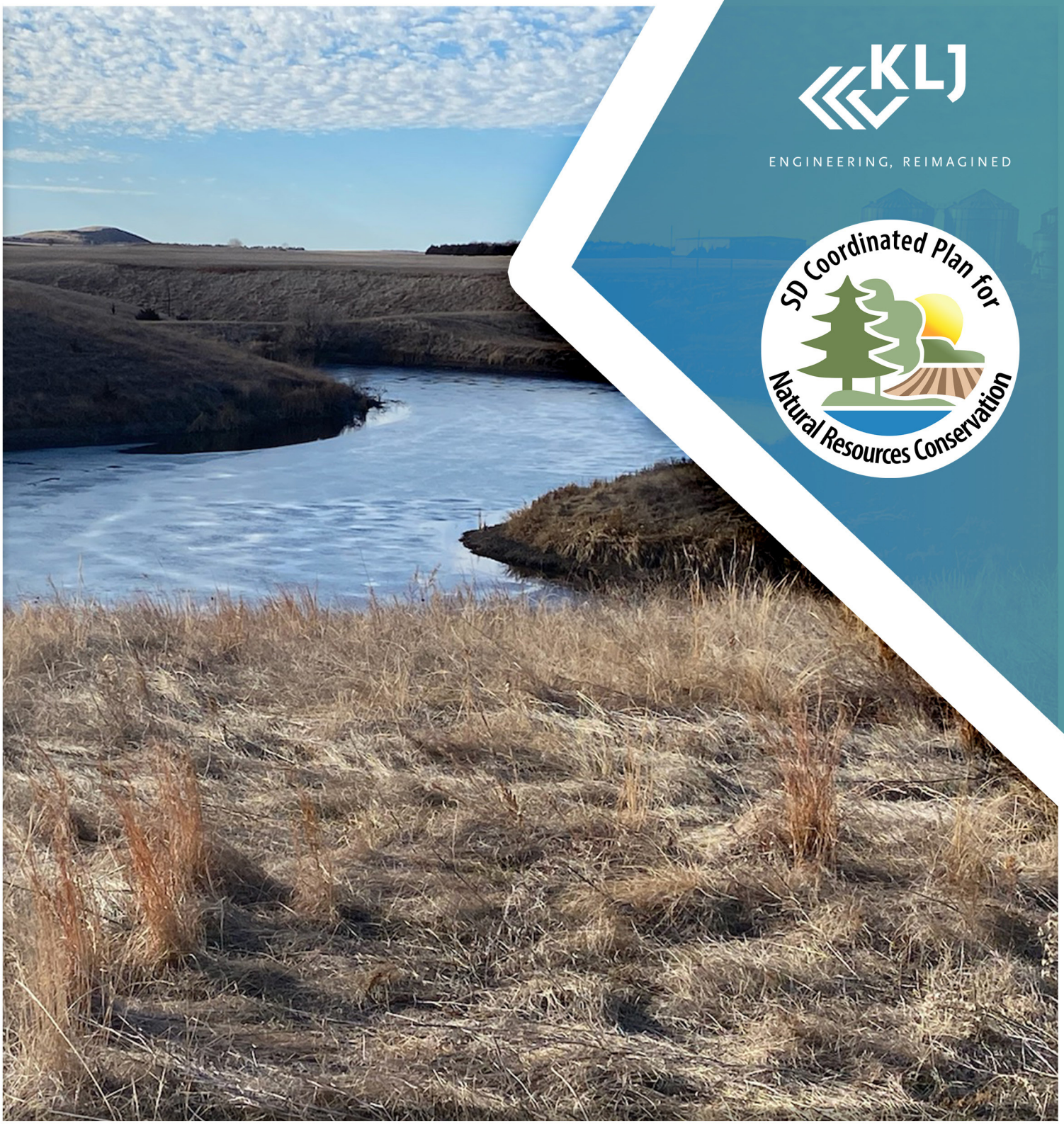

KLJ

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SD Coordinated Plan for Natural Resources Conservation

COORDINATED PLAN FOR NATURAL RESOURCES CONSERVATION

January 2021

SOUTH DAKOTA COORDINATED PLAN FOR NATURAL RESOURCES CONSERVATION

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January 2021

LARGE COVER PHOTO: POND BUILT USING COORDINATED NATURAL RESOURCES CONSERVATION GRANT FUNDS.

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Executive Summary

South Dakota's economy relies heavily on agriculture and natural resources to thrive. Agriculture is one of the primary industries exported from South Dakota due to the rich soil. The citizens of South Dakota take pride in sharing the natural resources of the state, and work to improve the quality of those resources. The establishment of the Conservation Districts was one of the first concerted actions that the state took to protect its soils. The Coordinated Plan for Natural Resources Conservation includes focus areas of water, air, recreation and wildlife, public awareness, sources of funding, and forestry in efforts to conserve natural resources.

South Dakota's commitment to conservation continues as many conservation partners proactively work together to implement federal, state, tribal and local conservation programs which protect and enhance the State's many natural resources. In order to understand success of the conservation efforts in South Dakota, an evaluation of the past and present conditions was completed by the conservation partners.

The evaluation included an analysis of the objectives from the 2012 Coordinated Plan for Natural Resources Conservation. The results of the 2012 objectives were analyzed and new goals were drafted based on the outcome of the previous goals and current conservation concerns of stakeholders. The evaluations and public input allowed the conservation partners to create achievable goals and objectives for the next five years. Please join us and do your part to protect and enhance our natural resources.

Chapter 1. Introduction

The Coordinated Plan for Natural Resources Conservation is written as a consensus from all stakeholders on what the state should focus on to protect and enhance Natural Resources. The initial State conservation plan, called the "Coordinated Soil and Water Conservation Plan" was implemented in 1991. It was an initial collaboration between federal, state, tribal and local stakeholders to develop a plan of action based on previous conservation efforts and current conditions. Since the initial plan was established nearly 30 years ago, Conservation Districts and partners continue to adapt to changes in environments; continuing progress toward clean water, clean air, wildlife habitat, and healthy soil. The updated plan reflects the progress made on the goals of the previous plan and modifies the new goals to include current areas of conservation concern.

Healthy ecosystem function provides clean water for drinking, irrigation, and livestock; productive soils for food and fiber production; fish and wildlife habitat; flood control; and pollination. U.S. Department of Agricultural (USDA) Economic Research Service indicates that South Dakota residents rely heavily on agricultural commodities as approximately 89 percent of the land within the State is utilized for agricultural purposes (USDA 2020 Economic Research Service[1]). South Dakota's tourism industry exceeded $4 billion in visitor spending and generated $308 million in tax revenue in 2019 (South Dakota Tourism Industry 2020[2]). Visitors are attracted to vastness and diversity of landscapes, the many state and national parks, as well as the availability of fish and game. Therefore, it is vital to South Dakota to continue to invest in the condition of the water, air, soil, forestry and wildlife so the state's agriculture and tourism industries continue to thrive.

Recognizing the strong ties between natural resources and the economy, the state designated a State Conservation Commission. The Conservation Commission was delegated administrative oversight of the state's Conservation Districts, development and implementation of the state's Coordinated Plan, Revolving Loan Program, and setting natural resources policy (South Dakota Codified Law (SDCL) 38-7-26[3]). The Conservation Commission also allocates funds from the Coordinated Natural Resources Conservation Fund to Conservation Districts and has rule-making authority for the grant fund. There are 69 Conservation Districts organized under state law (SDCL Chapter 38-8[4]). Conservation Districts are local units of government that implement natural resource policy by partnering with local citizens, and local, state, tribal and federal units of government. This plan provides a status update of current management efforts and programs, past and present conditions, accomplishments of the 2012 Coordinated Conservation Plan for Natural Resources Conservation, and goals/objectives going forward from 2020.

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Chapter 2. Current Management Efforts and Programs

2.1. SURFACE WATER QUALITY

Surface water quality is monitored through South Dakota Department of Natural Resources (SD DENR) in the form of monitoring programs, permits, nonpoint source (NPS) implementation projects and surveys. The monitoring efforts allow SD DENR to produce an assessment of water quality throughout the state and give direction to focus on where improvement efforts are most required. There are eleven beneficial uses listed below, with each use having standards that must be met for the waters to meet their designated uses.

- Domestic water supply waters;
- Coldwater permanent fish life propagation waters;
- Coldwater marginal fish life propagation waters;
- Warmwater permanent fish life propagation waters;
- Warmwater semi-permanent fish life propagation waters;
- Warmwater marginal fish life propagation waters;
- Immersion recreation waters;
- Limited contact recreation waters;
- Fish and wildlife propagation, recreation, and stock watering waters;
- Irrigation waters; and
- Commerce and industry waters.

Every two years, SD DENR is required to produce an Integrated Report for Surface Water Quality to present to Congress. The report is an assessment of the waters of the state and identifies which water bodies within the state meet or do not meet their beneficial uses. The report allows SD DENR and partners to prioritize what water quality parameters need improvement and the best management practices (BMPs) that can be established to improve those parameters.

Figure 1. Site Before

Figure 2. Site After

Figure 1 and ***Figure 2*** display an example of a successful bank stabilization effort that took place as part of the Big Sioux River Stability Project completed by East Dakota Water Development District and partners. Photo courtesy of East Dakota Water Development District's website.

Table 1 contains a comparison of SD DENR's assessment and implementation efforts throughout the state from 2012 to 2020. By comparing the results of the efforts over the eight years, we can determine that some progress was made in implementation projects and some existing projects were altered to better address areas of concern or expanded to encompass multiple basins. This is reflected in the results from the 2012 plan goals in that many of the water quality goals were exceeded.

Table 1. SD DENR Assessment and Implementation Schedules from 2012 and 2020 Integrated Report

WATERSHED	YEAR	STATUS
Bad River Basin	2012	No current watershed assessment or implementation projects.
	2020	No current watershed assessment or implementation projects.
Belle Fourche River Basin	2012	An implementation project has been ongoing since 2004 to address water quality of the Belle Fourche River and tributaries. Efforts focus on irrigation practices to reduces Total Suspended Solids (TSS).
	2020	An implementation project has been ongoing since 2004 to address water quality of the Belle Fourche River and tributaries. Efforts focus on irrigation practices to reduces Total Suspended Solids (TSS), with recent emphasis on grazing management practices.
Big Sioux River Basin	2012	Watershed management programs attempted to reduce bacteria, sediment, and nutrient loads from manmade and natural sources. Ongoing watershed implementation projects include Lake Poinsett and the upper, Northcentral, central, and lower Big Sioux River.
	2020	Watershed implementation projects within the basin are focused on reducing bacteria, sediment and nutrient loads from both manmade and natural sources. Current implementation projects include the Upper Big Sioux River Implementation Project and the Big Sioux River Watershed Implementation Project. Implementation efforts being conducted in the upper portion of the basin fall under the Northeast Glacial Lakes Implementation Project.
Cheyenne River	2012	The Lower Cheyenne River Assessment Project and the French Creek Assessment Project were both completed. The Spring Creek Implementation Project is the only current implementation project being conducted in the Cheyenne River Basin.
	2020	No current watershed assessment or implementation projects.
Grand River	2012	No current watershed assessment or implementation projects.
	2020	No current watershed assessment or implementation projects.
James River Basin	2012	The Upper James River Assessment Project was completed in 2011. Implementation projects included the Lower James Basin and Brown County, which encompasses watersheds of Richmond Lake, Elm Lake-Elm River, Moccasin Creek, Willow Reservoir, and the Maple River. Implementation efforts pertaining to Lake Mitchell and Firesteel Creek are conducted under the Lower James Basin Project.
	2020	A National Water Quality Monitoring Initiative Partnership Project sponsored by NRCS is being conducted on the 12-digit hydrologic unit watersheds of Firesteel Creek. The South-Central Watershed Implementation Project is ongoing in the James River Basin. The implementation projects are focusing on BMP's for cropland, grassland, grassland management systems, riparian area management, and animal waste systems.
Little Missouri River Basin	2012	No current watershed assessment or implementation projects.
	2020	No current watershed assessment or implementation projects.

WATERSHED	YEAR	STATUS
Minnesota River Basin	2012	The Upper Minnesota River Watershed Water Quality Assessment Project, which included the Whetstone and Yellowbank River watersheds, was completed in Fall of 2011. This investigation resulted in E. coli listings for the South Fork Whetstone River, North Fork Yellowbank River, and South Fork Yellow Bank River. An implementation project for the Upper Minnesota River Basin in Grant and Roberts counties is planned for the Summer of 2012. This project was included as part of the Northeast Glacial Lakes Project that currently encompasses Day and Marshall Counties.
	2020	Implementation efforts are currently ongoing in the Upper Minnesota River Basin in Grant and Roberts counties with focus on the Whetstone and Yellow Bank watersheds. Coordination was included as part of the Northeast Glacial Lakes Project that currently encompasses Day and Marshall Counties. BMPs include grazing management, riparian buffers, and livestock stream crossings.
Missouri River Basin (Mainstream)	2012	There are currently no active assessment projects in the Missouri River Basin. The only active implementation project is in the Lewis and Clark Watershed.
	2020	There are currently no active assessment projects in the Missouri River Basin. The only active implementation project is in the Lewis and Clark Watershed, which is incorporated under the South Central Watershed Implementation Project within the James River Basin.
Moreau River Basin	2012	No current watershed assessment or implementation projects.
	2020	No current watershed assessment or implementation projects.
Niobrara River Basin	2012	A portion of the Lewis and Clark Project (Missouri River Basin) is located in the Niobrara Basin and is in the implementation phase.
	2020	Implementation efforts are being conducted under the South-Central Watershed Implementation Project which also encompasses the Lower James River Watershed.
Red River Basin	2012	No current watershed assessment or implementation projects.
	2020	No current watershed assessment or implementation projects.
Vermillion River Basin	2012	Ongoing implementation projects in the Vermillion River Basin included the Vermillion River Watershed and Turkey Ridge Creek Watershed.
	2020	Implementation efforts are being conducted through the South-Central Watershed Project within the James River Basin.
White River Basin	2012	Assessment projects have been completed for the White River, Little White River, and Cottonwood Creek watersheds. There are currently no ongoing implementation projects in the White River Basin.
	2020	Assessment projects have been completed for the White River, Little White River, and Cottonwood Creek watersheds. There are currently no ongoing implementation projects in the White River Basin.

2.2. POINT SOURCE POLLUTION CONTROL PROGRAM

U.S. Environmental Protection Agency (EPA) is the regulatory authority on environmental protection concerns across the US. The agency cannot enforce the varying environmental concerns of every state; as a result, the enforcement authority of National Pollutant Discharge Elimination System (NPDES) program was delegated to SD DENR. SD DENR refers to NPDES permits issued as Surface Water Discharge (SWD) permits; a map of current SWD permits issued in South Dakota is available on SD DENRs website (https://denr.sd.gov/des/sw/dbnpdessearch.aspx).

Concentrated Animal Feeding Operation (CAFOs) regulations are enforced under the NPDES program and require a water pollution control permit. One of the requirements of CAFO water pollution control permits is for producers to submit plans for manure management systems that meet SD DENR design requirements and are approved by the department.

2.3. NONPOINT SOURCE POLLUTION (NPS) PROGRAM

SD DENR has a Nonpoint Source Program Management Plan established to reduce nonpoint source pollution that extends to 2024. It is a tool that can be used to measure the extent to which federal and state water quality goals are being met. The goal of the plan is to develop and implement workplans to attain the Total Maximum Daily Loads (TMDLs) for water bodies that do not support their designated beneficial uses. The nonpoint source program focuses on incentives for BMP implementation and voluntary participation that are led by local agencies, communities, watershed groups, and individuals. Funding for these projects is provided by Section 319 of the Clean Water Act (CWA), which provides up to 60 percent of the total cost of the project. The remaining 40 percent of the funding is provided through state and local funds or in-kind services. Funding provided in 2019 by the Section 319 Project Grant was $2,574,00 (SD DENR, 2020[8]).

In addition to the development of the Nonpoint Source Program Management Plan, SD DENR developed a Nonpoint Source Task Force in 1988. The task force is currently composed of 23 agencies and interest groups and performs the following duties:

- Provides a forum for the exchange of information on activities that impact NPS control;
- Prioritizes waterbodies for NPS control activities;
- Provides guidance and application procedures for funding NPS control projects;
- Reviews project applications;
- Recommends projects to South Dakota Board of Water and Natural Resources for funding approval;
- Serves as the coordinating body for the review and direction of federal, state, and local government programs to ensure that the programs will achieve NPS pollution control efficiently;
- Serves as a focal point for information, education, and public awareness regarding NPS pollution control;
- Provides oversight of NPS control activities and prioritize the activities; and
- Provides a forum for discussion and resolution of program conflicts.

2.4. GROUNDWATER

SD DENR coordinates efforts to protect areas surrounding public drinking water supplies. Currently, 78 percent of public water supplies in South Dakota rely on groundwater for their drinking water. (SD DENR, 2020[10]). A source water assessment was completed within each of the approximately 760 public water supply systems within South Dakota following the 1996 Safe Drinking Water Act Amendment (SD DENR 1999[6]). Currently, local governments and water providers are responsible for addressing the risks identified in the assessment. Section 319 funds can be used to assess major aquifers in the state to promote and implement practices that prevent ground water contamination within these aquifers.

2.5. WETLANDS

The Prairie Pothole region of Eastern South Dakota contained 1,780,859 acres of freshwater wetlands in the mid 1990's (Johnson and Higgins 1997[9]). According to the Integrated Report for Surface Water Quality Assessment, South Dakota has approximately 1,870,790 acres of wetlands as of 2020 (SD DENR 2020[15]). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) is the lead agency responsible for certified wetland determinations on agricultural lands. Producers must certify they have not manipulated wetlands in any ways that allow for crop production to occur in wetland areas in order to remain eligible for USDA farm program benefits under the 2018 Farm Bill legislation.

2.6. SOIL RESOURCES

NRCS and Farm Service Agency (FSA) administer Farm Bill programs that assist agricultural producers in improving South Dakota's crop, range, forest and pasture lands. Many programs are available to producers to improve the cost effectiveness of their operations while protecting natural resources. An example of one of these programs is the Environmental Quality Incentives Program (EQIP), which can assist producers by improving the cost effectiveness of producer operations by providing cost-share programs for installation of water pipelines, off-stream water sources, cross fencing, and other management practices. These programs are well utilized and are effective in reducing the time that cattle spend in riparian area and improve grazing distribution (Scheffield et al. 1997[11]). EQIP also provides conservation incentives for row crop agriculture BMPs, including addition of a perennial grass, legume, or cover crop to an existing rotation. Other opportunities for cost-sharing are for critical area plantings, filter strips, and grassed waterways which help to limit erosion and improve soil health. Local Conservation Districts utilize Coordinated Natural Resources Grant Funds and other funds from partners to provide producers cost-share opportunities to implement practices that promote soil conservation. Conservation Districts provide avenues of research material and products for producers in the improvement of soil health.

2.7. AIR QUALITY

SD DENR monitors the state's air quality as required by the Clean Air Act (CAA) of 1970 for particulate matter (ten sites), ozone (six sites), sulfur dioxide (four sites), nitrogen dioxide (four sites), and carbon monoxide (one site) (SD DENR 2019[12]). Air quality is monitored at locations where a pollutant of concern is expected to be the greatest, with real time air quality map available on SD DENRs website (https://denravweb.sd.gov/AirVision/default.aspx). Rapid City occasionally experiences poor air quality due to particulate matter concentrations resulting from dry and windy conditions. In response to the air quality concerns, with the cooperation of Rapid City, Pennington County, and local industry; SD DENR implemented a Natural Events Action Plan for the Rapid City area in 2009. This plan includes alerting the public on the potential of high dust levels when the following conditions occur:

- Hourly wind speeds exceed 20 miles per hour;
- Peak wind gusts are greater than 40 miles per hour; and
- Five consecutive days of 0.02 inch or less of precipitation each day, excluding dry snow.

During 2019, the public was notified of high wind dust alerts once in the Rapid City area, although the day did not exceed the particulate matter (PM_{10}) 24-hour standard. (SD DENR, 2019[12]).

2.8. RECREATION AND WILDLIFE

Hunting, fishing and camping are among the largest recreation opportunities that drive tourism in South Dakota. South Dakota Game, Fish, and Parks (SD GFP) manages wildlife and fish populations with funding provided primarily by hunting and fishing license sales and grant programs from federal excise taxes on hunting and fishing equipment. Numerous parks maintain campsites and scenery for visitors to enjoy at the state parks. SD GFP issues permits for camping in state parks. Additionally, they issue tags for hunting, fishing licenses and fur bearer licenses which add to the funds used for programs that maintain game and fish populations, as well as state park facilities. SD GFP manages cost-share programs designed to assist landowners in creating and managing wildlife habitat on private land. Programs focus on nesting cover, native grass and forb establishment, woody habitat establishment, wetland/grassland creation and restoration, shoreline protection, and habitat fencing. Conservation Districts work with private landowners for the improvement of wildlife habitat through tree plantings, native grass seedings, pollinator plantings, rotational grazing, and other conservation practices.

2.9. CONSERVATION PROGRAMS

South Dakota utilizes several programs to address natural resource concerns and to provide opportunities for landowners and agencies to work together to manage landscapes. ***Table 2*** contains examples of commonly used programs and the corresponding agencies responsible.

Table 2. Examples of commonly used conservation programs in South Dakota

PROGRAM	AGENCY
Emergency Watershed Protection Program Floodplain Easements (EWPP-FPE)	NRCS–USDA
Emergency Watershed Protection Program (EWPP)	NRCS–USDA
Conservation Reserve Program (CRP)	FSA–USDA
Cooperative Conservation Partnership Initiative Grants	NRCS–USDA
Environmental Quality Incentives Program (EQIP)	NRCS–USDA
Conservation Stewardship Program (CSP)	NRCS–USDA
Wildlife Habitat Incentives Program (WHIP)	NRCS–USDA
Farm and Ranch Lands Protection Program (FRLPP)	NRCS–USDA
Forest Legacy Program	U.S. Forest Service (USFS)–USDA
Stewardship end results contracting	USFS–USDA
State and Private Forestry	U.S. Forest Service –USDA
Private Stewardship Grants Program	USFWS
Landowner Incentive Program	USFWS
Partners for Fish and Wildlife	USFWS
Clean Water Act Section 319	EPA and SD DENR
Coordinated Natural Resource Conservation Grant Fund	State Conservation Commission and Conservation Districts
Wildlife Partnership Program	SD GFP
Emergency Conservation Program (ECP)	FSA–USDA
Agricultural Conservation Easement Program (ACEP)	NRCS–USDA
Regional Conservation Partnership Program (RCPP)	NRCS–USDA
Second Century Working Lands Habitat Program	SD GFP
Conservation Innovation Grants (CIG)	NRCS–USDA

2.10. FORESTRY

Forestry did not have a separate section in the past Coordinated Plan for Natural Resources Conservation; however, given the unique role that forestry plays in natural resource management, it was felt that it should have its own section in the new Coordinated Plan. Additionally, this section should serve as a bridge between the goals and objectives found in South Dakota's Forest Action Plan (FAP).

South Dakota's FAP classifies the state's forests by type: coniferous, bottomland hardwood, upland hardwood, windbreaks, and community forests. Each of the forest types are assessed on extent, location, species composition,

age and size class distribution, ownership, and threats. The Resource Conservation and Forestry (RCF) program uses funding through US Forest Service's State and Private Forestry programs to work with private forestland owners, producers, communities, tribes and other government agencies to accomplish forest management activities on state and privately-owned forests across the state. US Forest Service and Bureau of Land Management manage federally owned forests within the state. SD GFP and Office of School and Public Lands manage state-owned forest lands.

The state administers numerous grant funds, including conservation commission grants, EQIP, conservation stewardship program (CSP), subawards received from US Forest Service, and others as they become available. These grant funds are often used as match to offset costs of forest management for landowners and producers. The management activities funded by these grants are used to reduce fuel loads in the wildland urban interface (WUI) and to improve forest health in coniferous stands that are dense and stagnate.

Producers throughout the state can benefit from other programs, such as the Conservation Collaboration Grants & Agreements Program (CCGA) to help address the declining windbreaks and shelterbelts. The Windbreak Condition Project along with the Great Plains Initiative have determined that most windbreaks in South Dakota are in fair to poor condition. This aging forest resource requires renovation to continue to provide economic and environmental benefits to rural South Dakotans. Conservation Districts are a local resource, and an important tool for landowners in the planting, maintenance, and care of trees.

Communities throughout the state benefit from challenge grants for tree plantings, technical assistance including street tree and pest/disease surveys, and conservation education programs such as Project Learning Tree and Envirothon. Foresters across the state also assist communities with writing management plans and forest health response plans such as the recent Emerald Ash Borer (EAB) response in the Sioux Falls/Canton area.

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Chapter 3. Past and Present Conditions

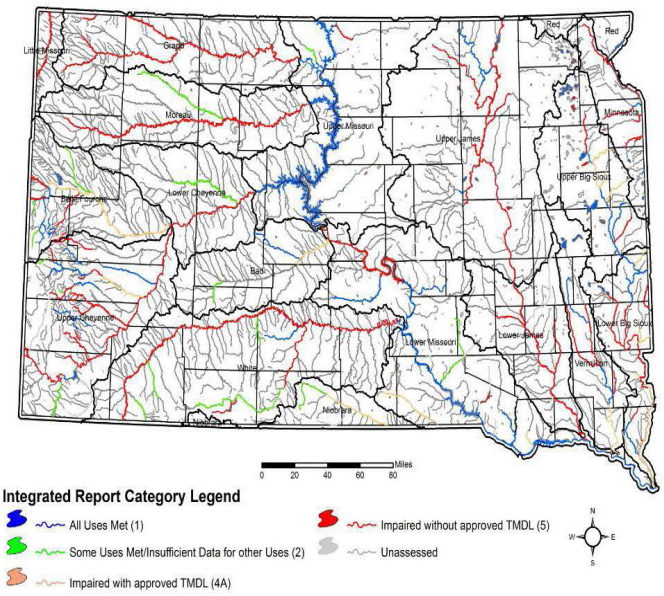
Natural resources conservation has a variety of programs and practices through which BMPs can be implemented. Each program or practice may target a specific resource topic (water quality, water quantity, soil erosion, riparian areas); however, all are interrelated to a certain extent. Documenting trends in the status of South Dakota's natural resources condition over time provides an evaluation of the effectiveness of past conservation efforts. This summary presents trends in South Dakota's natural resources condition and may be used to identify top conservation needs.

3.1. WATER RESOURCES

Surface water quality is continuously monitored, and efforts are being made to meet the beneficial use standards in all waters within the state. South Dakota has approximately 97,500 miles of perennial rivers, streams, and intermittent streams. (SD DENR 2020[15]). Of these stream miles, nearly 6,000 miles have been assessed from October of 2014 to September of 2019 (SD DENR 2020[15]). Over these five years 22 percent of the streams which were assessed supported their beneficial uses, and 78 percent did not meet the criteria for, at minimum, one beneficial use. (SD DENR 2020[15]). In the 2012 plan 50 percent of rivers and streams met all their beneficial uses, the decrease in river and streams meeting their beneficial uses is due to an increase in fecal coliform bacteria contamination.

SD DENR also assessed 147 of the states 575 lakes and reservoirs, which account for 63 percent of the total lake acreage in the state (SD DENR 2020[15]). SD DENR estimates that almost 9 percent of the lakes which were assessed met all the criteria to support the water bodies assigned beneficial use; 56 lakes do not support at least one beneficial use, yet have acceptable TMDL's; and 73 lakes do not support at least one beneficial use and are on the 303(d) impaired waterbodies list (SD DENR 2020[15]). In the 2012 plan, 52 percent of lakes had met their beneficial uses, the dramatic change in lakes meeting their beneficial uses is the result of increased mercury in fish tissue.

2012



2020

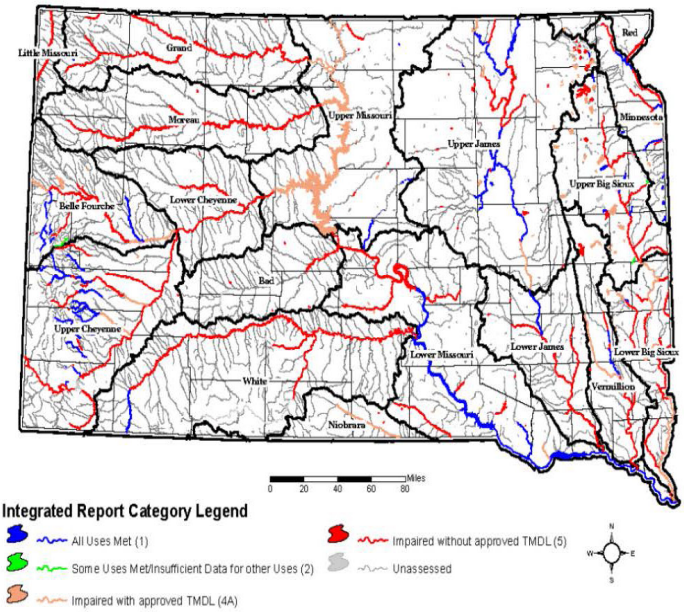


Figure 3 represents the perennial stream miles and lake/reservoir area in compliance with their designated beneficial use reported in the 2012 and 2020 integrated reports.

Total Maximum Daily Load (TMDL) is a term in the CWA defined as a calculation of the maximum pollutant input that a waterbody can receive and still maintain water quality standards. TMDLs are calculated for waterbodies exceeding pollutant levels so that reduction levels can be identified and appropriate BMPs implemented. The number of waterbodies requiring a TMDL calculation has increased from 155 to 170 from 2012 to 2020. The decrease in stream miles meeting their beneficial use is due to total suspended solids (TSS) and *Escherichia coli* (*E. coli*) violations (SD DENR 2020[15]). The spatial distribution of water quality violations has also changed between 2012 and 2020 (***Figure 5***). Notable reductions in TMDLs required have decreased in the Big Sioux, and Cheyenne River Basins, whereas notable increases in TMDLs required have occurred in the Missouri and Vermillion River Basins (***Figure 5***).

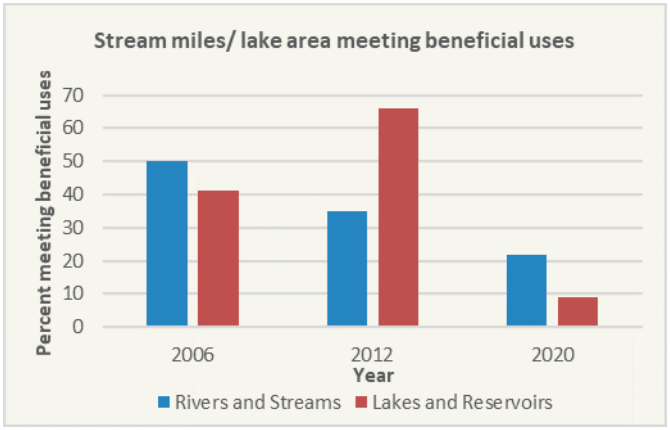


Figure 4 Percentage of perennial stream miles and lake and reservoir area meeting the standards for their designated beneficial use as reported by SD DENR in 2006, 2012, and 2020 integrated reports (SD DENR 2006[5], SD DENR 2012[6], SD DENR 2020[7])

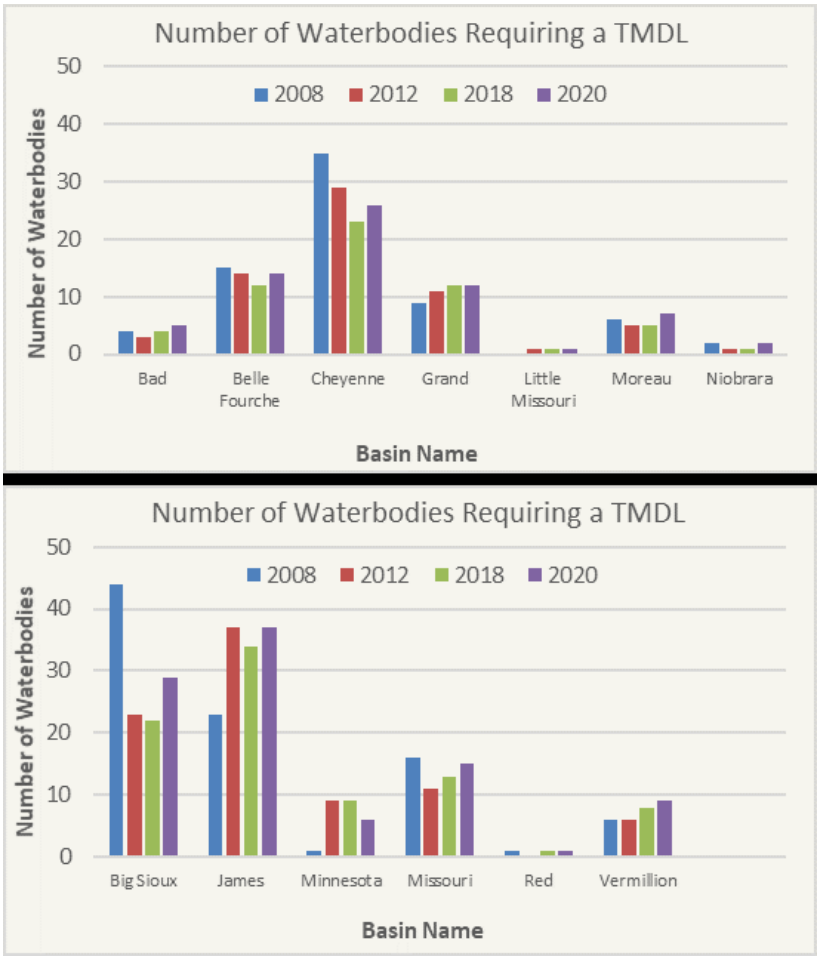


Figure 5 Compares Waterbodies requiring TMDLs by South Dakota major river basins. East river basins on the upper graph and west river basins on the lower graph.

The leading cause of impairments in South Dakota lakes in 2012 was sediment and nutrient runoff, TSS, and E. coli contamination. Currently, the major cause of impaired lakes is mercury in fish tissue, which is a result of atmospheric deposition (SD DENR, 2020[15]). Fecal coliform impairments have also increased, surpassing suspended solids from 2016 to 2020 (***Figure 6***). Fecal coliform sources include wildlife, humans, grazing lands, and feedlot runoff. Fecal coliform impairments can be addressed by designing animal waste management systems such as installing fencing and riparian buffers to decrease cattle access to streams and to prevent fecal coliform from wild and domesticated wildlife entering waterways. Section 319 funds are administered by SD DENR to implement these BMPs and are complemented by other forms of financial assistance, including:

- South Dakota Coordinated Natural Resources Conservation Fund Grant Program;
- South Dakota Clean Water Consolidated Water Facilities Construction Program;
- South Dakota State Revolving Fund NPS Incentive Rate Loans;
- SD GFP Private Lands Programs;
- USDA Farm Bill Programs;
- U.S. Fish and Wildlife Service (USFWS) Private Lands Programs;
- organizations such as lake associations, water development districts, Ducks Unlimited, and Pheasants Forever; and
- landowners and managers.

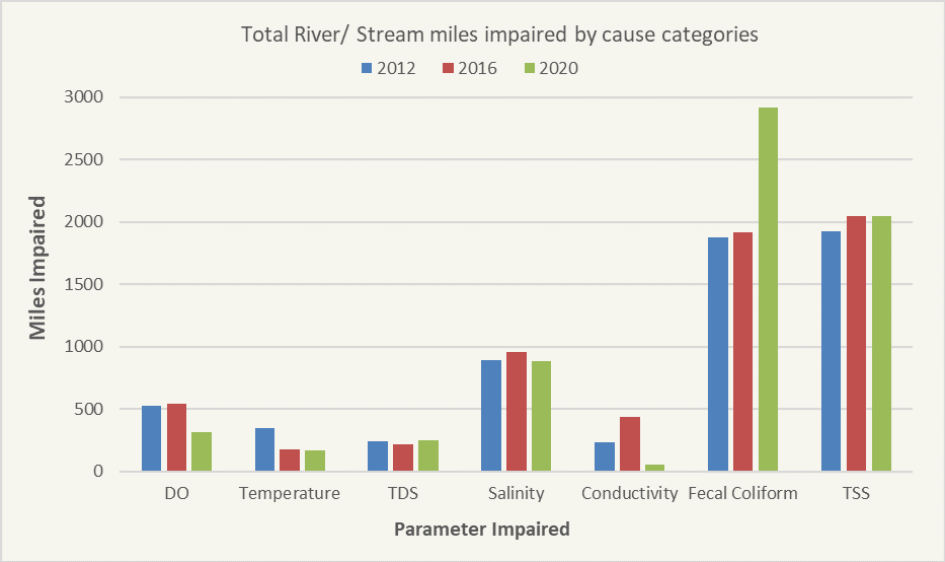


Figure 6 Top seven causes of impairment in South Dakota's Rivers and Streams in 2012, 2016, and 2020.

All other parameters of concern have had a reduction in miles impaired or have remained the same since 2012. As ***Figure 6*** displays, Dissolved Oxygen (DO), Temperature, and Conductivity impairments have decreased, and Total Dissolved Solids (TDS) and Salinity have remained the same.

3.2. SOIL RESOURCES

National Resources Inventory (NRI) is a scientifically based program that currently provides nationally consistent data for the 33-year period of 1982 to 2015. It reports both national and state-level estimates for themes including land cover/use, land capability class, soil erosion, land use, wetlands, and development of non-federal rural land. It provides excellent information when evaluating soil resource conditions.

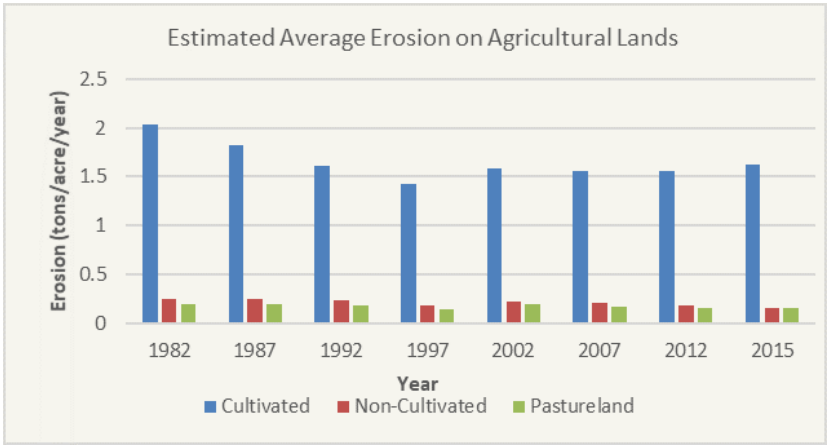


Figure 7 Erosion rates on South Dakota agricultural lands from 1982 to 2015. (USDA 2018[15])

Erosion rates on South Dakota's cultivated agricultural lands have decreased steadily from 1982 to 1997 due to implementation of better tillage practices and elimination of highly erodible land from crop production. Erosion rates on cropland decreased 34 percent between 1982 to 2015. (USDA 2018[16]). Alloca-

tion of South Dakota agricultural lands within cropland, rangeland, and pastureland has changed little between 1982 and 2015.

While erosion is important, recent science has shifted the evaluation of soils from erosion to soil health due to the billions of bacteria, fungi, and other microbes living within soil. Soil health is the capability of soil to sustain plants, animals, and humans. Healthy soil regulates water, sustains plant and animal life, filters and buffers potential pollutants, cycles nutrients, and provides physical stability and support. Shifting the focus from erosion to soil health better reflects the living ecosystem which makes soil productive.

Conservation Reserve Program (CRP) acres peaked in 1995 at 1,772,538 acres and decreased to 926,266 acres by 2015 (***Figure 8***) (USDA 2018[16]). The loss of CRP acres can be attributed to increases in commodity prices making CRP payments less competitive (USDA 2012[17]).

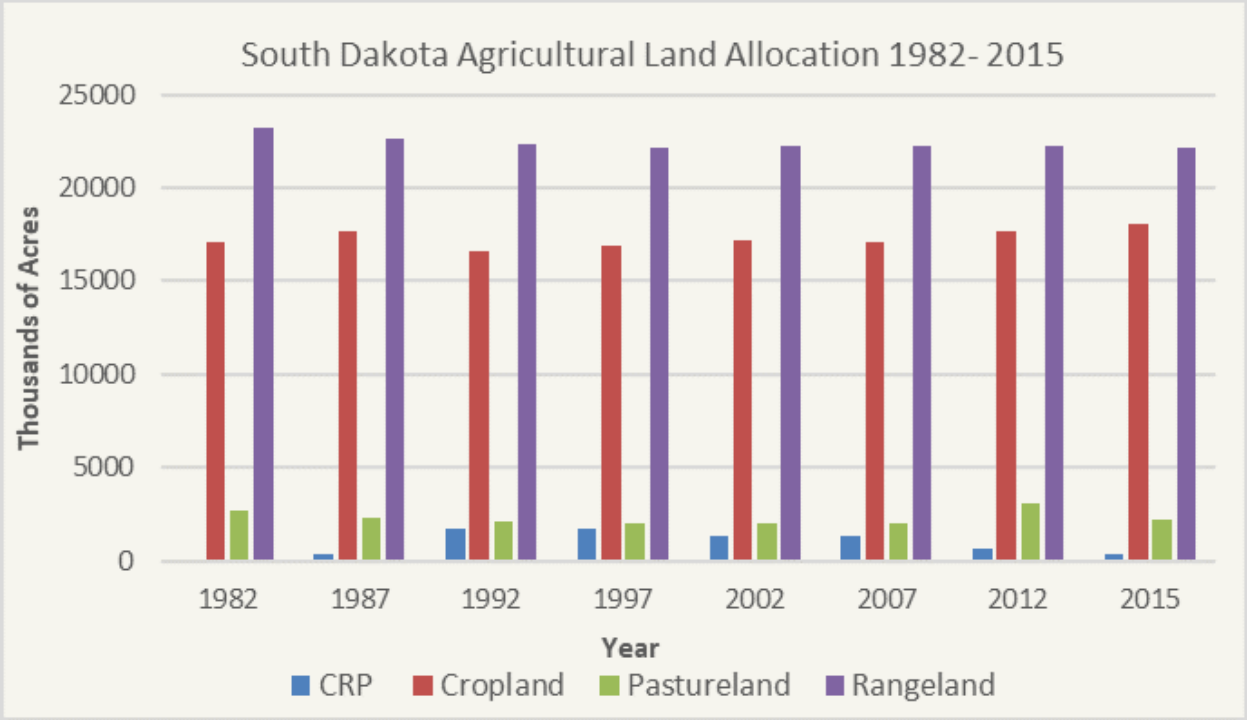


Figure 8 Allocation of agricultural land use in South Dakota.

References

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3.3. AIR QUALITY

A review of the 2019 Ambient Air Monitoring Annual Plan found that South Dakota maintains air quality attainment within the national standards for all measured criteria at 13 ambient air monitoring sites across the state.; there are no areas exceeding current National Ambient Air Quality Standards (NAAQS) (SD DENR 2019[12]). Although this has not changed from the 2012 plan, South Dakota could potentially take advantage of carbon sequestration and ecosystem market services as a method to further improve air quality efforts.

3.4. RECREATION AND WILDLIFE

South Dakota contains unique landscapes due to the wide range of climate, geology, and landforms along with various disturbance regimes (grazing and fire) resulting in diverse habitats. Landforms include Prairie Coteau, Great Plains, Badlands, and Black Hills containing tallgrass prairie/wetland complexes, mixed grass prairie/shrub, and forests (***Figure 9***).

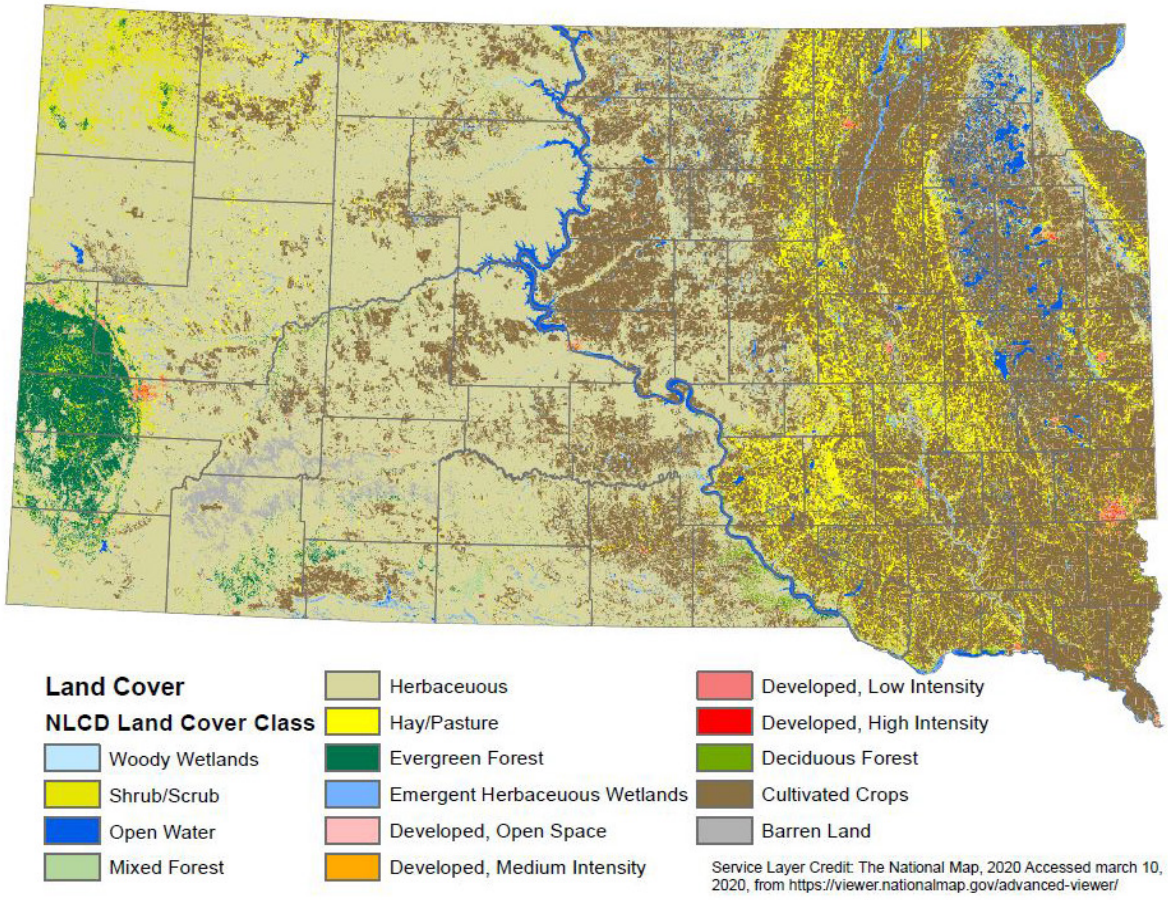

Figure 9 2016 South Dakota Land Cover Data Image (USDA 2020[23])

In a 2001 study titled "A Landscape Approach to Conserving Wetland Bird Habitat in the Prairie Pothole Region of Eastern South Dakota Wetlands" it was determined that waterfowl and many other bird species in the Prairie Pothole Region of eastern South Dakota rely on complexes rather than a single isolated wetland (Naugle 2001[18]). Therefore, conservation programs designed to preserve clusters of wetlands including seasonal, semi-permanent, and permanent wetlands would achieve the best outcome for wetland dependent species. As a result, significant state and federal wildlife restoration and protection habitat efforts focus on wetland and adjacent upland habitat management.

Waterfowl Production Areas (WPAs) are owned by USFWS and are open to the public for a wide range of recreational uses including hunting, fishing and bird watching. There are 1,000 WPAs in South Dakota totaling nearly 150,000 acres (SD GFP, 2020[24]). These areas are designed to complement working farms and ranches and accommodate a wide range of uses such as grazing of grasslands and farming of wetlands when they are dry from natural conditions.

NRCS currently maintains 146,743 easement acres for 30-year, 99-year, and permanent easements in the following programs: Agricultural Conservation Easement Program–Wetland Reserve Easement (ACEP-WRE), Emergency Watershed Protection Floodplain Easement Program (EWPP-FPE), Emergency Wetlands Reserve Program (EWRP), Grassland Reserve Program (GRP) and Wetland Reserve Program (WRP) (***Figure 10***). (USDA, 2020[22]).

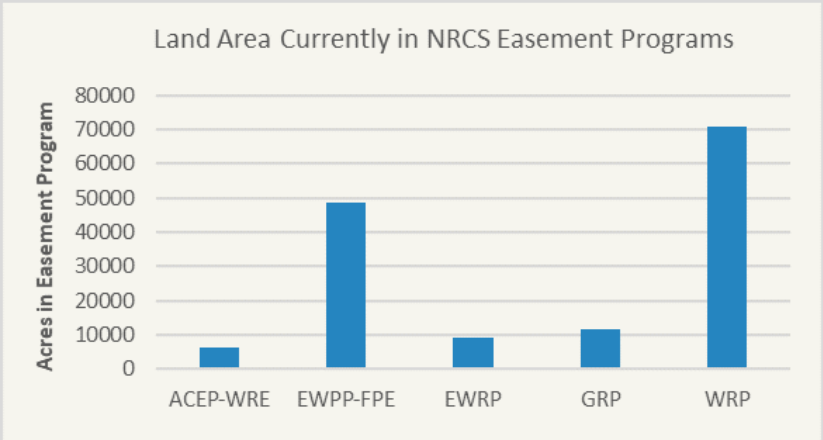

Figure 10 Land area in acres currently enrolled in NRCS Easement programs

SD GFP currently owns approximately 730 Game Production Areas, totaling more than 281,000 acres and contain both upland and wetland areas. (SD GFP, 2020[24]).

Bureau of Land Management (BLM) manages over 274,000 acres of land within South Dakota, the majority of the land is mixed grass prairie or juniper woodlands in 13 counties west of the Missouri River. (SD GFP, 2020[24]). This land is managed for multiple uses including livestock grazing, mineral extraction, forest management, and recreation.

US Forest Service (USFS) manages over 2 million acres in Black Hills and Custer National Forests and three national grassland units: Buffalo Gap, Fort Pierre, and Grand River (SD GFP 2020[24]). These lands are managed for grazing, multiple recreational uses, and forestry products. USFS currently is addressing the mountain pine beetle epidemic by removing infested trees and diversifying tree species composition. Forested lands are home to deer, mountain goats, elk, and bighorn sheep. In addition to terrestrial species, trout are found in streams within the Black Hills and are an attraction to fly fisherman.

South Dakota Office of School and Public Lands manages over 750,000 acres of land, some of which are open to the public for hunting and fishing (SD GFP 2020[24]). Some of the 750,000 acres are managed as a source of income for state schools and universities. Another portion of the lands are also leased for grazing, oil, gas and minerals (South Dakota Office of School and Public Lands 2012[20]).

CRP was created in the 1985 Farm Bill as a national program that placed highly erodible and environmentally sensitive land into perennial vegetation. Landowners could voluntarily enroll land into CRP for 10- to 15-year contract periods. Although CRP was originally viewed as a supply control program, it rapidly evolved into a program that provided many other environmental benefits. By 2008, the economic conditions drastically changed. Commodity

prices nearly doubled between 2007 and 2008 and many producers calculated that converting CRP acres back into production would be a profitable option (USDA 2012[17]).

Since 2007, reenrollment rates in South Dakota have dipped below 50 percent. A 2007 survey conducted by South Dakota State University (SDSU) determined 65 percent of CRP contracts were very likely or somewhat likely to be returned to agricultural production (Janssen et al. 2008[27]). Between 2007 and 2011, 714,234 CRP acres expired, and a net loss of 399,060 CRP acres occurred. This indicates a reenrollment and new contracts replaced only 44 percent of expiring contracts over the 5-year period (FSA 2012[29]). CRP enrollment acres went from 1,110,292 at the end of 2012 to 1,142,968 at the end of 2019, which is an increase in enrollment of 32,676 acres. (USDA, 2020[22]).

References:

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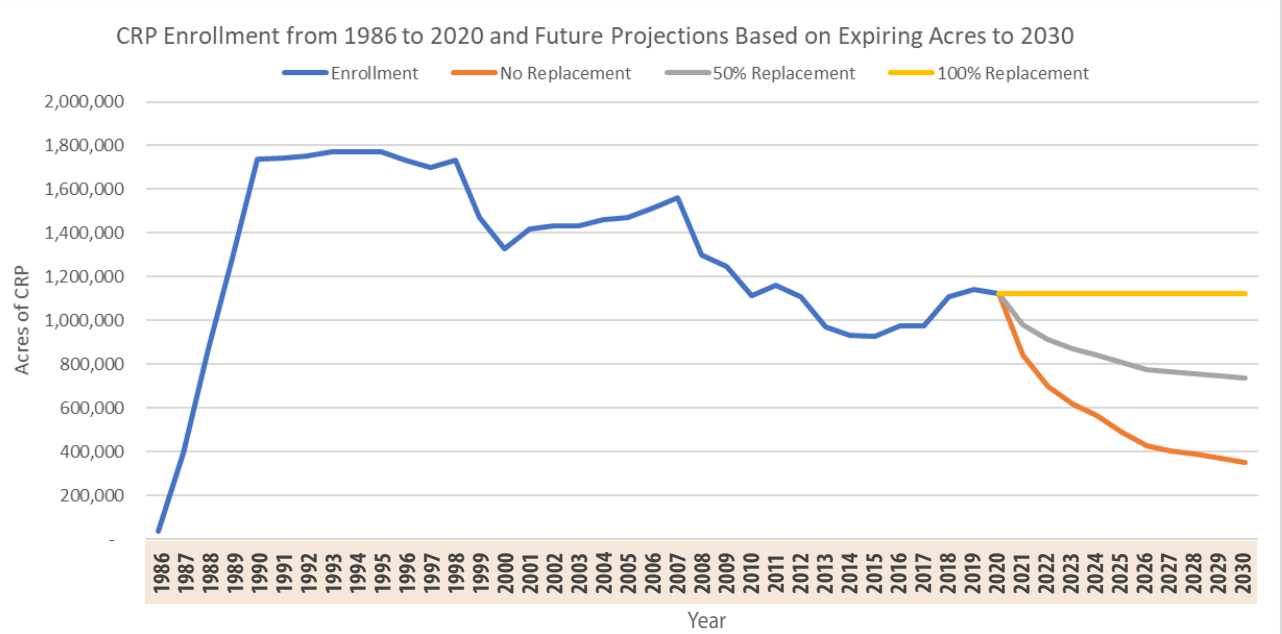

Figure 11 displays CRP acres enrolled throughout the entirety of the CRP program and future projections through 2030.

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3.5. FORESTRY

Forested land makes up less than 4 percent (1.95 million acres) of South Dakota's total land (Walters, 2016[32]). However, the forests are a vital part of the state's ecosystem and environment. The most significant threat facing South Dakota's forests is emerald ash borer (EAB). Ash is one of the few trees species that is native to the whole state. It is also one of the most common trees in the state making up a third of the tree canopy in communities, 40 percent of windbreak species, 22 percent of non-forest woodlands, and is the fifth most common tree in state forest lands. The native ash has no resistance to EAB. The insect is expected to kill all the ash trees in the state.

The two most significant threats to conifer forests are catastrophic wildfire and mountain pine beetle (MPB). The forest recently experienced a twenty-year MPB epidemic (1996-2016) that affected 450,000 acres of Black Hills ponderosa pine killing millions of trees (Allen, 2016[31]). Another epidemic isn't expected for another 15 to 20 years. However, preparation for the next epidemic through forest management must begin now. The potential for catastrophic fire and insect epidemics is exacerbated by too many trees. At this writing, there is a backlog of over 200,000 acres of overstocked pine forest in need of non-commercial thinning. Overstocking suppresses tree growth, increases fuel hazard, and limits forb and grass production. At current costs, an investment of at least $60 million is needed to eliminate this backlog (Walters, 2016[32]). Increased use of prescribed fire is a partial solution, but the best long-term solution is to develop a viable market to utilize small diameter trees and logging residues which could significantly reduce or eliminate the cost of thinning.

Fragmentation of private forest lands continues to create challenges to forest management by expanding Wildland Urban Interface (WUI) and increasing the number of owners needed to organize effective management activities. More owners and ownerships increase the amount of time and cost to implement projects at scale.

Upland and bottomland hardwood forests make up 23 percent of the states forested land. These forests include numerous riparian areas and the Missouri River breaks. The hardwood forests provide numerous values to South Dakota's wildlife and contribute to ecosystem services such as filtering water from crop and livestock runoff. Hardwood forests are also facing numerous threats, including cottonwood decline in the Missouri River and its tributaries, invasive species such as buckthorn and saltcedar, EAB, and rangeland encroachment of native eastern redcedar.

Past surveys have shown the windbreak resource in the state is aging, with 61 to 71 percent in need of renovation. Up to 40 percent of the species composition in aging windbreaks is green ash. In 2020, the trees outside of forests image-based inventory (TOFii) project was completed (Allen, 2016[31]). This project mapped every windbreak and narrow wooded strip in the state. The final analysis of the data by USFS Northern Research Station is still pending. The data, coupled with on-the-ground sampling, will give a better understanding of windbreak condition across the state, will elevate windbreak renovation as a natural resource concern, help competition for funds to complete windbreak renovation, and assist with identifying and mapping wooded riparian areas.

References:

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Chapter 4. Goals and Results of 2012 Coordinated Plan

Results of the 2012 Coordinated Plan for Natural Resource Conservation are listed in ***Table 3*** on the following page. There were 35 objectives the results of which were determined to be not met, partially met, met, exceeded, or insufficient data. These determinations were made by analyzing data provided by the partners of the plan. Most of the objectives for water and soil resource categories were exceeded. The objectives for air quality, wildlife, public awareness, funding and energy were largely not met.

The results from the 2012 objectives, input from public and workgroup meetings were used to determine what the revised objectives will focus on going forward. The revised goals focus on water resources, soil resources, air quality, wildlife, public awareness, funding and forestry.

WATER **objectives were developed based on the result from the previous plan and what the current water quality concerns are.**

SOIL **health objectives were developed based on current concerns as well as the future integrity of soil health.**

AIR QUALITY **concerns were designed to with the objective of Conservation Districts providing information on ecosystem market services to reduce air quality impacts.**

WILDLIFE **objectives focus on wildlife habitat and reducing the impact of invasive species.**

PUBLIC AWARENESS **objectives were developed to increase understanding of ways to protect natural resources in urban and rural populations.**

FUNDING **objectives focus on assisting Conservation Districts in finding alternative funding options and knowledge of available grants and sources of funding for conservation projects.**

FORESTRY **objectives are a new addition to the plan, and they focus on sustainable management of privately owned forest land and increasing tree resources outside of forests.**

Table 3. Goals and Results of the 2012 Coordinated Plan for Natural Resources Conservation

CATEGORY	GOAL	OBJECTIVE	RESULT
Water Resources	1	1.1	Exceeded
		1.2	Exceeded
		1.3	Exceeded
		1.4	Not Met
		1.5	Exceeded
		1.6	Exceeded
		1.7	Exceeded
		1.8	Exceeded
	2	2.1	Partially Met
		2.2	Not Met
		2.3	Exceeded
Soil Resources	3	3.1	Insufficient Data
		3.2	Exceeded
		3.3	Exceeded
		3.4	Exceeded
Air Quality	4	4.1	Not Met
Wildlife	5	5.1	Not Met
		5.2	Not Met
		5.3	Exceeded
		5.4	Not Met
		5.5	Exceeded
Public Awareness	6	6.1	Partially Met
		6.2	Partially Met
		6.3	Not Met
		6.4	Not Met
		6.5	Not Met
		6.6	Partially Met
Funding	7	7.1	Not met
		7.2	Not met
		7.3	Met
		7.4	Insufficient data
		7.5	Insufficient data
Energy	8	8.1	Not Met
		8.2	Not Met
		8.3	Not Met

Chapter 5. Goals and Strategies for the Revised Conservation Plan

South Dakota state agencies, federal agencies, tribal governments, Conservation Districts, landowners and the public were given opportunities to voice their concerns regarding natural resource conservation. After public meetings across the state, work group meetings, and input from landowners, the general public and experts across the state; the following goals were written to direct conservation efforts in South Dakota until 2025.

WATER RESOURCES

1. **Goal 1:** South Dakota streams, rivers, and lakes will meet beneficial uses. (While SD DENR is the agency with primary responsibilities in water quality, South Dakota's Conservation Districts and partners can assist with protecting water quality by encouraging and providing incentives for implementing BMPs.)

    a. Objective 1.1: Reduce sediment delivery to waterbodies by 50,000 tons through 2025.

    Performance Measure: SD DENR will annually report tons of sediment reduced due to EPA Section 319 efforts. NRCS will use 2012 and 2015 NRI data for average sheet and rill erosion for cropland (cultivated and non-cultivated) and pastureland. Conservation Districts will report implementation of BMPs on urban land, cropland, rangeland, and forest land.

    b. Objective 1.2: Reduce nitrogen delivery to water bodies by 100 tons/year statewide through 2025.

    Performance Measure: SD DENR will annually report tons of nitrogen reduced per year due to EPA Section 319 efforts.

    c. Objective 1.3: Reduce phosphorus delivery to waterbodies by 40 tons/year through 2025.

    Performance Measure: SD DENR will annually report tons of phosphorus reduced per year due to EPA Section 319 efforts.

2. **Goal 2:** South Dakota will have sufficient quantities of quality water. Adequate quantities of quality water are often a limiting factor for resource conservation measures.

    a. Objective 2.1: Install 20 million linear feet of additional livestock pipelines and maintain existing water pipelines by 2025.

    Performance Measure: NRCS, SDDA, and USFWS will annually report feet of livestock water pipelines installed.

    b. Objective 2.2: Convert 3,600 acres of flood irrigated lands to 60 pivot systems by 2025 to increase irrigation efficiency from 40 percent to 95 percent thus saving volumes of water for other beneficial uses.

    Performance Measure: NRCS and other conservation partners will report annually the number of acres of flood irrigation lands converted to pivot systems.

    c. Objective 2.3: Repair, renovate, replace or build 500 ponds and dams for livestock water and wildlife by 2025.

    Performance Measure: SDDA, NRCS, USFWS, SD GFP, SD DENR and James River Water Development District will annually report the number of ponds or dams repaired, renovated, replaced or built.

d. Objective 2.4: Establish and maintain practices that protect source water quality.

Performance Measure: Partners will identify projects and practices that protect source water quality.

SOIL RESOURCES

3. Goal 3: South Dakota will have healthy soils appropriate to their capability.

a. Objective 3.1: Implement use of cover crops on 10,000 acres of cropland currently not utilizing cover crops annually.

Performance Measure: NRCS, SD DENR and Conservation Districts will report acres enrolled into conservation programs.

b. Objective 3.2: Convert 10,000 acres of cropland to perennial vegetation cover annually through 2025.

Performance Measure: NRCS, SD DENR, SD GFP, and Conservation Districts will report acres enrolled into conservation programs.

c. Objective 3.3: Improve grassland condition by installing 500,000 acres of grazing management systems by 2025.

Performance Measure: SDDA, NRCS, SD GFP, SD DENR will annually report acres of grazing management systems. USFWS will report those systems not utilizing Coordinated Natural Resources Conservation Grant Fund.

d. Objective 3.4: Convert 100,000 acres of conventional tilled cropland to no till by 2025.

Performance Measure: NRCS will annually report acres transitioned from conventional tilled cropland to conservation/no till tillage.

e. Objective 3.5: Implement 100,000 acres of BMPs on rangeland, cropland, and forestland to reduce erosion of topsoil.

Performance Measure: NRCS, SDDA and Conservation Districts will perform yearly farm and ranch surveys (either by mail in surveys, online surveys, or visual indication) and report their findings.

f. Objective 3.6: Increase education of soil health and best management practices in urban communities by incorporating information into SDSU's Master Gardener program and materials.

Performance Measure: SDSU extension will annually survey existing Master Gardeners and report their findings.

g. Objective 3.7: Educate Conservation Districts and partners regarding Conservation Districts' roles and responsibilities for developing, revising (as needed), and enforcing the Soil Erosion and Sediment Damage Control Laws found under SDCL 38-8A.

Performance Measure: SDDA will hold training for all Conservation Districts once by 2025 and annual training for new district supervisors and employees on their roles under SDCL 38-8A.

AIR QUALITY

4. **Goal 4:** To reduce detrimental impacts to air quality.

    a. Objective 4.1: Develop information for districts regarding carbon sequestration activities and carbon trading opportunities.

        Performance Measure: SDDA will work with partners to compile information available on ecosystem market services and perform surveys of conservation district annually to determine what informational needs exists.

WILDLIFE

5. **Goal 5:** Enhance and/or establish fish and wildlife habitats.

    a. Objective 5.1: Renovate 600 shelterbelts by 2025.

        Performance Measure: SDDA, SD DENR, Conservation Districts, and FSA will annually report shelterbelts renovated.

    b. Objective 5.2: Create or restore 77,000 acres of wetlands and associated upland areas by 2025.

        Performance Measure: NRCS, USFWS, SD GFP and partners will annually report created or restored wetlands and associated upland areas (except for USFWS which will not include upland areas).

    c. Objective 5.3: Install 100,000 acres of forested or non-forested riparian buffers by 2025.

        Performance measure: FSA, NRCS, SD DENR, and conservation partners will annually report riparian buffer strips implemented in acres.

    d. Objective 5.4: Increase pollinator habitat in urban and rural South Dakota.

        Performance Measure: Create or partner with entities to track pollinator habitat. Potentially use an 'app' or website such as Pollinator.org on which people can register pollinator habitat locations.

    e. Objective 5.5: Increase tree species diversity in urban and rural South Dakota to provide a variety of habitats and increase the survival rate of trees from disease and invasive species.

        Performance Measure: NRCS and Conservation Districts will assess the variety of tree species in forested shelter belts.

    f. Objective 5.6: Establish 500 new shelter belts by 2025.

        Performance measure: SDDA, SD DENR, Conservation Districts and FSA will annually report shelterbelts created.

    g. Objective 5.7: Document the number and types of projects, along with associated acres improved through funds from Habitat Stamps.

        Performance Measure: SD GFP will annually publish a list of what projects and associated acres the habitat stamps are funding.

    h. Objective 5.8: Reduce the spread of aquatic invasive species.

        Performance Measure: Partner with SD GFP and SD DENR surface water staff to engage producers in aquatic invasive species monitoring and mitigation efforts and in influencing others to adopt best practices to minimize movement of water.

PUBLIC AWARENESS

6. **Goal 6:** Increase South Dakota citizens awareness and understanding of the benefits of natural resources management in urban and rural areas.

    a. Objective 6.1: Develop and conduct an annual survey to determine outreach materials (social media, websites, pamphlets, workshops, etc.) needed to expand conservation awareness in South Dakota citizens.

        Performance Measure: SDDA and SDACD will report annually if an annual survey was developed and distributed, and the results.

    b. Objective 6.2: Develop at least one new item of outreach material yearly to promote conservation awareness (e.g. urban sprawl, pollinators).

        Performance Measure: Agencies will report how many materials developed yearly.

    c. Objective 6.3: Increase buy-in from non-operating landowners with South Dakota property.

        Performance Measure: Conservation Districts and partners will engage 10 percent more non-operating landowners than in previous surveys.

    d. Objective 6.4: Utilize social media to educate, spread awareness, and advertise programs/events agencies have available to the public.

        Performance Measure: Agencies will report numbers of followers on social media platforms. Attendees to events will be asked for their survey responses regarding the source of where or how they found out about the event.

    e. Objective 6.5: Support organized K-12 education programs that further the cause of natural resources conservation in South Dakota in the manner deemed most appropriate.

        Performance Measure: SDDA will report the number of activities and number of students attending.

FUNDING

7. **Goal 7:** Each conservation district will increase their supplemental funding by pursuing additional services or projects.

    a. Objective 7.1: Through 2025, conduct annual surveys of both district supervisors and employees regarding their anticipated funding and training needs.

        Performance Measure: SDDA will report annually if an annual survey was developed and distributed. SDACD will report annually the number of districts that responded to the survey.

    b. Objective 7.2: Through 2025, incorporate training at one annual conservation district employee statewide meeting that is based on the results of the annual survey.

        Performance Measure: Educate employees and supervisors on the types of grants available and writing grant applications; alternate training sessions between grant opportunities and grant writing. SDDA will report annually where training session was held. Conservation Districts will report in their annual accomplishment reports the number of employees, managers and supervisors that attended the training.

c. Objective 7.3: Provide information on grants and sources of funding on the web.

Performance Measure: SDDA and SDACD will provide a list of grants available and applications on their websites (http://sdda.sd.gov) and (www.sdconservation.org). An annual tally will be conducted of the number of applications submitted and granted.

d. Objective 7.4: Each conservation district will increase its supplemental funding by one additional source by 2025.

Performance measure: Conservation Districts will report in their annual report any additional funds (not including Conservation Commission and county funds) acquired through seeking supplemental funding or providing additional services.

FORESTRY

8. Goal 8: Conservation Districts will help to actively and sustainably manage our state's privately owned forests.

a. Objective 8.1: Provide forest management technical assistance to private landowners.

Performance Measure: Annually report the number of forest landowners assists.

b. Objective 8.2: Provide educational opportunities to private landowners about the importance of forests, forest management, planning, programs, availability of assistance, and how to implement plan recommendations to accomplish landowner objectives.

Performance Measure: Annually report the number of forestry education workshops and literature produced.

c. Objective 8.3: Provide financial incentives to help private landowners implement healthy forest restoration practices

Performance Measure: Annually seek grant opportunities for writing Forest Stewardship Plans and implementing forest management practices that improve forest diversity, health and growth.

Performance Measure: Annually report the number of Forest Stewardship Plans and the acres covered by those plans.

Performance Measure: Annually report the number of forest management practices completed and acres covered by the practices.

d. Objective 8.4: Deliver programs and incentives that encourage and implement landscape scale restoration projects.

Performance Measure: Conservation Districts will annually collaborate with partners to submit the maximum allowed landscape scale restoration (LSR) grant applications.

e. Objective 8.5: Support conservation education about the importance of forest sustainability and management.

Performance Measure: Annually seek education funding opportunities and report the amounts received and the number of programs funded.

f. Objective 8.6: Collaborate with other federal, state, tribal and local agencies to coordinate programs and incentives that encourage control of weeds and invasive species

Performance Measure: Apply for and administer State and Private Forestry Grant funds each year or as available and disperse through the state's subaward grant process.

Performance Measure: Assist communities and conservation districts in developing response plans to non-native pests, such as EAB, and review plans annually.

Performance Measure: Annually report the number of producers assisted regarding rangeland encroachment of eastern redcedar and acres treated.

9. **Goal 9:** Conservation Districts and partners will enhance trees outside of forests to provide natural resources benefits.

    a. Objective 9.1: Inventory trees outside of forests in rural areas with specific emphasis on windbreaks and wooded riparian areas.

        Performance Measure: Provide partial funding for inventorying trees outside of forests in rural areas with specific emphasis on windbreaks and wooded riparian areas

    b. Objective 9.2: Provide technical assistance to landowners regarding planting, managing and renovating shelterbelts and riparian areas in the state.

        Performance Measure: Annually report number of landowners reached, acres impacted, and plans written for shelterbelts and riparian areas planted, managed, or renovated through 2025.

    c. Objective 9.3: Conservation Districts and partners will secure grants to provide technical assistance, implement cost-share programs to promote the benefits of trees outside of forests.

        Performance Measure: Annually apply for grants to educate landowners about the importance of windbreaks and wooded riparian areas.

        Performance Measure: Annually report the number and amount of grants received and the number of people educated.

        Performance Measure: Annually seek funds to cost-share windbreak renovation and restore wooded riparian areas.

        Performance Measure: Annually report the number and amount of grants received and the number of projects and acres restored.

Acronyms and Abbreviations

ACEP	Agricultural Conservation Easement Program
ACEP-WRE	Agricultural Conservation Easement Program–Wetland Reserve Easement
BLM	Bureau of Land Management
BMP	Best Management Practices
CAA	Clean Air Act
CAFOs	Concentrated Animal Feeding Operations
CIG	Conservation Innovation Grants
CRP	Conservation Reserve Program
CSP	Conservation Stewardship Program
CWA	Clean Water Act
EAB	Emerald Ash Borer
ECP	Emergency Conservation Program
EPA	Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
EWPP	Emergency Watershed Protection Program
EWPP-FPE	Emergency Watershed Protection Program–Floodplain Easement
EWRP	Emergency Wetlands Reserve Program
FRPP	Farm and Ranch Land Protection Program
FSA	Farm Service Agency
GRP	Grassland Reserve Program
LSR	Landscape Scale Restoration
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source
NRCS	Natural Resource Conservation Service
NRI	Natural Resources Inventory
RDF	Resource Conservation and Forestry
RCPP	Regional Conservation Partnership Program
SDACD	South Dakota Association of Conservation Districts
SDCL	South Dakota Codified Law
SDDA	South Dakota Department of Agriculture
SD DENR	South Dakota Department of Environment and Natural Resources
SD GFP	South Dakota Game, Fish, and Parks
SDSU	South Dakota State University
SWD	Surface Water Discharge
TMDL	Total Maximum Daily Loads
TOFii	Trees Outside of Forests image-based inventory
TSS	Total Suspended Solids
USDA	US Department of Agriculture
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
WHIP	Wildlife Habitat Incentives Program
WPAs	Waterfowl Production Areas
WRP	Wetland Reserve Program

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