

Fiscal Year 2016 Annual Report

Division of Resource Conservation and Forestry



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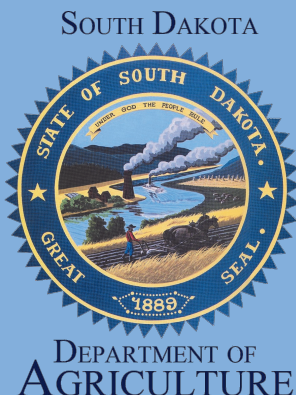
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Photo credit:
SD Department of Tourism



The Division of Resource Conservation and Forestry

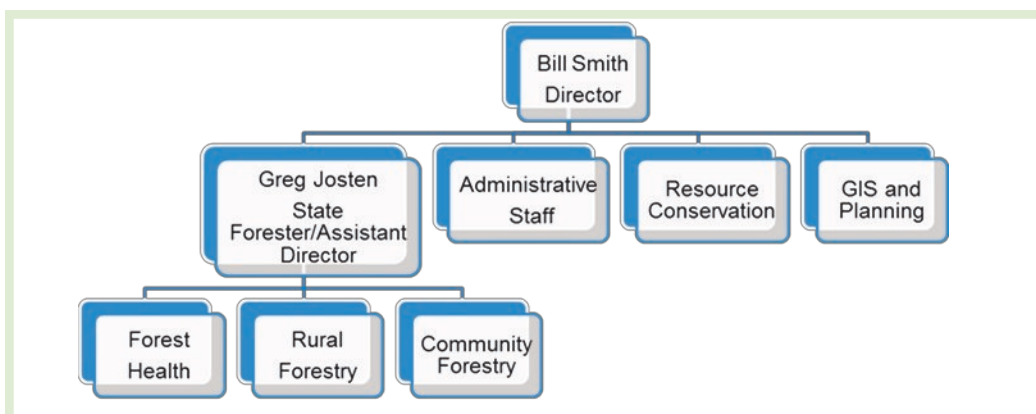
The mission of the Division of Resource Conservation and Forestry is to conserve, protect, improve, and develop the natural resources of South Dakota for its citizens.

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 (RCF) programs are designed to provide direct technical assistance and advice to private landowners concerning their forests and other trees. We work with farmers, ranchers, rural homeowners, and urban dwellers to select the best location and tree/shrub species to plant on their property, resolve problems with trees, and to provide a better and safe habitat for all citizens. This report highlights our accomplishments and special projects in Fiscal Year 2016 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 the Team

Resource Conservation & Forestry

In FY 2016, the Resource Conservation and Forestry Division welcomed three new team members, Josh Larson, Jon Livermore, and Marcia Tubbs. Josh Larson is the Rapid City Urban Forester. Jon Livermore is the Watertown Urban Forester. Marcia Tubbs is the Senior Secretary and Webmaster for the Rapid City office. Please read below to learn more about our new team members.



Josh Larson, Rapid City Urban Forester

Josh was born in Litchfield, Minnesota but has lived all over Minnesota and Alaska while growing up. He attended the University of Minnesota Crookston and received a Bachelor's degree in Natural Resources Management. Graduating in 2010, he spent a few years working seasonal positions for a variety of different agencies. These positions ranged from park ranger to exotic plant management and also wilderness trail maintenance. Josh joined the division as the new community forester in Rapid City in September of 2015.

Jon grew up in rural North Central Iowa, where he married his high school sweetheart, Rachel. He graduated from Iowa State University with a Bachelor's Degree in Forestry in 2012. While in school, he spent each summer gaining valuable experience via internships with the Iowa Natural Heritage Foundation, The Conservation Corps of Minnesota, and working as a summer aide for Story County Conservation. While his wife finished up vet school, he worked for a landscaping company, where he was able to utilize much of his knowledge of trees. His hobbies include woodwork, taxidermy, fishing, hunting, gardening, and eating Chinese food. After moving to Clark South Dakota in June of 2015 for a veterinary job for his wife, he found the community forester position in Watertown. He has been enjoying the job, as well as the hunting and fishing opportunities South Dakota has to offer ever since.



Jon Livermore, Watertown Urban Forester



Marcia Tubbs, Senior Secretary - Rapid City Office

Marcia was born and raised in Michigan. She graduated with a Bachelor's in Business Administration from National American University. Marci was brought to South Dakota through her five and a half year enlistment with the US Air Force. During FY 2016, Marci joined the Rapid City team as Senior Secretary and Webmaster. She will be pursuing her Associates in Web Publishing in FY 2017.

SOUTH DAKOTA REGISTER OF BIG TREES



South Dakota's Largest Pin Oak (Sioux Falls, 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

2015 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 possible donations from locations 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 2015:

HEIGHT:

29 feet

TREE SPECIES:

Colorado blue spruce

ORIGIN:

Baltic, SD

DONATED BY:

Willette Reichert

DECORATED BY:

Zonta Club

THEME:

Christmas around the World



<http://christmasatthecapitol.sd.gov/>

<http://sdda.sd.gov/conservation-forestry/forest-woodlands-trees/big-tree-register/>



Falls Park in Sioux Falls—Picture from South Dakota Department of Tourism

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 community forestry team. Educational programs on tree selection, planting, health, and maintenance are available for communities, schools, and other organizations. The 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 Custer, Piedmont, and Hot Springs.

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 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 1-to-1 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.

The grants are reviewed and awarded quarterly. Thirteen grants totaling \$20,000 were awarded in FY 2016 (pages 24-25). These grant funds leveraged \$20,786.60 in local hard dollar and in-kind match.

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.



Photo taken by Josh Larson

Tree Boards

At the present time there are 116 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 FY2016, the division provided 173 technical assists to community governments, volunteer-service groups, and private citizens in 34 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 45 presentations and workshops. Thirty-two were 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 six 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

Tyrel Mansfield of Kadoka, Seth Schoon of White River, and Jensine Matson of Ramona are the winning essayists selected from the 1,228 entries in the 2016 Arbor Day Essay Contest.

Sponsored by South Dakota's 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, Mansfield received a plaque, \$100 in cash and a McDonald's lined jacket. Her school, Kadoka Elementary, received \$150 for the purchase of supplies or equipment.

Schoon, the second place winner, received a plaque and \$75 cash while Matson receives a plaque and \$50 for her third place essay.



Urban forester Jon Livermore presenting the importance of Arbor Day to elementary students.

Arbor Day Poster Contest

The first place winner, Summer Ryan, who attends O.M Tiffany Elementary in Aberdeen, received a \$100 cash prize, a certificate of achievement, and her artwork featured on the South Dakota Arbor Day Poster Contest Calendar. Summer's teacher, Mr. Kendall Hoellein, received \$100 for the purchase of educational supplies. The second and third place winners were Erin Quinn Uecker of Freeman Elementary in Freeman and MacKenzie Schweitzer of Stewart Elementary in Yankton, respectively. Erin received a \$75 cash prize and a certificate. MacKenzie received a certificate of achievement and a \$50 cash prize. The contest is sponsored by the division, the South Dakota Arborists Association, and Dakotas Society of American Foresters.



Pictured: Summer Ryan's winning Arbor Day poster for 2016.

To see the other winning posters or receive an Arbor Day calendar visit our webpage or contact Rachel Ormseth at 605-773-3594

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.



Planting of a Red Oak in Lead, SD

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, division foresters recertified 33 Tree City USA communities and 1 Tree Campus USA in 2016.

2016 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:	52.8%
Largest Tree City, USA community (173,000):	Sioux Falls
Smallest Tree City, USA community (70):	Wood
\$ spent by communities on community forestry management:	\$3,492,930.58
Average per capita spent on community forestry programs:	\$7.75

SOUTH DAKOTA

Project Learning Tree

South Dakota Project Learning Tree Inc. (SD PLT) is the cornerstone of environmental education in our state and is recognized as a premier environmental education program. SD PLT 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. PLT 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, PLT Basic Guide (Pre K through 8th grade) and the five secondary educational modules. South Dakota PLT has been active in advisory committees, editing materials, and test piloting the PLT guides. All of the guides are written by educators and professional resource managers and meet national and state academic standards.

Overall, 5,925 students benefitted from Project Learning Tree in FY 2016. There were 237 newly trained educators in 2016 with Tracy Sigdestad as the PLT Coordinator. Sigdestad started right before the beginning of Fiscal Year 2015. She will now have been coordinator for 2 years. Tracy has a Bachelors of Science in outdoor education from Black Hills State University and is working towards a graduate degree in sustainability.

Pictured below from left to right: 2016 Envirothon winners, Dakota Nature Center Workshop, A group of students on Kindergarten Nature Day



The following workshops/training sessions were completed during FY 2016:

- 11 workshops for pre-school, K-8, and early Childhood development
- Black Hills State University Science Method Workshop
- A workshop was held at the Dakota Nature Center in Brookings to train their seasonal staff-14 participants
- Joint workshop with GLOBE in Pierre and also a workshop for Pre K-8 teachers in Yankton– combined 25 participants
- SD PLT facilitated activities for two 4H summer day camps - 30 participants

Other activities:

- 2016 Early Childhood Conference, Rapid City-10 participants
- National PLT Coordinators Conference, Salt Lake City, Utah
- SD PLT was honored to be part of an Environmental Education Month held at the Outlaw Ranch in Custer, SD
- SD PLT had the opportunity to be involved in the South Dakota Envirothon
- SD PLT's most active facilitator, Jane Amiotte has reported that in 2016 she brought Environmental Education to over 140 classrooms utilizing much of PLT curriculum, reaching over 3,000 students from preschool through high school

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. The primary programs include: Revolving Loan Fund, conservation district programs, technical assistance, and the Coordinated Natural Resource Conservation Grant Program.



Left: Grazing management project .



Right: Shelterbelt enhancement project in Marshall County.

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.

FY2016 Loans:

Conservation District	Loan Amount	Project Description
Bennett	\$3,500	Grass drill parts
Deuel	\$17,000	Grass drill
Jackson	\$4,954	Fabric
Day	\$20,000	Tree spade
Grant	\$13,431	Grass drill
Total	\$58,885	-

Conservation District Assistance

In FY 2016, program staff made 549 grant and loan related program assists, 47 non-grant related assists.

Conservation Grants

During FY 2016, 60 grant applications were received and 39 projects were funded for a total of \$823,329 (pages 23-24).



Conservation Commission

Support to the State Conservation Commission in 2016 consisted of refining the grant application review approval process developed in FY 2009; revising the grant cost-share docket; implementing the goals and objectives outlined in the Coordinated Plan for Natural Resources Conservation; 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 resources conservation in South Dakota.

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 provided four print and radio news releases, participated in the National Association of Conservation Districts Farm Bill Task Force, participated as a "cooperating agency" for the Bureau of Land Management resource management plan revision, published newsletters to conservation districts, and conducted the state conservation speech contest.

Multi-District Projects

Twelve projects involving 57 partnerships between conservation districts were funded in FY 2016. These projects included sharing technicians, grassland and wetland improvement, and shelterbelt establishment.

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 FY 2016, four producers nominated by four conservation districts received the award.

District Supervisor Accreditation Program

Program staff has completed the final set of training modules for an online Conservation District Supervisor Accreditation Program. Beginning in FY 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 2016. For more information, see: <http://sdda.sd.gov/conservation-forestry/district-tools/supervisor-modules/>.

55th Annual Resource Conservation Speech Contest

The 55th annual State Finals of the Resource Conservation Speech Contest was held Saturday, April 23, 2016 at the state capitol in Pierre. The theme of this year's contest was "Why Manage Water for Conservation." Nine high school students from across South Dakota competed at the state level. Winning first place and a \$1,100 scholarship was Esther Swift sponsored by the Gregory Conservation District. Esther was a home-schooled senior and is the daughter of David and Fawn Swift of Burke, SD. Receiving second place and a \$750 scholarship was McKayla Carda, a sophomore at Aberdeen Central High School. She is the daughter of John and Brenda Carda of Aberdeen and was sponsored by the South Brown Conservation District. Receiving third place and a



Ken Gillaspie awarding first place to Esther Swift.

\$450 scholarship was Reina Grimsley sponsored by the Davison County Conservation District. She was a junior at Mitchell High School and is the daughter of Ron and Misty Grimsley of Mitchell. 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/winners-announced/speechwinner2016.aspx>

Next year's theme is "Soil Health: What Will You Leave?" For more information, contact your local conservation district office or SDDA at (605)773-3623.



Pictured above: Riparian fencing project in Day County.



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. In South Dakota, since 1990, there have been 1,176 plans written covering 80,155 acres of forestland. Current forest stewardship plans are new, or have been revised or updated within the last 10 years, as recorded in the USFS Stewardship Mapping and Reporting Tool (SMART). There are 127 current stewardship plans in South Dakota covering 35,472 acres of private lands.

The State Forest Action Plan approved in 2010 established a set of priority areas for emphasis that include all ownerships: federal, state and private. 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. All private lands outside municipalities that are included in state priority areas are classified as high stewardship potential lands. There are 1,323,861 acres of private lands with high stewardship potential in South Dakota, of which 19,252 acres are covered by current forest stewardship plans.

Nationally the USDA Forest Service finances and administers the FSP through the State and Private Forestry Program. In South Dakota, the division 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, the FSP is the primary source of funding for forest management technical assistance provided by the division.

Aspen stand on private land in the Black Hills



Stewardship Plans: In 2016, the division prepared or approved 8 new forest stewardship plans for private landowners covering 930 acres. seven forest stewardship plans were updated covering 3,091 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. Based on the 2016 monitoring sample, 100 percent of current plans are being implemented, and 100 percent of the acres covered by plans are being managed sustainably.

Agroforestry Assistance: Assistance and planning by division service foresters resulted in the planting of 152 new trees and shrubs on 1.7 acres for conservation purposes. Foresters reviewed and approved 146 agroforestry tree planting plans for cost-share by South Dakota Conservation Commission grants. Tree plantings support the State Forest Action Plan strategies by expanding species diversity and providing a younger age class of trees to offset over-mature and dying trees that are rendering windbreaks ineffective.



New windbreak planting adjacent to cropland

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.



Thinning operation on private land in the black hills .

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 Conservation Commission Coordinated Natural Resources Conservation Fund Grant 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 20 non-commercial projects were prepared and resulted in the improvement of 418 acres of pine and hardwood stands. EQIP funding supported 18 of the projects covering 398 acres, one was funded by

Conservation Commission grants covering 3 acres, and 1 project covering 17 acres received no cost-share assistance.

Windbreak Condition Project: The Windbreak Condition Project will utilize Geographic Information System (GIS) and remote sensing techniques and field survey methods to identify windbreak locations. The division will assess the primary function and condition of the windbreaks in eight different counties in South Dakota. Sites that are small blocks of trees within maintained lawns, naturally forested riparian areas, ditch/road banks and fence lines will be excluded from this project.

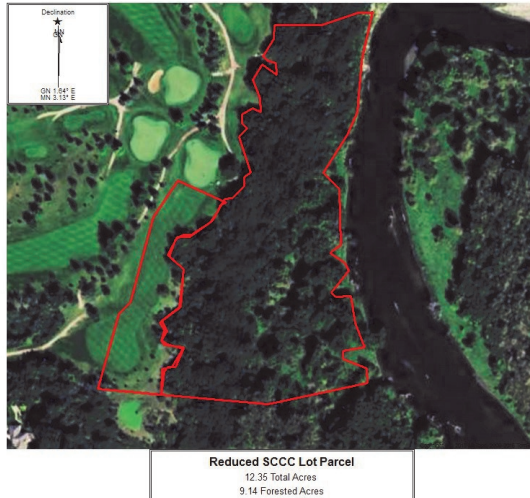
The Windbreak Condition Project will include the following counties in South Dakota: Aurora, Davison, Douglas, Hanson, Hutchinson, Jerauld, Sanborn, and Yankton. The Kansas State University, Kansas Forest Service (KFS) will provide imagery from the 2014 National Agriculture Imagery Program to identify windbreak locations. The following criteria will be 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

The Windbreak Condition Project will sample a minimum of 30 shelterbelts per county. If there is time up to 50 shelterbelts will be sampled. Data collected will justify the need for windbreak renovation.

In 2016, the ground truthing was completed for each of the eight counties. A total of thirty shelterbelts were measured in each county except for Yankton and Jerauld County. Yankton County had 25 belts measured and Jerauld County had 26 belts measured. The two counties had reduced participation due to missing landowners and landowners that did not want to be involved. There were a total of 231 belts measured, 11,626 trees recorded, and 4,218 shrubs logged between the eight counties. A rough outline of the data collected will be completed by the middle of December 2016.

Forest Legacy - Blood Run Project



During the 2013 Legislative session, Good Earth State Park at Blood Run became South Dakota's first newly created state park in 40 years. The USDA Forest Service Forest Legacy Program provided \$1.2 million along with matching funds from Forward Sioux Falls Foundation and South Dakota Department of Game Fish & Parks to purchase the land. Officially titled Good Earth State Park at Blood Run by the South Dakota Legislature, the property is located about one mile southeast of Sioux Falls. It is part of the Blood Run National Historic Landmark, which lies on both sides of the Big Sioux River at the mouth of Blood Run Creek and includes over 3,000 acres of land in South Dakota and Iowa.

In 2016, trees were planted on the Good Earth property to meet the criteria of the Forest Legacy Program. There were a total of 9,500 trees planted within 7 acres. In addition to the tree planting, a Stewardship plan was written

for the SCCC Lot Parcel within the Spring Creek Golf Course. This is a 12.45 acre property consisting of 9.14 acres of forest land. The plan was written in case this property is also entered into the Forest Legacy Program in which case one additional acre of forest land will be needed to qualify for the program.

Tree Farm Program

The American Tree Farm System promotes sound forest management through the certification of sustainably managed forestlands. 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. The division provides technical assistance to Tree Farmers, certification inspections, and administrative assistance to the South Dakota Tree Farm Committee. There are 107 woodland Tree Farms in the state covering 24,414 acres. Division foresters completed 8 of the 46 Tree Farm inspections in FY 2016 covering 1,609 acres.

The South Dakota Tree Farm program underwent a field assessment in 2016 to determine if the standards of sustainability are being met on South Dakota's certified tree farms. South Dakota was one of 4 states assessed in the 16 state west-central region, and one of 8 states assessed nationally in 2016. The field assessment entailed a representative from the national ATFS office, a representative from Price Waterhouse Coopers, various SD Tree Farm committee members, and selected landowners and/or their designated representatives. There were 8 tree farms visited and assessed in the process. After reviewing management plans and seeing management activities on the ground, the South Dakota Tree Farm program was determined to be fully in compliance with the standards. In fact, South Dakota was the only state program to have zero non-conformities out of those assessed in 2016.

In fiscal year 2007, the South Dakota Tree Farm Committee established a program to help landowners hire consulting foresters to prepare forest stewardship plans for their property. Landowners are required to pay at least 25% of the cost of the plan preparation. At the end of fiscal year 2016, 35 plans have been completed covering 4,810 acres. The cost of the completed plans is \$26,883.

The Oswald Family, or OFLP properties, from Custer, SD won the 2016 Woodland Tree Farmer of the Year award. The OFLP Tree Farm property covers 847 acres in Custer County. Division service forester, Dave Hettick, from the Hot Springs field office, nominated OFLP for the award.



2016 Tree Farmers of the Year
Oswald Family (OFLP, LLC)
L-R: Andy Kelford, Julie Oswald, Carolyn Oswald-Workman, Tom Oswald



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 305 technical assists (not including mountain pine beetle assist through the Black Hills Forest Initiative) 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 directly communicated to over 12,200 individuals associated with extension services, conservation districts, the Department of Game, Fish and Parks personnel, and the general public through the weekly Pest Update. The Update can be found on the division's website (<http://sdda.sd.gov/conservation-forestry/tree-pest-alerts/>). Many people in state and out-of-state reference this information.

Pest bulletins with information on common insects and diseases and management or treatment methods continue to be updated with current information and can be found on the division's website (<http://sdda.sd.gov/conservation-forestry/pests-insects-diseases/>)

Gypsy Moth Trapping Project

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 1860's. It has since spread into deciduous forests throughout the eastern United States and is now established in Wisconsin and Minnesota. Traps were placed at campgrounds and rest areas.

Dutch Elm Disease

Dutch elm disease was discovered in Cleveland, OH in 1930. Since then, it has continued to be a threat to the existing elm trees that remain in the communities across South Dakota. One Dutch elm disease survey was conducted by division personnel in Selby at the request of city officials. The number of infected trees identified in FY 2016 was 11, which is up from the 6 in FY 2015. Division personnel also responded to requests for positive identification of Dutch elm disease on a case-by-case basis.

Sawmill Trapping Initiative & Community Assistance through Trapping

The division continued to place funnel traps for pine engraver beetles and mountain pine beetles at three of the larger sawmills in the Black Hills area. In addition, division Forest Health personnel hung traps throughout neighborhoods in Rapid City where thinning had occurred, and/or growing pine engraver beetle populations had been observed. Twenty one groups of traps were placed in the Skyline Wilderness Park in May, 2015 in an attempt to trap pine engraver beetles where large populations had been observed infesting piles of green ponderosa pine debris from recent thinning/fuels reduction activities. The traps were monitored by RCF forestry interns throughout the summer and removed in October 2016.

Information and Education

The division held mountain pine beetle workshops in locations throughout the Black Hills. Two forest health workshops were held, one in October of 2015, and one in April, 2016. The focus of these workshops has shifted from mountain pine beetle prevention and suppression, to managing forests for resiliency to insect and disease outbreak and fire, to promote overall forest health. The workshop in April also included a field tour that had a live demonstration of preventative spraying pine tree for mountain beetle.

The Forest Health team also helped draft and finalize a brochure targeted at tourists to the Black Hills explaining the dead trees throughout the Hills as a result of the mountain pine beetle epidemic. This brochure was drafted as a collaborative effort through the Black Hills Mountain Pine Beetle Working Group, and 10,000 copies were printed using State funds. Copies were distributed to the Forest Service, National Parks within the Black Hills, conservation districts in the Black Hills, and natural resource districts in Wyoming.

Emerald Ash Borer

Although this pest is not yet found in South Dakota, the division continued to deliver information on the threat of emerald ash borer. Information is given to campgrounds throughout the state and to the temporary campgrounds that open in the Black Hills area during the Sturgis motorcycle rally. The emerald ash borer continues to be positively identified in more counties in Iowa, Nebraska, and has made the jump across the prairie to Boulder, Colorado reminding us that it can show up anywhere. In April, 2016, division personnel attended an EAB table-top exercise in Sioux Falls, SD. This event was comprised of a classroom session explaining how to positively identify EAB in ash trees and the proper protocol for communication and confirmation of a suspected find.



Pictured above: Forest Health Forester, Nicole Pyser setting an EAB trap.

Pictured below: Example of one of the "Don't Move Firewood" posters created to be distributed throughout the state.





Black Hills Forest Initiative

Since 1996, the mountain pine beetle infestation 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.

Mountain Pine Beetle in the Black Hills

For Fiscal Year 2016, the mountain pine beetle (MPB) epidemic experienced a steep reduction in the number of trees affected. Infested trees identified by marking crews were less than a fifth of what they were in FY 2015. The peak of the epidemic is estimated to have occurred during the 2011 flight (FY 2012), and has been in decline since. Although the numbers are down throughout

the Black Hills, there were still areas where infested tree numbers exceeded the endemic threshold of less than one infested tree per acre, and suppression and prevention efforts are still valid for FY 2017.

In response to the epidemic, the division and Custer State Park (CSP) have jointly developed a detailed plan to aggressively manage the infestation. Harvesting infested trees and thinning to reduce stand susceptibility has been a proven means of slowing

beetle populations. In addition to these traditional actions, pheromones—synthetic forms of attractants naturally produced by the beetles—have been used to both draw large populations of beetles into target trees and to repel beetles from specific trees where it's effective. For FY 2016, the specific mountain pine beetle projects completed by the division on all lands in the Black Hills are listed on the next page.

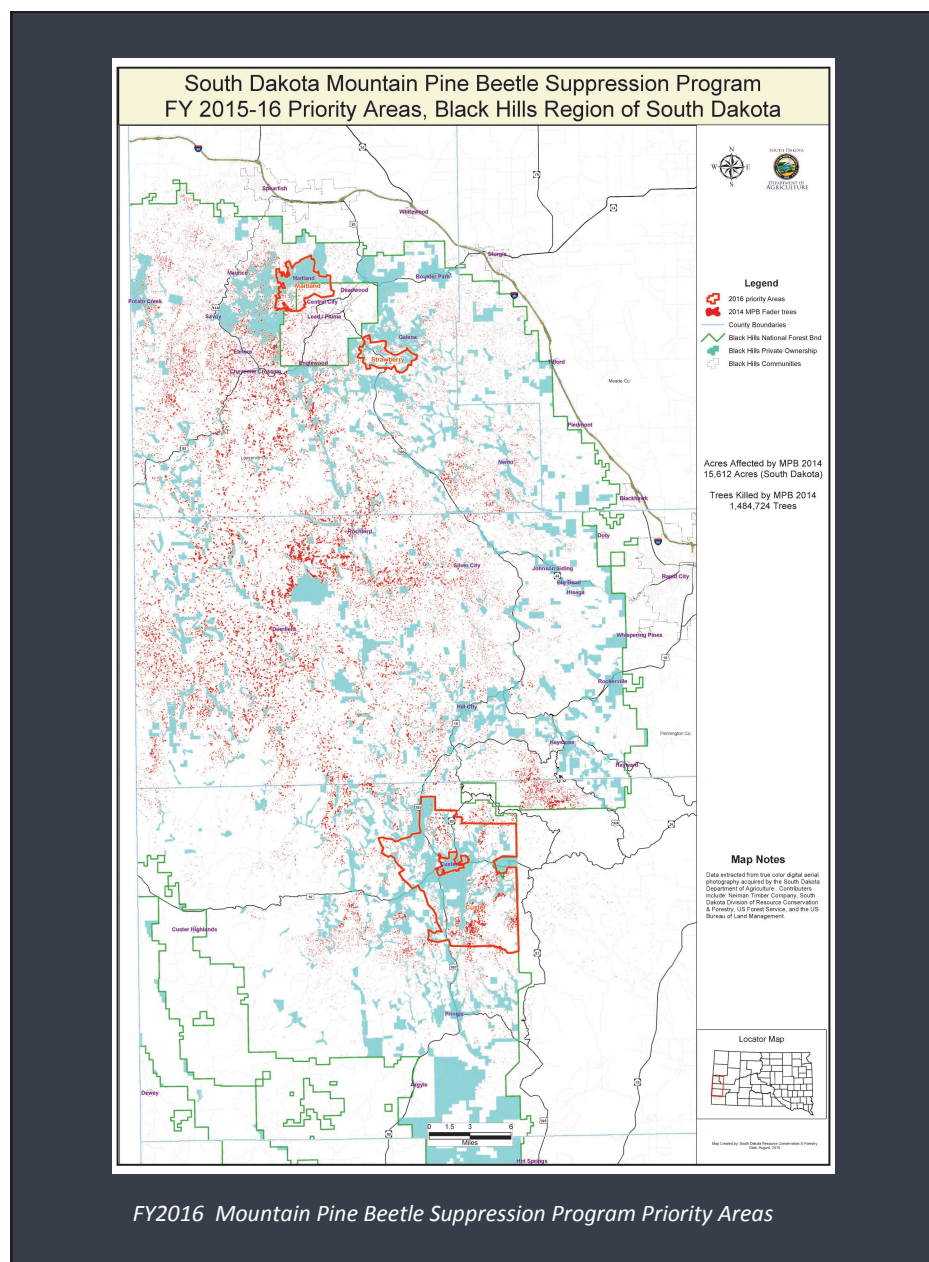
Spot Baiting: Trees near existing infestations within CSP were baited, and naturally infested trees were felled and harvested, or cut into 2-foot lengths and left to dry, killing most of the beetle larvae that were inside them.

Custer State Park Survey & Marking:

MPB infested trees identified and subsequently treated in FY 2016 totaled 4,457 within CSP boundaries.

Anti-aggregation Pheromone Use on Limber Pine:

A relic stand of limber pine in the Cathedral Spires of CSP has received National Natural Landmark status from the National Park Service. Limber pine is a preferred host to the mountain pine beetle and there has been concern that South Dakota could lose this unique stand. Anti-aggregation pheromones that repel mountain pine beetles from limber pine trees were placed on individual trees. After losing a few of the limber pine to MPB in FY 2015, the efforts to protect them became more aggressive. Limber pine that were accessible from trails using spraying equipment mounted to ATVs, were also preventatively sprayed to protect them from infestation. Similar to last year, experimental verbenone bubble pouches were hung on high value ponderosa pines near water sources, where preventative spraying was not an option, such as the Sylvan Lake beach area. The results were variable, as verbenone has not always repelled MPB in the past.



Private Land Surveys: : FY 2016 marked the fifth year of survey and marking efforts to help private landowners suppress the mountain pine beetle epidemic. This year was an extension of Governor Dugaard's Black Hills Initiative. Implementation included the purchase and analysis of high resolution aerial photography to monitor expansion of the epidemic and help planning efforts, landowner workshops, technical assistance in the form of locating and marking infested trees, cost share for tree removal or on-site treatment of infested trees, on-site treatment of infested trees found on National Forest land and quality control. Survey and marking assistance was provided to 676 landowners, 28,752 private acres identifying 11,525 infested trees.



Photo of Custer State Park

Federal Lands Collaboration: In an effort to have landscape scale effects, an “all lands approach” was adopted to target federal lands in addition to private and CSP. In FY 2016, 300 feet buffers on Bureau of Land Management and national forest property around CSP and participating private lands within priority areas were also surveyed for an additional 1,382 acres and 1,667 infested trees. Crews hired by the South Dakota Association of Conservation Districts also assisted in marking 3,129 acres of timber sale units on the Northern Hills and Mystic Ranger Districts to expedite the sale and subsequent harvest of those units prior to the following year’s bug flight. The division also contracted with the State Archaeologist’s office to complete a archaeological survey and report to satisfy resource survey requirements on a forest service timber sale surrounding the Star Academy property south of Custer.

Monitoring: Division personnel will continue to monitor the park and the Black Hills region for the progression of the epidemic.

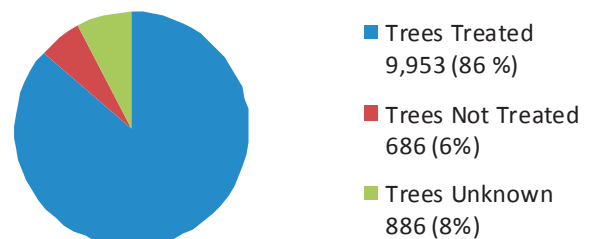
Cooperation: The Mountain Pine Beetle Working Group is a sub-group of the Conservation Leaders Group. It was originally tasked with promoting active MPB suppression through a collaboration of various natural resource professionals from all levels of government, industry, and engaged private landowners in the Black Hills. Beginning in FY 2016, the group began revising its strategy and name to reflect the declining beetle numbers witnessed in the Hills.

The strategy is now migrating away from beetle suppression and towards promoting forest resiliency

through proactive management. In 2016, the group changed its name to the Black Hills Resilient Forest Working Group, and began drafting the Black Hills Resilient Forest Strategy. RCF has remained active in this group and Conservation Leaders group.

Future Needs: The MPB epidemic has seen dramatic declines in the numbers of infested trees for FY 2016, however, ponderosa pine stands in the Black Hills are still at high risk for mountain pine beetle infestation. A continued proactive approach to management will reduce the risk of future mountain pine beetle epidemics. Management strategies such as commercial and pre-commercial thinning, prescribed fire, and continued monitoring of insect and disease on the landscape will help ensure that Custer State Park and surrounding lands remain a place of beauty and biodiversity in the Black Hills of South Dakota.

FY2016 Private Lands Treated Trees



Forest Inventory and Analysis (FIA) is a USDA Forest Service program that collects, analyzes, and reports information on the status and trends of America's forests. FIA consists of three components: an inventory of the nation's forests; a national woodland owner survey; and a timber product output study. Information is collected on the amount of forested area, who owns it, how it is changing, how trees and other vegetation is growing, how much has died and/or been removed, and what happens to the trees that are removed.

This information can be used in evaluating wildlife habitat conditions, assessing the sustainability of ecosystem management practices, and supporting planning and decision-making activities undertaken by public and private enterprises.

The FIA program combines this information with related

Forest Inventory and Analysis (FIA) Program 2016

data on insects, diseases, and other types of forest damaging agents and stresses. This is done to assess the health, condition, and potential future risks to forests. This information is essential for evaluating whether current forest management practices are sustainable in the long run and whether current policies will allow future generations to benefit from the many uses that America's forests provide.

The most recent five year report on the annualized inventory in South Dakota is titled *South Dakota's Forests, 2010* and can be found at: www.nrs.fs.fed.us/pubs/43896.

The most recent annual report on the annualized inventory in South Dakota is titled *Forests of South Dakota, 2015* and can be found at: https://www.fs.fed.us/nrs/pubs/ru/ru_fs82.pdf

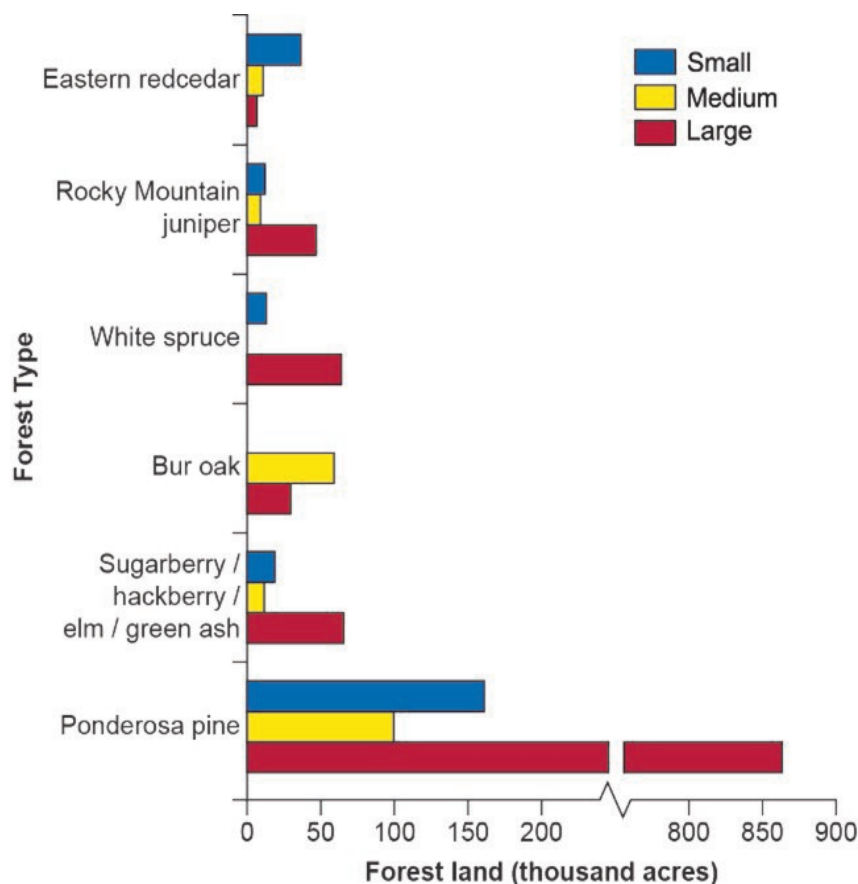


Figure 3: Area of forest land by top six forest types and stand size class by area, 2015. Note: Large diameter trees are at least 11.0 inches diameter for hardwoods and at least 9.0 inches diameter for softwoods. Medium diameter trees are at least 5.0 inches diameter but not as large as large diameter trees. Small diameter trees are less than 5.0 inches diameter.

Walters, Brian F. 2016. *Forests of South Dakota, 2015. Resource Update FS-82*. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 4 p.

Financial Assistance to Local Organizations

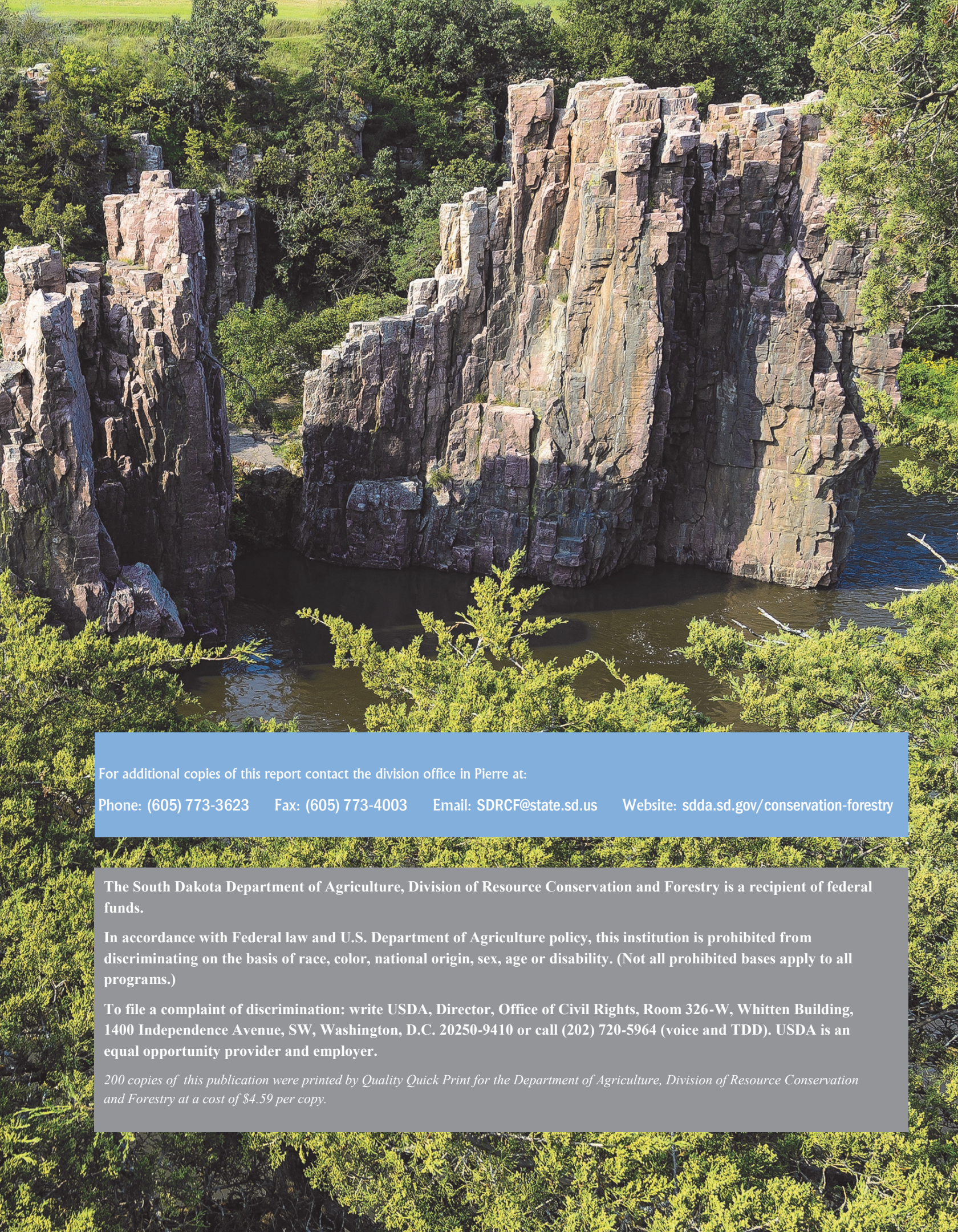
County	Grant Recipient	Program	Awarded	Local Match	Other Funding	Total Project Costs
Aurora	Aurora Conservation District	CSW	\$27,000.00	\$133,908.00	\$1,075.00	\$161,983.00
Beadle	Beadle Conservation District	CSW	\$40,500.00	\$155,873.00	\$400.00	\$196,773.00
	City of Huron	UCF	\$1,000.00	\$1,000.00	\$0.00	\$2,000.00
Bon Homme	Bon Homme Conservation District	CSW	\$15,000.00	\$49,545.00	\$0.00	\$64,545.00
Brown	City of Groton	UCF	\$1,000.00	\$1,000.00	\$0.00	\$2,000.00
Brule-Buffero	Brule-Buffero Conservation District	CSW	\$20,000.00	\$38,250.00	\$750.00	\$59,000.00
	Brule-Buffero Conservation District	CSW	\$33,580.00	\$42,320.00	\$800.00	\$76,700.00
	Brule-Buffero Conservation District	CSW	\$31,500.00	\$43,750.00	\$27,750.00	\$103,000.00
Butte	Butte Conservation District	CSW	\$35,000.00	\$49,000.00	\$50,000.00	\$134,000.00
Charles Mix	Charles Mix Conservation District	CSW	\$36,500.00	\$37,500.00	\$1,000.00	\$75,000.00
Codington	Lake Area Zoological Society	UCF	\$1,500.00	\$1,500.00	\$0.00	\$3,000.00
Custer	Custer Conservation District	CSW	\$20,700.00	\$20,700.00	\$0.00	\$41,400.00
	Custer State Park	WPC	\$10,000.00	\$21,000.00	\$0.00	\$31,000.00
	Custer Weed & Pest	WPC	\$5,000.00	\$5,000.00	\$0.00	\$10,000.00
Davison	Davison Conservation District	CSW	\$14,500.00	\$68,342.00	\$2,400.00	\$85,242.00
	Davison Conservation District	CSW	\$17,000.00	\$31,326.00	\$994.00	\$49,320.00
	Davison Conservation District	CSW	\$11,500.00	\$10,000.00	\$0.00	\$21,500.00
Day	Day Conservation District	CSW	\$42,600.00	\$14,980.00	\$100,000.00	\$157,580.00
Deuel	Deuel Conservation District	CSW	\$15,000.00	\$15,000.00	\$0.00	\$30,000.00
	City of Gary	UCF	\$2,000.00	\$2,713.00	\$0.00	\$4,713.00
Dewey	City of Eagle Butte	UCF	\$4,000.00	\$4,000.00	\$0.00	\$8,000.00
East Pennington	East Pennington Conservation District	CSW	\$12,038.00	\$17,177.00	\$0.00	\$29,215.00
Fall River	City of Hot Springs	UCF	\$1,000.00	\$1,000.00	\$0.00	\$2,000.00
	Fall River Invasive Weed Management	WPC	\$7,000.00	\$7,000.00	\$0.00	\$14,000.00
	Black Hills Invasive Weed Assistance	WPC	\$7,000.00	\$7,000.00	\$0.00	\$14,000.00
Gregory	Gregory Conservation District	CSW	\$30,000.00	\$60,750.00	\$0.00	\$90,750.00
	Gregory Conservation District	CSW	\$37,000.00	\$73,993.00	\$0.00	\$110,993.00
	City of Gregory	UCF	\$1,000.00	\$1,000.00	\$0.00	\$2,000.00
Haakon	Haakon Conservation District	CSW	\$25,000.00	\$47,500.00	\$0.00	\$72,500.00
Hamlin	Hamlin Conservation District	CSW	\$12,000.00	\$20,559.00	\$0.00	\$32,559.00
	Hamlin Conservation District	CSW	\$12,226.00	\$28,371.00	\$0.00	\$40,597.00

Financial Assistance to Local Organizations cont.

County	Grant Recipient	Program	Awarded	Local Match	Other Funding	Total Project Costs
Hanson	Hanson Conservation District	CSW	\$11,000.00	\$11,996.00	\$289.00	\$23,285.00
Hutchinson	City of Freeman	UCF	\$1,900.00	\$1,900.00	\$0.00	\$3,800.00
	City of Parkston	UCF	\$1,000.00	\$1,000.00	\$0.00	\$2,000.00
Hyde	Hyde Conservation District	CSW	\$60,000.00	\$78,600.00	\$0.00	\$138,600.00
Jackson	Jackson Conservation District	CSW	\$13,518.00	\$13,326.00	\$0.00	\$26,844.00
Jones	Jones Conservation District	CSW	\$20,000.00	\$64,862.00	\$2,700.00	\$87,562.00
	Jones Conservation District	CSW	\$18,621.00	\$29,533.00	\$0.00	\$48,154.00
Kingsbury	Kingsbury Conservation District	CSW	\$1,170.00	\$1,650.00	\$960.00	\$3,780.00
	Kingsbury Conservation District	CSW	\$4,250.00	\$15,650.00	\$0.00	\$19,900.00
Lawrence	Lawrence Conservation District	CSW	\$42,000.00	\$40,000.00	\$0.00	\$82,000.00
	City of Spearfish	UCF	\$1,000.00	\$1,000.00	\$0.00	\$2,000.00
	Lawrence Weed & Pest	WPC	\$20,000.00	\$20,000.00	\$0.00	\$40,000.00
Lyman	Lyman Weed & Pest	WPC	\$7,000.00	\$7,000.00	\$0.00	\$14,000.00
McPherson	McPherson Conservation District	CSW	\$20,000.00	\$118,667.00	\$0.00	\$138,667.00
	City of Leola	UCF	\$1,000.00	\$1,073.60	\$0.00	\$2,073.60
Meade	City of Piedmont	UCF	\$2,500.00	\$2,500.00	\$0.00	\$5,000.00
	City of Sturgis	UCF	\$1,000.00	\$1,100.00	\$0.00	\$2,100.00
Mellette	Mellette Conservation District	CSW	\$10,000.00	\$29,500.00	\$3,000.00	\$42,500.00
Miner	Miner Conservation District	CSW	\$3,000.00	\$3,000.00	\$0.00	\$6,000.00
	Miner Conservation District	CSW	\$16,126.00	\$19,974.00	\$0.00	\$36,100.00
	Miner Conservation District	CSW	\$7,500.00	\$7,500.00	\$12,900.00	\$27,900.00
	Miner Conservation District	CSW	\$7,500.00	\$7,500.00	\$12,900.00	\$27,900.00
Minnehaha	Minnehaha Conservation District	CSW	\$17,103.00	\$51,310.00	\$0.00	\$68,413.00
	Frankman Stewardship Plan	STW	\$120.00	\$1,200.00	\$0.00	\$1,320.00
Perkins	Perkins Conservation	CSW	\$52,000.00	\$15,000.00	\$126,527.00	\$193,527.00
Pennington	SD Family Forest	SPC	\$1,210.00	\$1,210.00	\$0.00	\$2,420.00
	SD Project Learning Tree	SPC	\$12,000.00	\$12,600.00	\$0.00	\$24,600.00
	Taylor Stewardship Plan	STW	\$389.00	\$811.00	\$0.00	\$1,200.00
	Invasive Weeds Management Project	WPC	\$10,000.00	\$10,000.00	\$0.00	\$20,000.00
Potter	Potter Conservation District	CSW	\$7,500.00	\$5,400.00	\$0.00	\$12,900.00
Roberts	Roberts Conservation District	CSW	\$10,997.00	\$19,597.00	\$0.00	\$30,594.00
Sanborn	Sanborn Conservation	CSW	\$10,000.00	\$49,000.00	\$1,000.00	\$60,000.00
Yankton	Yankton Conservation	CSW	\$12,000.00	\$41,015.00	\$10,500.00	\$63,515.00
Totals:			\$925,048.00	\$1,688,031.60	\$343,045.00	\$2,956,124.60

Programs Guide:

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



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

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