



Fiscal Year 2018 Annual Report

**Division of Resource
Conservation and Forestry**



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Cover Photo: Fall color on a stand of Siberian Larch

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Roughlock Falls



Resource Conservation & Forestry Division

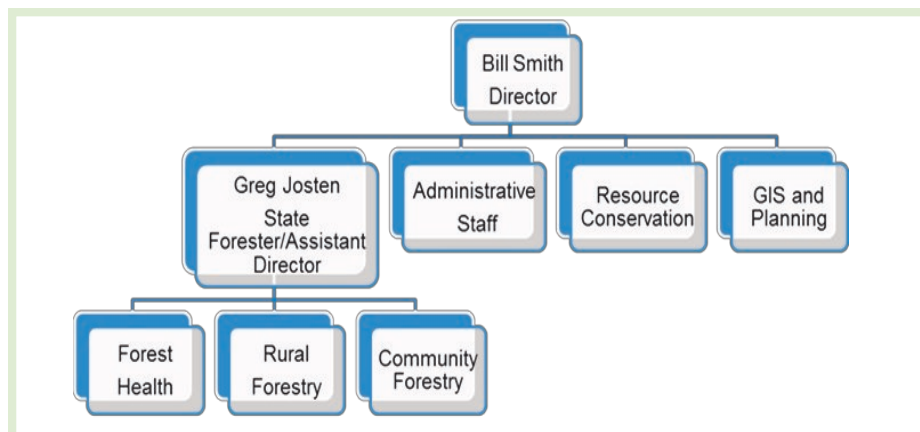
The mission of the Division of Resource Conservation and Forestry is to conserve, protect, improve, and develop the natural resources of South Dakota for its citizens.

The division has offices in the following locations:

- Lead
- Rapid City
- Hot Springs
- Pierre
- Watertown
- Mitchell
- Sioux Falls

The Division of Resource Conservation and Forestry (division) programs are designed to help South Dakotans manage their forests and trees, and conserve our natural resources. We work with farmers, ranchers, rural homeowners, urban dwellers, communities, conservation districts, and federal, state, and local agencies. This report highlights division accomplishments and special projects in fiscal year 2018 by each program.

The division operates on a program level along four core programs: Community Forestry, Natural Resources Conservation (soil, water, air, etc.), Forest Health, and Rural Forestry. Each program has a team leader who reports to the Division Director, William Smith, or the State Forester, Gregory Josten.



Additional copies of our annual report can be obtained by calling 605-773-3623, emailing SDRCF@state.sd.us, or the report can be downloaded from the division at <http://sdda.sd.gov/conservation-forestry/>

Welcome to Resource Conservation & Forestry

In FY2018, the Resource Conservation and Forestry Division welcomed one new team member, Tony Seidl. Tony is the Forest Health Forester in the Rapid City office. Please read below to learn more about our new team member .



Tony Seidl came from Milwaukee, Wisconsin and graduated from the University of Wisconsin-Stevens Point with a Bachelor Degree in Forest Resource Management and Urban Forestry.

Tony spent the past five years working as an arborist in the private tree care industry before joining South Dakota Resource Conservation and Forestry's Forest Health team in September 2017.

Tony enjoys all sorts of outdoor recreation, most of all hunting and fishing.

Tony's other hobbies include hiking and going to concerts.



Big Tree Registry



**South Dakota's Largest
Black Cherry Tree
(Mitchell, SD)**

In 1980, the South Dakota Register of Big Trees was initiated. This is a list of the largest reported specimens of both native and naturalized tree species found within the state. The primary purpose of the register is to recognize big trees as a valuable natural resource worthy of conservation that may provide sources for superior seed collection and/or vegetative propagation. Through this program, uncommonly large trees of any species are located and recorded. The owners and/or locators (nominators) of such trees are recognized through news releases and special certificates.

The state register recognizes champions in 64 different species. A total of 289 trees, both champions and challengers, are currently listed on the register. South Dakota has one national champion. It is a Black Hills spruce located in the Black Hills National Forest (BHNF) which measures 9 feet 9 inches in circumference, 103 feet tall, and 30 feet in average crown spread.

American Forests and the Davey Tree Expert Company sponsor and maintain the National Big Tree Register.

Christmas at the Capitol

2017 South Dakota State Capitol Christmas Tree

Every year the division is given the task of finding the perfect tree to be the crown jewel of the Christmas celebration. This tree is selected from a number of candidates from throughout the state. Once chosen, the winning tree is decorated by a selected organization and placed in the Capitol Rotunda as the main display for the holiday season. Facts about the tree that was selected for FY2018:

Height:
26 Feet
Tree Species:
Colorado Blue Spruce
Origin:
Pickerel Lake, SD
Donated By:
Finnesand Family
Decorated By:
City of Fort Pierre
Theme:
The Colors of Christmas





Community Forestry in South Dakota

Seventy-seven percent of South Dakotans live within urban areas. To serve the urban or community forestry needs of these citizens, the division has offered community forestry technical assistance to individual service organizations, non-profit groups, and communities since 1972.

Technical assistance for establishment of a tree board, development of a tree ordinance, organization of community tree inventories, identification and control of insect and disease problems, and assistance with grant preparation and administration are just a few of the services offered by the urban and community forestry team. Educational programs on tree selection, planting, health, and maintenance are available for communities, schools, and other organizations. The urban and community forestry team focuses its efforts on assisting communities with the development of local community forestry programs.



Pictured above are community tree plantings from left to right in Pierre, Spearfish, and Britton.

Urban & Community Forestry Challenge Grants

Since 1991, the division has provided financial assistance to South Dakota communities and service organizations each year through a portion of the division's annual allocation of Urban and Community Forestry Assistance Funds from the US Forest Service. These funds are awarded to communities and organizations in the form of Urban and Community Forestry Challenge grants. They are used to fund projects which solve a specific community forestry problem and demonstrate the importance of trees in communities. The community or service organization must match the challenge grants on a one to one basis.

The criteria for the challenge grant, require increased commitment and effort from a community. This is in place to build long-term capacity within applying communities. The criteria are listed from highest to lowest priority with their top allocation dollar amount:

1. Professional Services—\$5,000
2. Tree Inventory/Assessment—\$5,000
3. Existing Tree Care and Maintenance—\$1,000
4. Education/Training—\$5,000
5. New Tree Planting—\$1,000
6. Other Activities—\$5,000

Grants have a maximum limit of \$5,000 per year; an applicant may receive a maximum of \$1,000 per year for new tree plantings and a maximum of \$1,000 per year for existing tree care and maintenance. The required match may be met through volunteer labor, donated and/or purchased supplies, or actual cash expenditures. In FY2018 nine challenge grants totaling \$13,100 were awarded which leveraged \$12,345 in local funds and in-kind match. A full list of awarded UCF grants for FY2018 can be found on page 21-22.

South Dakota Community Forestry Advisory Council

The South Dakota Community Forestry Advisory Council is made up of representatives from city governments, the US Forest Service, green industry, non-profit groups, and volunteer organizations. They advise the State Forester on community forestry issues, review and recommend grant awards, help set program goals and objectives, and help develop South Dakota's Forest Action Plan.



Pierre Community Orchard Planting

Tree Boards

At the present time there are 106 known tree boards across the state. Local tree boards provide the foundation for most of the community forestry programs in South Dakota.

These boards consist of community leaders, city employees, and volunteer citizens. Tree boards are vital to the development of tree ordinances, preparation of annual work plans, tree plantings, tree maintenance, and tree removals. These tree boards provide their citizens with information, secure and administer grant funds, and conduct local Arbor Day activities.

Technical Assistance

The community forestry program targets efforts at threats and priority areas identified in the state's Forest Action Plan. Strategies used to address threats identified in the state's plan include: technical assistance, educational presentations and materials, and financial assistance. During FY2018, the division provided 255 technical assists to community governments, volunteer-service groups, and private citizens in 32 communities. These assists covered topics such as big tree measurement (see page 4), damage evaluations, tree care recommendations, and general urban forestry projects and grant applications.

Community Forestry Presentations

The Community Forestry Team lead 65 presentations and workshops in FY2018. There were 39 presentations to school classes and civic groups about Arbor Day, Tree City USA, Smokey Bear and fire prevention, and other community forestry subjects. The division held 7 workshops on tree planting, tree care, and forest health.

Arbor Day in South Dakota

In 1947, the State Legislature designated the last Friday in April as South Dakota's official Arbor Day to recognize trees for the many environmental functions and values they provide. On or around Arbor Day, division foresters provided presentations to school classes, service clubs, and other groups on the importance of trees in South Dakota.

Arbor Day Essay Contest

Larissa Stahl of Tabor, Sophie Dowling of Murdo, and Connor Torkelson of Wanblee were the winning essayists selected from the 1,100 entries in the 2018 Arbor Day Essay Contest. Sponsored by the South Dakota Association of Conservation Districts, McDonald's restaurants of South Dakota, and South Dakota Department of Agriculture, the contest provides fifth and sixth grade students the opportunity to write about the importance of Arbor Day and tree planting in South Dakota. As first place winner, Stahl received a plaque, \$100 in cash and a McDonald's lined jacket. Her school, Bon Homme Colony School, received \$150 for the purchase of supplies or equipment. Dowling, the second place winner, received a plaque and \$75 cash, while Torkelson received a plaque and \$50 for his third place essay.



Black Hills State University students planted trees around campus in honor of Arbor Day 2018.

Arbor Day Poster Contest

The first place winner, Jai Shawn Quick Bear, who attends Kadoka Elementary School, received a \$125 cash prize, a certificate of achievement, and his artwork

featured on the South Dakota Arbor Day Poster Contest Calendar. Jai Shawn's teacher, Arlene Hicks, received \$175 for the purchase of educational supplies. The second and third place winners were Ali Wieczorek of Corsica-Stickney Elementary in Stickney and Jaden Eckmann of O.M. Tiffany Elementary School in Aberdeen. Ali received a \$100 cash prize and a certificate. Jaden received a certificate of achievement and a \$75 cash prize. The contest is sponsored by the South Dakota Department of Agriculture, the South Dakota Arborists Association, and Dakotas Society of American Foresters.

Arbor Day Calendar

The Arbor Day Poster Contest Calendar is a collection of artwork of the top 12 winners from around the state. The calendar is a way to recognize the winners as well as promote and celebrate Arbor Day and the many benefits trees provide.



Pictured: Jai Shawn Quick Bear's winning Arbor Day poster for 2018. To see the other winning poster or receive an Arbor Day calendar visit our webpage or contact Rachel Ormseth at 605.773.3594.



According to the Arbor Day Foundation, the Tree City USA program has been greening up cities and towns across America since 1976. It is a nation-wide movement that provides the framework necessary for communities to manage and expand their public trees. More than 3,400 communities in the US have made the commitment to becoming a Tree City USA.

Tree City USA is a community improvement and national recognition program for cities and towns that meet established standards and effectively manage their public tree resources. The program is sponsored by the Arbor Day Foundation and the US Forest Service at the national level, and by the division at the state level. To qualify for Tree City USA designation, a community must meet four standards:

1. Organize a community tree board to oversee the community forestry program;
2. Establish and enforce an effective community tree ordinance;
3. Implement a community forestry program funded by a minimum of \$2.00 per capita; and
4. Celebrate Arbor Day with an official proclamation and organized observance.

In South Dakota, there were 33 Tree City USA communities and 4 Tree Campus USA in 2017.

2017 South Dakota Tree City USA Statistical Data

Number of Tree City, USA Communities:	33
Recertification rate:	100%
Percent of population living in a Tree City, USA:	53.67%
Largest Tree City, USA community (178,500):	Sioux Falls
Smallest Tree City, USA community (63):	Wood
Funds spent by communities on community forestry management:	\$3,650,262.98
Average per capita spent on community forestry programs:	\$7.82

Project Learning Tree

South Dakota Project Learning Tree Inc. (SDPLT) is the cornerstone of environmental education in our state and is recognized as a premier environmental education program. SDPLT provides formal and non-formal educators with the tools they need to bring the environment into their lessons with students. The activities and materials provide the youth with an understanding of how to think, not what to think, about our environment and natural resources. SDPLT provides opportunities to investigate environmental issues and encourages informed, responsible decisions. Our complex environment can be better understood with critical thinking skills, service-learning, and inquiry-based activities found in *Environmental Experiences for Early Childhood* guide, SDPLT Basic Guide (PreK through 8th grade) and the five secondary educational modules. SDPLT has been active in advisory committees, editing materials, and test piloting the SDPLT guides. All of the guides are written by educators and professional resource managers and meet national and state academic standards.

In 2018, SDPLT was able to reach approximately 7,150 students in South Dakota under the leadership of Tracy Sigdestad. In addition, over 5,500 other students and community members were reached through annual events and other Environmental Education opportunities. On top of that, Tracy trained 118 new educators in 2018.

Pictured below from left to right: Earth Day in the Northern Hills, Lakota Kids Camp, A Learning in Nature Workshop
All photos credited to Tracey Sigdestad with SDPLT.



The following workshops/training sessions were completed during FY2018:

- 16 workshops for pre-school, k-8, and early childhood development;
- Envirothon Competition in Sioux Falls from April 29 to 30 with RCF Foresters Jon Livermore and Rachel Ormseth
- SDPLT gave many students from Northern Hills schools and the Boys & Girls Clubs of the Black Hills the opportunity to participate in Earth Day and Arbor Day

Other activities:

- State Coordinator, Tracy Sigdestad, attended the National Coordinator's Conference in Cody, Wyoming
- Three Lakota Kid's Camp in Canyon Calm
- SDPLT held two "Walk in the Forest events, one in the Spring and one in the Fall; and
- Annual 5th Grade Science Day in the Canyon with Spearfish school district

Resource Conservation

The purpose of the resource conservation program is to provide for the conservation of soil and water resources within the state; to prevent or control soil erosion; to prevent or minimize flood damage, and to conserve, develop, utilize, and preserve the natural resources of this state (South Dakota Codified Law § 38-7-1). In addition, the Division provides administrative and technical assistance to the State Conservation Commission and conservation districts to implement the goals within the Coordinated Plan for Natural Resources Conservation <https://sdda.sd.gov/legacydocs/Forestry/publications/PDF/Coordinated-Plan-Final.pdf>.



Left: Field windbreak in Davison County .
Right: Water development project.



Revolving Loan Fund Program

Loans can be made to conservation districts or watershed districts for securing, by purchase or otherwise, necessary equipment, trees and other plant materials, and supplies needed to further their programs. Loans are made at three percent interest per annum. One loan was made in FY2018:

FY2018 Loans:

Conservation District	Loan Amount	Project Description
Grant	\$45,585.00	Tractor
Total	\$45,585.00	-

Conservation District Assistance

In FY2018, program staff made 438 grant and loan program assists, 48 non-grant related assists. .

Conservation Grants

During FY2018, 48 grant applications were received requesting over \$1.4 million. The Conservation Commission awarded funding to 40 projects for a total of \$689,759 (pages **21-22**) to support the goals and objectives found within the Coordinated Plan for Natural Resources Conservation.

Conservation Commission

Division staff support to the State Conservation Commission in 2018 consisted of revising the grant cost-share docket; implementing the goals and objectives outlined in the Coordinated Plan for Natural Resources Conservation; review and presentation of the Soil Conservation Award Program applications,

assist with the review and update to the Conservation District Supervisor Orientation Manual, forwarding two conservation district name change requests, and updating the commission's annual priorities and work plan. The commission met with multiple conservation agencies and groups to identify priorities and shared visions for natural resource conservation consistent with the South Dakota Coordinated Plan for Natural Resources Conservation.

Funding

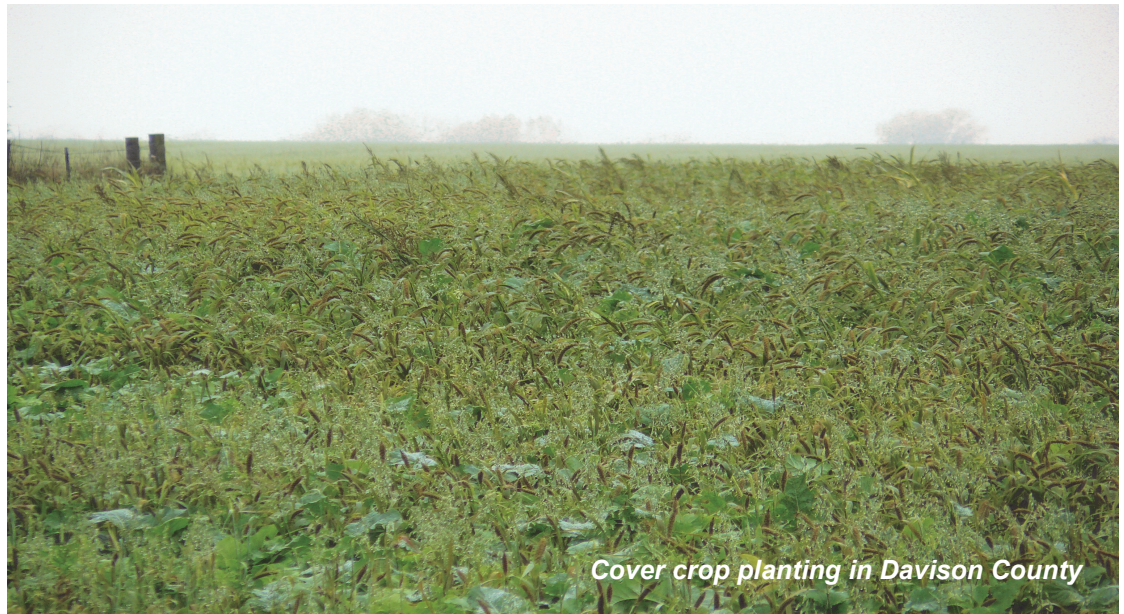
House Bill 1215, passed during the 2011 State Legislative Session, repealed the refund provisions of the motor fuel tax, and declared that \$500,000 would be deposited annually into the conservation grant program fund.

General Accomplishments

Conservation program staff drafted news releases, participated in the National Association of Conservation Districts (NACD) Farm Bill Task Force, participated in the Annual meeting of the NACD, participated in the NACD Northern Plains Region Leaders meeting, and conducted the state conservation speech contest.

Multi-District Projects

Sixteen projects involving 66 partnerships between conservation districts were funded in FY2018. These projects included sharing technicians, grassland and wetland improvement, multi-district information and education, and shelterbelt establishment.



Cover crop planting in Davison County

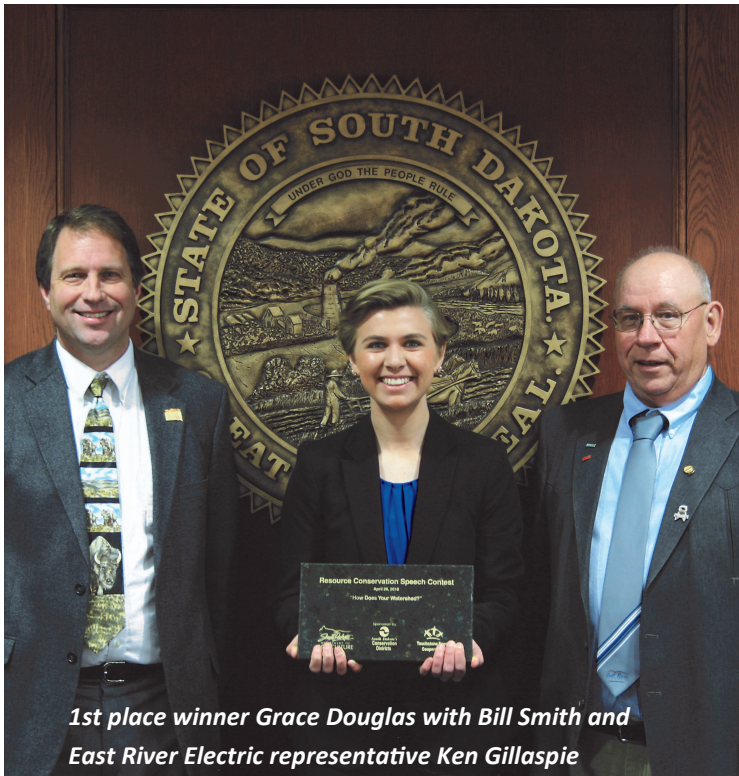
Soil Conservation Award Program

The Soil Conservation Award Program was created by the 2008 State Legislature to recognize exceptional farming and ranching practices that conserve soil and other natural resources in South Dakota. Producers utilizing grassed waterways, terraces, crop rotations, sufficient crop residue to protect soil stability, no-till, grasslands managed for sustainable productivity, livestock management to limit soil and nutrient runoff, or forest lands managed according to a forest stewardship plan are eligible for the award. In FY2018, two producers nominated by two conservation districts received the award.

District Supervisor Accreditation Program

Program staff administers a set of eleven training modules for an online Conservation District Supervisor Accreditation Program. Beginning in fiscal year 2010, staff has been working cooperatively with South Dakota Association of Conservation Districts to develop the online training program to make Conservation District Supervisors aware of the history of the conservation movement, the roles and responsibilities of district supervisors, and legal issues important to conservation districts. South Dakota State University provides the computer network for the online training program. The National Association of Conservation Districts recognized South Dakota's program at their annual conventions in 2011 to 2018. For more information, see: <http://sdda.sd.gov/conservation-forestry/district-tools/supervisor-modules/>.

56th Annual Resource Conservation Speech Contest



1st place winner Grace Douglas with Bill Smith and East River Electric representative Ken Gillaspie

The 57th annual State Finals of the Resource Conservation Speech Contest was held at the State Capitol on Saturday, April 28, 2018. The theme of this year's contest was "How Does Your Watershed?" Eight high school students from across South Dakota competed at the state level. Placing first and receiving a \$1,100 scholarship was Grace Douglas. Douglas was sponsored by the South Brown Conservation District and is a senior at Aberdeen Central High School. She is the daughter of Wade and Sara Douglas. Placing second and receiving a \$750 scholarship was Hannah Hetland. Hetland was sponsored by the Davison County Conservation District and is a sophomore at Mitchell High School.

She is the daughter of Paul and Deanna Hetland of Mitchell. Receiving third and a \$450 scholarship was Radley Reichert. Reichert was sponsored by the Pennington Conservation District and is a sophomore at New Underwood High School. She is the daughter of Monte and Lori Reichert of New Underwood.

Scholarships totaling \$2,300 for the winners were provided by Touchstone Energy Cooperatives of South Dakota. The contest is cosponsored by the South Dakota Department of Agriculture, the U.S. Fish & Wildlife Service, and the South Dakota Association of Conservation Districts.

To read the winning speeches and view pictures of the contestants, please visit: <http://sdda.sd.gov/conservation-forestry/educational-programs/resource-conservation-speech-contest/>

Next year's theme is "Ag Technology: Farming & Ranching for a Future." For more information, contact your local conservation district office or SDDA at 605.773.3623.



Shelterbelt renovation planting

Rural Forestry

Established through the 1990 Farm Bill, the Forest Stewardship Program (FSP) encourages private forest landowners to manage their lands using professionally prepared forest stewardship plans. These plans consider and integrate forest resources, including timber, wildlife and fish, water, aesthetics, and all associated resources to meet landowner objectives. Utilizing the Stewardship Program through preparation of forest stewardship plans is a key strategy to address multiple threats in the State Forest Action Plan. This strategy also aligns with all three national themes that guide the Forest Action Plan. In South Dakota, since 1990, there have been 1,220 plans written covering almost 91,000 acres of forestland. Current forest stewardship plans are new, or have been revised or updated within the last ten years, as recorded in the USFS Stewardship Mapping and Reporting Tool (SMART). There are 140 current stewardship plans in South Dakota covering 40,333 acres of private lands.

The 2010 State Forest Action Plan established a set of priority areas for emphasis that includes all ownerships: federal, state and private. In FY2017, RCF updated the state's priority areas as part of an ongoing multi-year effort to update the Forest Action Plan. The FSP only applies to rural private lands, and therefore focuses on a subset of the state's priority areas with stewardship potential. Private lands classified as having high stewardship potential correspond to private lands within state priority areas, but outside of municipalities. There are 1,323,861 acres of private lands with high stewardship potential in South Dakota, of which 37,540 acres are covered by current forest stewardship plans.



Little Spearfish Creek



Nationally, the USDA Forest Service finances and administers FSP through the State and Private Forestry Program. In South Dakota, the Division of Resource Conservation and Forestry administers the program with guidance provided by the State Forest Stewardship Coordinating Committee. FSP funding from the Forest Service is matched dollar for dollar with State general funds that support the division.

In addition to forest stewardship plan preparation, FSP is the primary source of funding for forest management technical assistance provided by the division.

Stewardship Plans

In FY2018, the division prepared or approved 15 new forest stewardship plans for private landowners covering 1,594 acres. Seven forest stewardship plans were updated covering 7,943 acres. Each year, a random sample of the current forest stewardship plans are monitored to determine if the landowner is implementing practices as recommended in their plan. This activity satisfies the monitoring requirements of the Forest Stewardship Program, and helps accomplish monitoring needs identified in the state's Forest Action Plan. The FY2018 monitoring sample showed a 100% plan implementation rate.

Agroforestry Assistance

Foresters reviewed and approved 111 agroforestry tree planting plans for cost-share by the State Conservation Commission. Tree plantings support the State Forest Action Plan strategies of expanding species diversity and providing a younger age class of trees to offset over-mature and dying trees that are rendering windbreaks ineffective.



Non-commercial Thinning

Non-commercial thinning helps private forest landowners implement their forest stewardship plans, and address the threats outlined in the State Forest Action Plan. Thinning improves the health and vigor of remaining trees. They grow faster, and are more resistant to insect attack. Treating the fuels by burning or mulching can significantly reduce the hazards of wildfire.



Division service foresters administer cost share assistance from two programs that help private forest landowners thin their non-commercial forest lands. The USDA Natural Resources Conservation Service's (NRCS) Environmental Quality Incentive Program (EQIP) and the South Dakota Coordinated Plan for Natural Resource Conservation Program provided funds to private forest landowners for timber stand improvement projects. The NRCS also provided funds to the division to administer the EQIP forestry practices. Technical assistance for the Conservation Commission thinning grants and projects that receive no cost share came from FSP funding. NRCS and FSP funds are matched dollar for dollar with State general funds that support division activities.

Written prescriptions for 28 non-commercial projects were prepared and resulted in the improvement of 454 acres of pine and hardwood stands. EQIP funding supported 21 of the projects covering 355 acres, six were funded by Conservation Commission grants covering 53 acres, and 1 project covering 53 acres received no cost share assistance.

Windbreak Condition Project

In 2016 the Windbreak Condition Project started with eight counties surrounding Davison County. In 2018 an additional eight counties were selected for this project surrounding Minnehaha County. The Windbreak Condition Project utilizes Geographic Information Systems (GIS), remote sensing Techniques, and field survey methods to identify windbreak locations and assess the primary function and condition of the windbreaks in eight different counties in South Dakota.

In 2018, the Windbreak Condition Project targeted Moody, Lake, McCook, Minnehaha, Lincoln, Union, Clay, and Turner. The RCF GIS specialist analyzed images from the 2014 National Agriculture Imagery Program to identify windbreak locations. The following criteria were used to select the windbreaks for ground truthing:

- Geographic stratification
- Common vs. uncommon windbreak designs
- Minimum sample allotment and priority for substitute units
- Maps for locating sample units

Great Plains Initiative (GPI2)

In 2018 the Great Plains initiative (GPI2) started with a two phase plan. The 1st phase uses remote sensing and geographic information systems (GIS), combined with on-the-ground evaluations to assess the extent and condition of windbreaks across Kansas, Nebraska, South Dakota, and North Dakota. Phase two will use remote sensing and geographic information systems (GIS), combined with on-the-ground evaluations, assess the extent and condition of riparian buffers across the four states.

In 2018, the ground evaluations for Phase one started in each county in South Dakota except those included in the Windbreak Condition Project. Each county will have ten windbreaks evaluated from the roadside and 1 windbreak will receive an in-depth measurement. In-depth measurements will include tree species, heights, tree diameter, condition of the windbreak, and windbreak porosity. The ground evaluations for each county in South Dakota will be completed in FY2019.

Tree Farm Program

The American Tree Farm System is a recognition and forest certification program for private landowners. Landowners must own at least 10 contiguous acres of forest land to be eligible for the program. South Dakota is one of 42 state programs. The American Tree Farm System has been endorsed by the Programme for the Endorsement of Forest Certification (PEFC), the world's largest forest certification system. Forest certification ensures, through independent third party assessments, sustainable management of forest land. The division provides technical assistance to Tree Farmers, certification inspections, and administrative assistance to the South Dakota Family Forests Association, which implements the Tree Farm Program in the state. There are 124 Tree Farms in the state covering 20,533 acres. Division foresters completed 14 of the 27 Tree Farm inspections in FY2018, recertifying 4,018 acres.



In fiscal year 2007, the South Dakota Tree Farm Committee, now the South Dakota Family Forest Association, established a program to help landowners hire consulting foresters to prepare forest stewardship plans for their property. The program is funded by RCF and Neiman Enterprises. Landowners are required to pay at least 25% of the cost of the plan preparation. At the end of FY2018, 46 plans were completed covering 7,433 acres. The total of the cost assistance provided for the completed plans is \$37,952.

Doris McDill, who owns property in the outside of Custer, South Dakota won the 2018 Tree Farmer of the Year award. McDill Tree Farm property includes about 130 acres of forest land. Doris was selected based on over 15 years of active sustainable forest management on her property. Doris has completed 7 pre-commercial thinning projects, a commercial harvest, as well as 7 consecutive years of mountain pine beetle sanitation work on her property.

Information and Education

The division partnered with multiple cooperating agencies to provide two landowner workshops in FY2018. A July workshop targeted focused on managing Ponderosa pine and the different wildlife habitats of the Black Hills. The May workshop focused on the importance of proactive forest management for wildfire protection. Both workshops were held on certified tree farm properties and included walking tours of different areas of interest for workshop attendees. Overall, about 65 people attended the workshops.

In September the division hosted a windbreak training in Murdo. It was attended by 37 people from the Natural Resource Conservation Service (NRCS) and Conservation Districts (SDDA). The training was a two day event that discussed different windbreak designs for protecting livestock, improving wildlife habitat, and renovating shelterbelts. There was also a presentation about insects and diseases that may affect windbreaks. A field activity was held which divided the class into seven groups. Each group was required to design a windbreak using different criteria and specifications.

Forest Health

Forest health management in South Dakota encompasses a wide array of growing conditions, management practices, and host species. The Division of Resource Conservation and Forestry provided more than 927 technical assists to private landowners, conservation districts, state parks, and cooperative extension personnel. These technical assists are targeted at threats identified in the South Dakota Forest Action Plan. Other strategies used to address identified threats include educational materials and presentations, pest surveys, and preventative pest management.

Many of these assists involved issues dealing with individual landowner trees, windbreaks, and shelterbelts. The results of diagnoses on current pest problems were communicated through the weekly Pest Update located on the division's website (<http://sdda.sd.gov/conservation-forestry/tree-pest-alerts/>).

The Pest Update had nearly 1,750 unique views in fiscal year 2018. A link to the update is sent directly to individuals associated with Agriculture extension services, conservation districts, the Department of Game, Fish and Parks, and the general public in and outside of South Dakota.

A total of 27 pest bulletins with information on common insects and diseases and management or treatment methods were reviewed and updated with current information in FY2018 and can be found on the division's website (<http://sdda.sd.gov/conservation-forestry/pests-insects-diseases/>)



Sawmill Trapping Initiative & Community Assistance through Trapping

The division continued to place funnel traps for pine engraver beetles and mountain pine beetles at the three larger sawmills in the Black Hills area, including Spearfish Forest Products, Rushmore Forest Products, and Baker Timber Products. In total, 48 funnel traps are placed, and monitored throughout the summer and early fall months. No communities requested assistance in trapping for bark beetles in FY2018.

In response to the Legion Lake Fire, 90 traps were placed in Custer State Park (CSP) to monitor beetle populations throughout the summer, and to reduce potential impacts from increased beetle activity in fire-stressed trees. These traps were strategically placed throughout, and surrounding the burn area in CSP.

Legion Lake Fire State Emergency Response Team (SERT)

In December of 2017, the third largest fire in recorded state history burned over 54,000 acres in the Black Hills. The Legion Lake Fire began near the Legion Lake Lodge in CSP, and spread south and east onto private, land, and into Wind Cave National Park before being contained. The fire spread rapidly due to high winds and dry weather conditions, and caused extensive resource damage.

Division personnel participated with other state and federal natural resource specialists on a burned area emergency response (BAER) team for the lands impacted. The team included foresters, hydrologists, geologists, range specialists, conservationists, fire managers, and biologists from the division, Game, Fish and Parks, Natural Resource Conservation Service (NRCS), Wind Cave National Park, the US Geological Survey (USGS), and CSP.



The BAER team addressed several threats identified in the South Dakota Forest Action Plan related to water quality, weeds, insects & disease, erosion, and wildlife habitat. The division completed a forest damage assessment, and made recommendations for mitigating the impacts on the forest from the fire.

The final report and recommendations were presented to the CSP manager and the State Forester in early spring, 2018. Over 6,200 acres within CSP were targeted for timber salvage operations, and harvesting was completed by early summer 2018. Over 12,000 loads of logs were removed due to fire mortality. In addition to timber salvage, weed mitigation, additional water storage, and several miles of livestock fence repair also took place following the fire.

Private landowners impacted by the fire also received technical assistance from division personnel regarding potential forest management opportunities.

Information and Education

The division presented five Emerald Ash Borer (EAB) workshops in Sioux Falls following the insect's discovery and confirmation. Each of these five workshops attracted over 100 people, at the Outdoor Campus at Sioux Falls. These workshops covered how to treat an ash to prevent it from becoming infested and once it is already infested, ways to diversify the tree population in your neighborhood, and what the rules and regulations are surrounding cutting and moving ash wood within the quarantine area.

Two forest health workshops were held for the public related to thinning for fuels reduction (Fall River County), and how to care for the trees in your own backyard (Rapid City). The workshop in Fall River County was collaboration between the division, Custer and the Fall River Conservation Districts, the US Forest Service, and Wildland Fire. These workshops attracted about 20 people, and included a site tour of the Wood Ranch near Hot Springs highlighting positive examples of proactive forest management. The workshop in Rapid City attracted about 30 people and covered commonly seen pests and diseases of trees in urban landscapes, how to treat them, how to plant a tree, what trees to plant, and community resources available to homeowners.

"Don't Move Firewood" posters were distributed throughout the State to campgrounds, rest areas, and recreational sites. Over 1,600 posters were sent, and new posters were created for use in FY2019.

Invasive Species

Emerald Ash Borer

Emerald ash borer (EAB) was confirmed in northern Sioux Falls in May 2018. Immediately following its discovery, division personnel travelled to Sioux Falls to inventory the extent of the infestation, and complete delimiting surveys to determine how far the insect has spread across the community. Approximately 250 trees were identified as infested with EAB, and the extent of the infestation was limited to an area covering a few blocks in northern Sioux Falls.

Branch sampling of some of the infested trees, and subsequent dendrochronology work indicate the insect has been present in Sioux Falls for at least four years. A quarantine on the movement of all hardwood firewood was put in place by SDDA Agriculture Services immediately following the EAB confirmation, which included all of Minnehaha County. Northern Lincoln and northeastern Turner counties were included to allow for disposal of ash wood where it can be utilized as a product within the quarantine area. The City of Sioux Falls put an immediate halt on the cutting of any ash between Memorial Day and Labor Day to reduce the likelihood of spreading the insect within the community.



The division held multiple workshops to inform the public of the impact EAB will have on the community of Sioux Falls, and eventually the entire state. Purple funnel traps were placed within the area of known infestation, and the surrounding neighborhoods. Adult beetles were only captured in traps that were hung in trees known to be infested.

Dutch Elm Disease

Two Dutch elm disease (DED) surveys were conducted by division personnel in the towns of Selby and Britton at the request of city officials. Personnel identified 13 DED trees in Britton in and 12 DED infested trees in Selby in FY2018. Division personnel also responded to requests for identification of DED on a case-by-case basis.

Gypsy Moth

The gypsy moth monitoring program was conducted as a cooperative effort with the USDA Animal and Plant Health Inspection Service (APHIS) and the South Dakota Cooperative Extension Service. The gypsy moth is a defoliating insect that was introduced into New England from Europe in the 1860s. It has since spread into deciduous forests throughout the eastern United States and is now established in Wisconsin and Minnesota. The Division placed 66 traps in rest areas, campgrounds, and recreation sites in the spring of 2018. One trap placed by division personnel yielded a positive catch at a rest area near the Minnesota border.

Weed & Pest Grants

In FY2018 forest health closed out weed and pest grants totaling over \$16,000 to two County Weed & Pest agencies for treating weeds adjacent to National Forests and Grasslands. This included \$12,927.87 awarded to Fall River County, and \$3,372.51 was awarded to Lyman County. An additional \$10,000 was awarded to Pennington County for treating weeds, and \$20,000 to Custer State Park. These awards were not closed by the end of FY2018.



Mountain Pine Beetle

Since 1996, the mountain pine beetle epidemic has dramatically affected the ponderosa pine forest of the Black Hills. The beetle is a native insect and well adapted to the natural conditions of the region. The Black Hills experienced widespread epidemics in the 1890s, 1940s, 1970s, and the present.

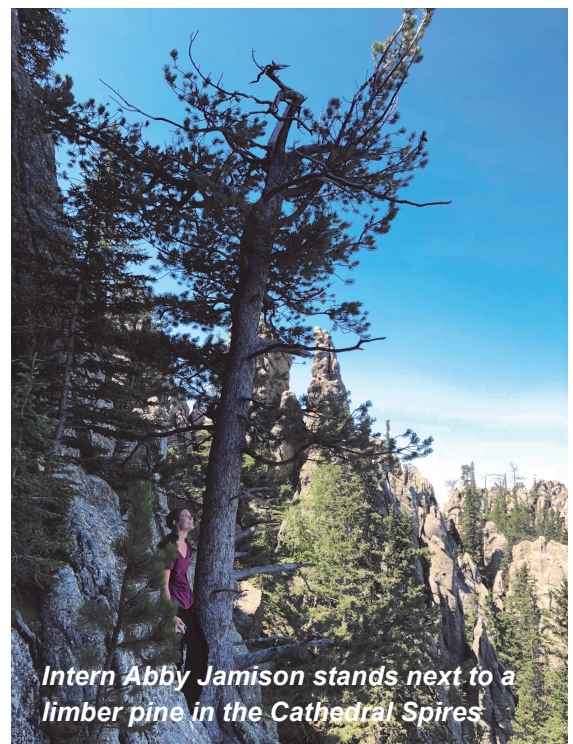
Bark Beetle Prevention in Custer State Park

In addition to the trapping efforts following the Legion Lake Fire, another year of preventative spraying for mountain pine beetle and pine engraver beetle was completed within CSP. Over 1560 trees were targeted for spraying including high value (large) trees near campgrounds, resorts, and private cabins within the park.

Verbenone were placed on the limber pine in the Cathedral Spires area of CSP. Verbenone is an anti-aggregate pheromone used to deter mountain pine beetles from infesting a tree. These pheromones communicate to the beetles that the tree is already saturated with beetles, and there is essentially no vacancy for additional beetles. The relic stand of limber pine in the Cathedral Spires of CSP is considered a National Natural Landmark by the National Park Service and is the only surviving stand of limber pine in South Dakota.



Buzzard's Roost in the Black Hills



Intern Abby Jamison stands next to a limber pine in the Cathedral Spires

Financial Assistance

County	Grant Recipient	Program	Awarded	Local Match	Other Funding	Total Project Costs
Beadle	Beadle Conservation District	CSW	\$ 14,000.00	\$ 21,417.00	\$ -	\$ 35,417.00
	Beadle Conservation District	CSW	\$ 22,000.00	\$ 79,928.00	\$ -	\$ 101,928.00
	Beadle Conservation District	CSW	\$ 3,125.00	\$ 8,700.00	\$ 19,700.00	\$ 31,525.00
	City of Huron	UCF	\$ 1,000.00	\$ 262.50	\$ -	\$ 1,262.50
Bennett	Bennett Conservation District	CSW	\$ 30,000.00	\$ 33,036.00	\$ -	\$ 63,036.00
Brown	City of Aberdeen	UCF	\$ 1,500.00	\$ 1,500.00	\$ -	\$ 3,000.00
Brule-Buffalo	Brule-Buffalo Conservation District	CSW	\$ 15,000.00	\$ 16,000.00	\$ -	\$ 31,000.00
	Brule-Buffalo Conservation District	CSW	\$ 7,000.00	\$ 7,000.00	\$ -	\$ 14,000.00
Butte	Butte Conservation District	CSW	\$ 5,000.00	\$ 25,000.00	\$ -	\$ 30,000.00
	Butte Conservation District	CSW	\$ 20,000.00	\$ 30,500.00	\$ -	\$ 50,500.00
	Butte Conservation District	CSW	\$ 20,000.00	\$ 59,500.00	\$ -	\$ 79,500.00
Charles Mix	Charles Mix Conservation District	CSW	\$ 15,000.00	\$ 16,280.00	\$ -	\$ 31,280.00
	Charles Mix Conservation District	CSW	\$ 15,000.00	\$ 16,000.00	\$ -	\$ 31,000.00
Codington	Lake Area Zoological Society	UCF	\$ 2,500.00	\$ 2,500.00	\$ -	\$ 5,000.00
Custer	Custer State Park	WPC	\$ 20,000.00	\$ 20,000.00	\$ -	\$ 40,000.00
	Custer Conservation District	CSW	\$ 10,000.00	\$ 10,000.00	\$ -	\$ 20,000.00
Davison	Davison Conservation District	CSW	\$ 11,500.00	\$ 10,000.00	\$ -	\$ 21,500.00
	Davison Conservation District	CSW	\$ 16,000.00	\$ 16,000.00	\$ -	\$ 32,000.00
	Davison Conservation District	CSW	\$ 52,500.00	\$ 110,000.00	\$ 15,000.00	\$ 177,500.00
	Davison Conservation District	CSW	\$ 10,000.00	\$ 10,000.00	\$ -	\$ 20,000.00
Day	Day Conservation District	CSW	\$ 25,000.00	\$ 119,775.00	\$239,730.00	\$ 384,505.00
Deuel	Deuel Conservation District	CSW	\$ 2,500.00	\$ 2,500.00	\$ -	\$ 5,000.00
Douglas	Douglas Conservation District	CSW	\$ 12,319.98	\$ 12,319.98	\$ -	\$ 24,639.96
Gregory	Gregory Conservation District	CSW	\$ 55,000.00	\$ 55,000.00	\$ -	\$ 110,000.00
Hamlin	Hamlin Conservation District	CSW	\$ 14,477.00	\$ 28,303.00	\$ -	\$ 42,780.00
	Hamlin Conservation District	CSW	\$ 6,200.00	\$ 6,200.00	\$ -	\$ 12,400.00
	Hamlin Conservation District	CSW	\$ 40,000.00	\$ 112,500.00	\$ -	\$ 152,500.00
	Hamlin Conservation District	CSW	\$ 11,459.00	\$ 13,713.00	\$ -	\$ 25,172.00
Hanson	Hanson Conservation District	CSW	\$ 9,000.00	\$ 9,000.00	\$ -	\$ 18,000.00
	Hanson Conservation District	CSW	\$ 10,000.00	\$ 11,800.00	\$ -	\$ 21,800.00

Financial Assistance Cont.

County	Grant Recipient	Program	Awarded	Local Match	Other Funding	Total Project Costs
Hughes	City of Pierre	UCF	\$ 1,000.00	\$ 1,036.50	\$ -	\$ 2,036.50
	Hughes Conservation District	CSW	\$ 15,000.00	\$ 18,937.00	\$ -	\$ 33,937.00
Hyde	Hyde Conservation District	CSW	\$ 10,000.00	\$ 10,428.00	\$ -	\$ 20,428.00
Jackson	City of Kadoka	UCF	\$ 600.00	\$ 551.75	\$ -	\$ 1,151.75
Jones	Jones Conservation District	CSW	\$ 20,000.00	\$ 52,667.00	\$ -	\$ 72,667.00
Lake	Lake Conservation District	CSW	\$ 15,000.00	\$ 22,408.00	\$ -	\$ 37,408.00
Marshall	Marshall Conservation District	CSW	\$ 75,000.00	\$ 170,315.00	\$ -	\$ 245,315.00
McCook	City of Salem	UCF	\$ 1,000.00	\$ 1,000.00	\$ -	\$ 2,000.00
Meade	City of Piedmont-Park Board	UCF	\$ 2,500.00	\$ 2,494.33	\$ -	\$ 4,994.33
Mellette	Mellette Conservation District	CSW	\$ 15,000.00	\$ 15,000.00	\$ -	\$ 30,000.00
Miner	Howard High School	UCF	\$ 2,000.00	\$ 2,000.00	\$ -	\$ 4,000.00
	Miner Conservation District	CSW	\$ 1,000.00	\$ 1,000.00	\$ -	\$ 2,000.00
	Miner Conservation District	CSW	\$ 10,000.00	\$ 10,997.00	\$ -	\$ 20,997.00
Moody	Moody Conservation District	CSW	\$ 14,875.00	\$ 29,622.00	\$ -	\$ 44,497.00
Pennington	Pennington Weed and Pest Board	WPC	\$ 10,000.00	\$ 10,000.00	\$ -	\$ 20,000.00
	Pennington Conservation District	CSW	\$ 12,299.00	\$ 12,299.00	\$ -	\$ 24,598.00
	SD Project Learning Tree	SPC	\$ 12,000.00	\$ 12,000.00	\$ -	\$ 12,000.00
Perkins	Perkins Conservation District	CSW	\$ 30,000.00	\$ 57,628.00	\$ -	\$ 87,628.00
	Perkins Conservation District	CSW	\$ 15,000.00	\$ 1,000.00	\$ 14,000.00	\$ 30,000.00
Roberts	Roberts Conservation District	CSW	\$ 2,500.00	\$ 2,500.00	\$ -	\$ 5,000.00
Sanborn	Sanborn Conservation District	CSW	\$ 2,000.00	\$ 2,000.00	\$ -	\$ 4,000.00
Todd	Bartlett Community Visions	UCF	\$ 1,000.00	\$ 1,000.00	\$ -	\$ 2,000.00
Totals			\$744,854.98	\$1,301,618.06	\$288,430.00	\$2,322,903.04

Programs Guide:

CSW 	Coordinated Natural Resources Conservation Grant	SPC 	Special Project Grant
WPC 	Weed and Pest County Grant	UCF 	Urban and Community Forestry

For additional copies of this report contact the division office in Pierre at:

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