships with a broad spectrum of individual, organization and agency stakeholders interested in grassland management in South Dakota and the surrounding states and
- provided the leadership that lead to the successful completion four Section 319 project grants (FFY 1999, 2001, 2007 and 2013).

Public and private stakeholder partnerships represented by “interest” category include:

Wildlife and Conservation:

- Ducks Unlimited,
- SD Ornithological Society
- Sand Country Foundation
- The Nature Conservancy
- Pheasants Forever
- World Wildlife Fund

Grazing Lands Societies and Livestock Industry:

- SD Chapter of the Society for Range Management,
- SD Cattlemen’s Association
- Nebraska Grazing Lands Coalition
- North Dakota Grazing Lands Coalition

#### Local Conservation/Water Quality Programs:

- Local conservation districts,
- Belle Fourche River Partnership,
- TMDL Implementation Projects
- SD Association of Conservation Districts

#### Governmental:

- South Dakota State University Department of Natural Resource Management and Cooperative Extension Service
- Lower Brule and Crow Creek Sioux Tribes
- SD Departments of Agriculture; Game, Fish and Parks; and Environment and Natural Resources,
- Natural Resource conservation Service
- US Fish and Wildlife Service

SDGLC's leadership in promoting grasslands issues and environmental protection is recognized beyond the boundaries of SD. The coalition:

- was the recipient of the 2007 USDA NRCS Excellence in Conservation and EPA Region 8 Environmental Achievement Awards and
- has assisted with the selection of the Sand County Foundation's SD Leopold Conservation Award honoree since 2010
- has collaborated with grazing coalitions in North Dakota, Minnesota, and Nebraska and conservation organizations such as The Nature Conservancy, the Audubon Society, and World Wildlife Fund.

### **3.6. Maintenance and Operations Roles and Responsibilities**

Project activities planned are primarily directed toward technical assistance for the development of managed grazing systems and providing the training livestock producers and resource managers need to successfully operate the systems and information transfer. Project staff refers the producers to other service providers for the financial and technical assistance associated with the installation of the conservation practices identified during the planning process.

Producers that install the practices are required to enter an agreement that outlines operation and maintenance (O & M) responsibilities of the producer and agency or organization providing the assistance. The practice and its components will be maintained by landowners based on *the Natural Resources Conservation Service Technical Guide* length of life practices guidelines.

Ownership of and/or control monitoring of equipment acquired by SDGLC by purchase, lease or loan from other project partners will remain with the partner organization funding purchase unless otherwise specified by a contractual agreement or memorandum of understanding.

### **4.0. Coordination Plan**

The Grasslands Management and Planning project was developed by a partnership that included producers and local, state and federal agencies and organizations. Partnerships were solidified and

expanded during the completion of previous subsequent project segments. The proposed fifth project segment will offer additional stakeholders the opportunity to become part of the partner’s cooperative efforts to address water quality by promoting environmentally sound grassland management in SD.

The Grassland Coalition’s financial and technical assistance partners are listed below. The partners have indicated that t contribution(s) made during past project will continue is indicated.

## **PROJECT PARTNERS AND RESPONSIBILITIES**

South Dakota Grassland Coalition:

The SD Grassland Coalition is the project sponsor. The Coalition will provide leadership for project management, coordination, and administration. See section 3.5 for information summarizing why the coalition is the appropriate entity to provide leadership for the implementation of the project workplan.

Most project partnerships are not contractual. Many do not involve contributions of financial assistance that are included in the project budget. For example, the partnership with the:

The South Dakota Cattlemen’s Association and the SD Grasslands Coalition are sponsors for the award given in South Dakota. The funds do not pass through the project budget. Financial and other contributors include:

Bad River Ranch	Belle Fourche River Watershed Partnership
Daybreak Ranch	Ducks Unlimited, Inc.
DuPont-Pioneer	Mosaic Company
Millborn Seeds	Mortenson Family
NRCS-South Dakota	Professional Alliance
SD DENR-Discovery Center	South Dakota Conservation Districts
SD Dept. Of Ag-Resource Conservation & Forestry	
SD Farm Bureau Federation	SD Game Fish & Parks
SD Grasslands Coalition	SDSU Foundation
The Nature Conservancy	Truax Company, Inc.
US FWS-Partners for Fish & Wildlife	World Wildlife Fund

For more information regarding the award access:

<http://leopoldconservationaward.org/states>

1. SD Chapter of the Society for Range Management, SD Cattleman’s Association, Ducks Unlimited, SD GFP and Crow Creek Sioux Tribe promote the involvement in/or provide funds for the installation of practices used to install managed grazing systems.

Additional project partner contributions that directly impact the completion of project related tasks are summarized in the Table 5.

### **Table 5. Project Partners Contributions.**

<b>Agency/Organization</b>	<b>Contribution</b>
<b>Nongovernmental</b>	
Nebraska Grazing Lands Coalition	Range and Pasture Journal publication partner
SD Assoc. of Conservation Districts	Contractual services for administration, accounting services and web site host and maintenance; liaison to conservation districts; train and supervise project staff and TSPs using project and Farm Bill Implementation Technical Assistance funds provided by NRCS.
Local land Owners	Grazing school Field Exercise location
SD Ornithological Society	Organize and host field days that promote managed grazing as a BMP that supports avian diversity and habitat.
<b>Governmental</b>	
<b>Local</b>	
Belle Fourche River Partnership	Technical assistance for grazing system planning in the Belle Fourche River TMDL Implementation Project Area
Conservation Districts	Local contact for livestock producers; outreach and information transfer; technical assistance for BMP planning and installation.
TMDL Implementation Projects	Local contact for producers; outreach/information transfer and BMP planning and installation technical assistance.
<b>State</b>	
SD Department of Agriculture	Financial assistance for BMP installation and technical assistance to conservation districts.
SD DENR	Technical assistance and training for project management and staff; BMP installation and water quality sampling and data interpretation through the 319 Program.
SDSU and SDSU Cooperative Extension Service	Contractual services for a portion of an FTE to coordinate/assist with information transfer and the grazing schools; management and coordination of demonstration sites; contact point for producers.
SD Dept. of Game, Fish, & Parks	Financial assistance, assist with information transfer.
<b>Local</b>	
TMDL Implementation Projects	Local contact for producers; outreach/information transfer and BMP planning and installation technical assistance.
<b>Federal</b>	
USDA FSA	Financial assistance for BMP installation through the CRP Program.
USDA NRCS	Financial and technical assistance for BMP planning and installation using EQIP and Farm Bill Implementation Technical Assistance funds provided to SDACD. SD NRCS are “rummage-sale” for workshops, tours, grazing schools and Holistic Management workshops.
USDI FWS	Technical and financial assistance for grassland seeding, grazing systems, multiple purpose ponds and riparian fencing through the Partners for Fish and Wildlife Program.

## 4.2. Support

Local and resource management agency and organization support is indicated by the:

- ranchers who serve on the Grassland Coalition Board of Directors,
- demand for project services by landowner and
- financial and technical assistance partnerships developed that have contributed to the ongoing success of the project.

### **4.3. Coordination with Other Programs**

The completion of the Grassland Management and Planning PIP will be accomplished through partnerships with local, state and federal agencies and organizations. Financial and technical assistance for the installation of the grassland management practices planned will be completed using cost share programs. Examples of resource coordination include but are not limited to partnership with the:

- Natural Resources Conservation Service – funds for planning and installation of practices through the Farm Bill Implementation Technical Assistance and EQIP programs and access services available through the agency’s information specialists,
- Conservation Districts - technical assistance and information networks and implementation assistance through the SD Soil and Water Conservation Fund,
- South Dakota Association of Conservation Districts – project management assistance and host the project web site,
- South Dakota Department of Game, Fish and Parks and the US Fish & Wildlife Service - funding for water development and fencing,
- Ducks Unlimited – financial assistance for coalition activities,
- South Dakota State University – project information specialist/outreach coordinator services by a Range Science staff member,
- Pheasants Forever - financial assistance for coalition activities and
- National fish and Wildlife Foundation – practice implementation.

Additional programs and project partners are identified in Section 4.0 of this application. For a more detailed description of coordination with other agencies and programs access:

<http://denr.sd.gov/dfta/wp/wqprojects/grasslandseg2fnlrpt.pdf>

### **4.4. Non-Duplication of Effort**

Project activities selected to provide technical assistance to grassland managers and grassland management information and training opportunities were identified by the sponsor’s project partners.

The sponsor and project staff will serve as the primary grassland technical assistance provider to existing Section 319 projects, and coordinate assistance offered by its project partners to maximize and accelerate the delivery of grassland technical assistance.

### **5.0. Evaluation and Monitoring**

Success of project activities both as individual actions and in attaining the project goal will be evaluated based on monitoring project activities. Monitoring activities will track:

- milestone accomplishment in relation to planned,
- outcome(s) realized from project activities in relation to the intended purpose,
- effects on water quality and vegetation parameters as evidenced by load reductions realized using STEPL and change in ecological condition respectively,
- contributions to improving sustainability of grassland managers' operations as evidenced by information provided by ranchers who attend grazing schools and antidotal information provided by operators who have installed systems and
- responses to questionnaires distributed at the end of each tour, workshop or grazing school to determine changes to the outreach program or a specific activity that may be needed as well as and assessing the effectiveness of the activity an action that supports attaining the project goal.

Project monitoring will be completed by a team consisting of:

- the project coordinator,
- grassland managers/producers,
- SDSU, Department of Natural Resource Management staff,
- project partners and
- SDGLC Board of Directors members.

The information collected will be used to complete annual (October) reports of project activities, and provide project progress updates to all project partners and funders. A final report will be completed at the end of the project.

Annual reports will be prepared by the project coordinator using format provided by DENR to facilitate entry into GRTS. The reports will include:

- a cumulative summary and evaluation of activities completed relative to project milestones and progress toward attaining the project goal,
- information regarding amendments to the PIP
- a discussion of problems encountered and actions taken to address the challenge, and
- estimates of load reductions realized calculated using STEPL.

The final report will be prepared in the format provided by DENR and submitted to the department electronically.

## **5.1. Project Monitoring Plan**

Data used to track the sources and uses of project finances, prepare reports and evaluate project success relative to accomplishment in relation to the milestone schedule and goal attainment will be collected and interpreted by activity category. The data will be entered in the DENR electronic project management program to facilitate report preparation. The categories for which data that will be collected and the responsibility for collection and interpretation follow.

## 1. Project Administration

Project administration will be monitored by SDGLC Board of Directors by:

- reviewing financial records provided by SDACD and entered in the DENR Project Management Program (Tracker),
- tracking the completion of project tasks as specified in the PIP,
- considering input provided by project partners and project participants and
- reports to the SDGLC Board of Directors by the project coordinator and SDACD.

## 2. Assistance Activities

The project coordinator will collect data to evaluate the development and implementation of grassland management plans, mapping project progress, and modeling project progress by monitoring the:

1. number of on-farm visits and landowner/operator contacts,
2. number and acres of management plans developed by county,
3. number and acres of grassland management plans implemented by county,
4. load reductions realized from BMPs installed using STEPL,
5. conservation practices and units of each used to implement a grassland management plan,
6. location of operations assisted and demonstrations sites using GPS and
7. financial data to track the source and use of cash and in-kind funds expended to plan and implement grassland management plans.

## 3. Information Transfer and Education

The project coordinator will collect and organize report data provided by the outreach coordinator and other project partners. Information that will be collected includes:

- attendance at tours, workshops and grazing schools,
- responses to questionnaires returned after each tour, workshop or school,
- number of visits to the project web site and producer/public web questions/comments and
- media releases/events by type (TV, radio, newsprint), topic, and estimated coverage or outreach by the release/event.

## **6.0. Budget**

### **PART 1: FUNDING SOURCES**

<b>Funding Source By Year</b>	<b>July 2017 - June 2018</b>	<b>July 2018- June 2019</b>	<b>Total</b>
EPA SECTION 319 FUNDS	\$181,875	\$187,005	
<b>319 Subtotal</b>			<b>\$368,880</b>
OTHER FEDERAL FUNDS			
1.) NRCS (FA)	\$29,000.00	\$29,000.00	
2.) US FWS NRCS (FA&TA)	\$75,450.00	\$75,450.00	
<b>Federal Subtotal</b>	<b>\$104,450</b>	<b>\$104,450</b>	<b>\$208,900</b>
STATE FUNDS			
CWSRF GF&P, Dept of Ag & DENR (FA/TA)	\$18,700	\$18,700	
<b>State Subtotal</b>			<b>\$37,400</b>
LOCAL FUNDS			
Grassland Coalition/CD (TA)	\$10,000	\$10,000	
Private Organizations (TNC/DU/ Other)	\$2,500	\$2,500	
Landowners (Cash /Inkind)	\$92,100.00	\$92,100	
<b>Local Subtotal</b>	<b>\$104,600</b>	<b>\$104,600</b>	<b>\$209,200</b>
<b>Matching Subtotal</b>			\$246,600
<b>Total</b>			<b>\$824,380</b>

FA – Financial Assistance TA – Technical Assistance

## Part 2: Detailed Budget.

See Attachment B. Grasslands Segment 5 Budget.

### 8.0 Threatened and Endangered Species

Procedures that will be followed to ensure the project will promote the recovery of threatened and endangered species and will not adversely affect the species are based on three main premises:

1. managed grazing systems planned and implemented will promote the restoration or preservation of critical grassland habitat,
2. while the project will be implemented on a statewide basis, with first priority for assistance directed to water quality project areas, many of the grazing systems planned and implemented will be in areas for which threatened and endangered species consultation has been completed, and
3. NRCS and the US FWS involvement in planning and installing grazing systems ensures personnel trained with the recovery of threatened and endangered species will be involved with the design and implementation of practices completed to install the BMP.

Threatened and endangered most likely to be encountered during the project and the procedure to be followed relative to each species are:

## 1. Bald Eagle

Project activities that disturb possible nesting sites or reduce food sources are not planned. If any actions become necessary that might impact bald eagle(s) that are in or might visit the project area, the sponsor or its agent will contact DENR for approval to complete the action before proceeding.

## 2. Whooping Crane

If a whooping crane or cranes are observed at any project work site, all mechanical activities at the site will be suspended until the bird(s) leave the site under their own volition. Migration of the species through the state occurs during mid to late April and mid to late October.

## 3. Topeka Shiner

In stream activities are not planned. Most riparian practices implemented are management rather than construction in nature.

However, some practices such as streambank stabilization, and activities undertaken to maintain or improve meanders and install a multipurpose dam may require construction along or in a stream. In these instances, the project sponsor will work closely with the USFWS during site evaluation; design and construction to ensure that installing the BMPs do not adversely affect the species.

## 4. Black Tailed Prairie Dog

The Black Tailed Prairie Dog is a candidate species for listing under the Threatened and Endangered Species Act. Activities implemented as part of the project will comply with the State of South Dakota Prairie Dog Management Plan adopted during 2005. A copy of the plan is available by accessing:

<http://gfp.sd.gov/wildlife/docs/prairiedog-management-plan.pdf>

## 5. Black Footed Ferret

The existence of Black Footed Ferrets (BFF) is directly linked to the presence of prairie dogs. The sponsor will:

- comply with the SD Prairie Dog Management Plan, and
- consult with the USFWS relative to the need for a BFF survey if actions are planned that may adversely effect the survival of a native or introduced population of BFF.

The three demonstration sites installed before but included in this project are in areas blocked cleared by USFWS for BFF surveys.

6. Pallid Sturgeon

Most riparian activities included in the project workplan are management rather than construction in nature, and therefore will not affect Pallid Surgeon habitat or population(s). None of the three demonstration sites installed prior to but included in this project are adjacent to water bodies that contain the species. See previous question regarding demo sites.

7. Poweshiek skipperling and Dakota Skipper butterflies

The U.S. Fish and Wildlife Service listed the Dakota skipper as threatened and the Poweshiek skipperling as endangered under the Endangered Species Act on October 22, 2014. The U.S. Fish and Wildlife Service also proposed designating critical habitat for both prairie butterflies. These butterflies are primarily found within the Prairie Coteau portions of eastern South Dakota and western Minnesota. While the mapping and watershed modeling portions of the project will include focus on this region, no physical activity will be undertaken with these projects that would impact these species in any way. However, results of the both the untilled sod mapping and watershed modeling project could provide significant information that could be employed in the long-term conservation efforts of these two species, as well as many other native-prairie endemic species.

Milestone Table: Attachment A		Grassland Management And Planning Project Segment 5								
OBJECTIVE/TASK/PRODUCT	Quantity	Group	Year 1:				Year 2:			
			Jul-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-Jun.	Jul-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-Jun.
<b>Objective 1: Grassland Management Systems</b>			2017		2018		2019			
<b>Planning and Implementation</b>										
<b>Task 1: Planning &amp; Implementation of Grassland Management Systems:</b>										
Product 1: Planning	100,000 ac.	1,5,6,7,8,12								
Year 1: 50,000 acres, Year 2: 50,000 acres			12,500	12,500	12,500	12,500	12,500	12,500	12,500	
Product 2: Implementation	100,000 acres	1,5,6,7,8,12								
Year 1: 50,000 acres, Year 2: 50,000 acres			12,500	12,500	12,500	12,500	12,500	12,500	12,500	
Practices to Install Grazing Systems										
Marginal Pastureland CRP	130			10		30	30	30		
Fence										
Cross	60,000	1,4,5,6,7,12	5,000	5,000	10000	5,000	10,000	10,000	10000	
Riparian Exclusion	40,000	1,4,5,6,7,12	5,000	10,000		5,000	5,000	10,000	5,000	
Pipeline	80,000	1,6,7,12		15,000		25,000	20,000		20,000	
Rural Water Hook-ups	2	1,6,7,12		1		1				
Tanks	25	1,6,7,12	5	5		5		5	5	
Wells	1								1	
Dugouts/Dams	2	1,4,5,6,7,12		1		1				
Stream Crossing	1	1,6,7,12		1						
Grass Seeding (acres)	100	1,4,5,6,7,12		25		25		25	25	
<b>Objective 2: Information Transfer</b>										
<b>Task 2: Information and Education Events</b>										
Product 3:										
Web Site maintenance	2 years	1,10	Continuous							
Farmer/Rancher Workshops	6	1,2,4,5,6,7,9,12	2		1		1		1	
Grazing School	2	1,6,7,9,11,12	1				1			
Press Releases	4	1,7,10,11,12	1	1			1	1		
Leopold Award Tours	2	1,2,4,5,6,7,9,12				1	1		1	
Grassland "Birding" Tours	2					1			1	
<b>Objective 3: Reporting and Monitoring</b>										
<b>Task 3: Reporting</b>										
Product 9: Reports/Project Management										
Contract For Services										
Two (2) Annual Reports	2 each	1,9,10,12								
One (1) Final Report	1 each	1,9,10,12								

- |                                  |                                       |                              |   |
|----------------------------------|---------------------------------------|------------------------------|---|
| 1. 319 Grassland Mgt. & Planning | 4. SD Dept. Game, Fish, & Parks       | 7. Producers/Operators       | 10. SD Association of Conservation Districts      |
| 2. SD Dept. Agriculture          | 5. US Fish & Wildlife Service         | 8. SD Conservation Districts | 11. SD Dept. of Environment and Natural Resources |
| 3. SD Lakes & Streams Assoc.     | 6. USDA Natural Resources Cons. Serv. | 9. SD Grassland Coalition    | 12. South Dakota State University                 |

**Budget Part B (Segment 5- July 2017)**  
**Grassland Management Planning and Assistance Segment 5**

CATEGORY	Year 1	Year 2	Total Year 1-2	319	WQ Funds	State	Federal	Local
						GF&P/SDRCF/SD	NRCS/USF&W	
<b>Personnel:</b>								
Project Coordinator								
(Benefits Included) (3/4 319, 1/4 FBITA)	\$ 65,500.00	\$65,500.00	\$ 131,000.00	\$102,000.00			\$29,000.00	
Range Specialist								
(Benefits Included) (3/4 319, 1/4 FBITA)	\$ 65,500.00	\$65,500.00	\$ 131,000.00	\$102,000.00			\$29,000.00	
Range Consultant - Contractual								
50,000 Acres	\$30,000.00	\$30,000.00	\$ 60,000.00	\$60,000.00				
SDSU Outreach Coordinator/Information Specialist (Indirect Included)	\$14,000.00	\$14,000.00	\$ 28,000.00	\$28,000.00				
SDACD Project Administrative (Includes Benefits)	\$6,300.00	\$6,300.00	\$ 12,600.00	\$8,600.00			\$4,000.00	
Project Work Group								
Grassland Coalition	\$10,000.00	\$10,000.00	\$ 20,000.00					\$20,000.00
State: DENR, GF&P, DOA	\$2,500.00	\$2,500.00	\$5,000.00			\$5,000.00		
Federal: NRCS, SDSU, USF&W	\$2,500.00	\$2,500.00	\$5,000.00				\$5,000.00	
Private Organizations: DU, Ranchers	\$2,500.00	\$2,500.00	\$5,000.00					\$5,000.00
<b>Project Administration/Management</b>								
General Liability	\$500.00	\$500.00	\$1,000.00	\$1,000.00				
Audit/Compilation		\$5,130.00	\$5,130.00	\$5,130.00				
Endangered Species and/or Historical/Cultural Surveys (4 @ \$500 each)	\$1,000.00	\$1,000.00	\$2,000.00					\$2,000.00
<b>Office Supplies/Operations</b>								
Supplies: Paper	\$1,750.00	\$1,750.00	\$3,500.00	\$3,500.00				
Postage	\$300.00	\$300.00	\$600.00	\$600.00				
Cell Phone	\$1,375.00	\$1,375.00	\$2,750.00	\$2,750.00				
Computer Maintenance/Lease	\$2,200.00	\$2,200.00	\$4,400.00	\$4,400.00				
Computer Software								
<b>Travel:</b>								
Vehicle Lease	\$7,200.00	\$7,200.00	\$14,400.00	\$14,400.00				
Vehicle Operation (Gas/Service/Maintenance/Mileage)	\$7,500.00	\$7,500.00	\$15,000.00	\$15,000.00				
Vehicle Insurance	\$1,500.00	\$1,500.00	\$3,000.00	\$3,000.00				
Lodging and Per Diem (30/yr. @ \$100) 1 Employee	\$4,500.00	\$4,500.00	\$9,000.00	\$9,000.00				
(15/yr. @ \$100) 1 Employee								
<b>Objective 1: Technical Assistance for Rotational Grazing</b>								
<b>Task 1: 100,000 acres planned/100,000 acres implemented</b>								
<b>Product 1: Rotational Grazing Plans - 100,000 Ac.</b>								
(Technical assistance costs are shown under Personnel (Project Coordinator, Range Specialists, and Range Consultant)								
<b>Product 2: Rotational Grazing Plans implemented - 100,000 ac.</b>	\$162,150.00	\$162,150.00	\$324,300.00			\$32,400.00	\$141,900.00	\$150,000.00
(Technical assistance costs are shown under Personnel (Project Coordinator, Range Specialists, and Range Consultant)								
<b>Objective 2: Information and Education</b>								
<b>Task 2: Information and Education Activities:</b>								
<b>Product 3: Web Site, Workshops, Grazing Schools, News Releases, and Ranch Grazing Tours</b>	\$17,250.00	\$17,250.00	\$34,500.00	\$4,500.00				\$30,000.00
<b>Objective 3: Reporting/Monitoring</b>								
<b>Task 3: Reporting</b>								
<b>Product 4: Reports/Project Management: progress/final reports</b>	\$3,600.00	\$3,600.00	\$7,200.00	\$5,000.00				\$ 2,200.00
<b>Project Totals:</b>	\$ 409,625.00	\$414,755.00	\$ 824,380.00	\$368,880.00	\$0.00	\$37,400.00	\$208,900.00	\$209,200.00
<b>Match Ineligible For This Project: (Federal or Allocated to Another Project)</b>							\$208,900.00	
<b>Project, excluding ineligible match</b>								\$615,480.00
<b>Percent 319</b>				59.9%				
<b>Percent match between 319 &amp; Local</b>				40.1%				