
DIVISION OF RESOURCE CONSERVATION & FORESTRY: FISCAL YEAR 2014 ANNUAL REPORT



Resource Conservation and Forestry

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Photographs

Covers: Brian Scott

Other: Division personnel, US Forest Service, and the South Dakota Association of Conservation Districts.

New Personnel

Andy Bernard

I was born and raised in rural Southern Minnesota. I grew up hunting and exploring the woodlands of the Minnesota River Valley. Upon graduating high school, I accepted a wrestling scholarship to South Dakota State University in Brookings. After three days of practice I decided to end my athletic career and pursue academics. I pursued a major in fine art before realizing that I fit in poorly and found a better fit in the natural resources field. I graduated with a BS in Agriculture Science with a specialization in Park Management and Forestry. During the summers while in university, I worked for SD Game Fish and Parks in Custer State Park. It was at CSP that I was introduced to the world of wildland fire.

After graduating university I pursued a career in the federal fire service. I spent a few years on a hotshot crew in Colorado and a US Forest Service engine crew in South Dakota. Outside of the fire seasons, I worked in urban tree care and road tripped on my motorcycle. The winter of 2011 found me needing work and I took a MPB tree marking position working for the division. I ended up working myself into the crew supervisor for the South Dakota Association of Conservation Districts marking crews. I was doing that until last fall when the urban forester position in Rapid City opened up.

I love living in western South Dakota. I spend my free time hunting, fishing, camping, and generally spending my free time outdoors. The rest of my time is spent fixing my crumbling house, making wood furniture, and fixing old motorcycles. I do have one child, he's a chocolate lab named Hank.



Aaron Wang

I was born in Chicago, Illinois, and lived in the area until I went to college. Growing up, I worked in prairie and woodland restoration and other outdoor jobs. I wanted to get out of Illinois and, when I graduated high school, attended the University of California at Berkeley, studying chemical engineering until I decided that I preferred to work in nature. I graduated with a BS in Forestry and Natural Resources in December 2012. I spent my summers working on building maintenance for the student cooperative that I lived in, and cooked in and managed commercial kitchens in the Bay Area.

After graduation, I returned to Chicago and worked in landscaping and construction. I started work with Resource Conservation and Forestry as Community Forestry Coordinator in March of 2014.

Moving from Berkeley and Chicago to South Dakota was a bit of a change, but I'm enjoying my time here so far and having fun exploring the state. I enjoy cooking, hydroponic and outdoor gardening, hiking, camping, and pretty much anything outdoors.



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.

Our forestry 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.

The mission of the resource conservation program is to preserve resources, control floods, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, create and enhance wildlife habitat, protect the tax base, protect public lands, and promote the health, safety, and general welfare of the people of this state.

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

The administrators and team leaders are:

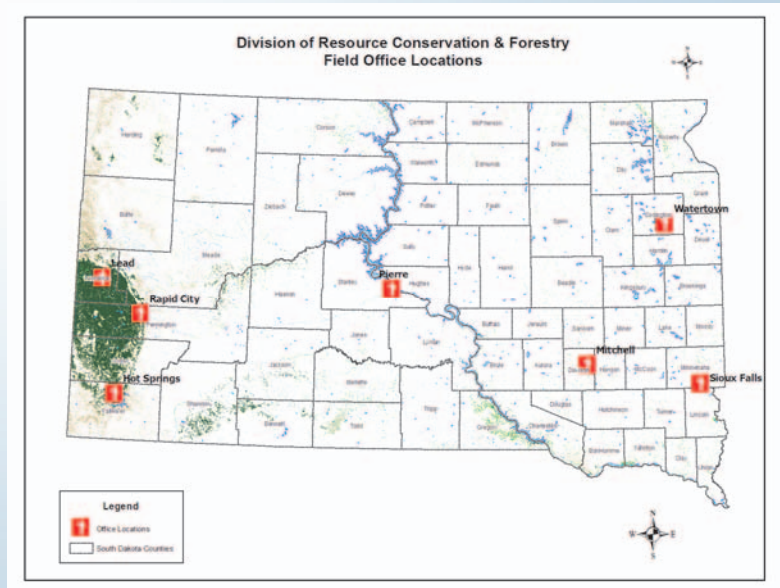
- Community Forestry - Aaron Wang, Team Leader (Pierre office); Bill Smith, Division Director (Pierre office)

- Conservation - Bill Smith, Team Leader, Division Director (Pierre office)
- Forest Health - Brian Garbisch, Team Leader (Rapid City office); Greg Josten, State Forester (Rapid City office)
- Service Forestry - Greg Josten, Team Leader, State Forester (Rapid City office)

Each of the four teams has staff to handle technical assists. Our offices are located in Hot Springs, Lead, Mitchell, Pierre, Rapid City, Sioux Falls, and Watertown. Contact information for our field offices can be found on the division's website.

This report highlights our accomplishments and special projects in fiscal year 2014 by each program. For additional copies of this report contact the division office in Pierre at (605) 773-3623 or by emailing the division at: SDRCF@state.sd.us.

*Division of
Resource
Conservation
and Forestry
Field Office
locations.*



Community Forestry

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 individuals, 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.

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.

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.

Technical Assistance

During FY2014, the division provided 216 technical assists to community governments, volunteer-service groups, and private citizens in 73 communities. These assists covered topics such as big tree measurement (see page 7), damage evaluations, tree care recommendations, and general urban forestry projects and grant applications.

Community Forestry Presentations

The Community Forestry Team made 65 presentations to school classes and civic groups about Arbor Day, Tree City USA, Smokey Bear and fire prevention, and other community forestry subjects. Twelve workshops on tree planting, tree care, and forest health were presented. The division produced eight TV, radio, and newspaper spots about Arbor Day, tree planting and care, and general community forestry issues.

Community Forestry

Urban Forest Inventory and Analysis (UFIA)

The South Dakota Department of Agriculture, Division of Resource Conservation and Forestry cooperated with Montana to conduct urban forest resource surveys and assess potential impacts of threats to communities. South Dakota secured a contractor via a request for proposal to collect data in 2014. Data was collected in 31 South Dakota communities by the end of the project in the summer of 2014. A total of 23,636 trees were assessed statewide.

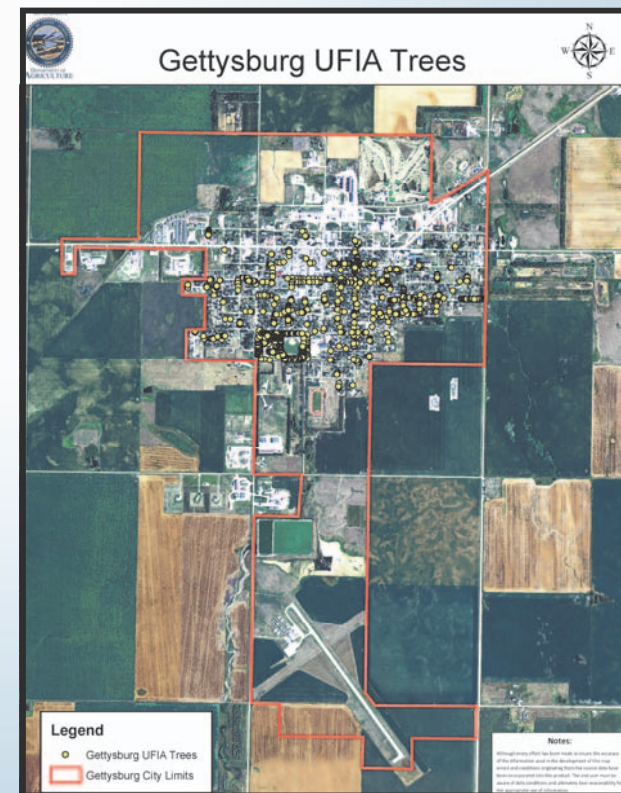
Of the 23,636 trees surveyed statewide, 435 trees (1.8%) were considered to be in excellent condition, 18,191 trees (77.0%) were considered to be in good condition, 3,574 trees (15.1%) were considered to be in fair condition, and 1,436 trees (6.1%) were considered to be in poor condition.

The data indicated that 8,451 trees (35.8%) of the total trees inventoried were native ash. Those included 8,366 green ash trees, 55 black ash trees, and 30 white ash trees, 12 blue ash trees, and 4 non-specific native ash trees. Of the ash inventoried, 13 ash (0.2%) were in excellent condition, 6,844 ash (81.0%) were in good condition, 1,217 ash (14.4%) were in fair condition, and 377 ash (4.4%) were in poor condition.

Due to the high proportion of ash trees inventoried, removal and replacement costs for ash were calculated using the Emerald Ash Borer Calculator from Purdue University. From the data that we collected in South Dakota, we determined that total removal costs (over seven years) would be \$23.4 million in the 31 communities. We also estimated that the replacement costs for these trees would be \$53.5 million. Since walnut and pine abundance were low, we did not run a similar analysis for thousand

cankers disease or pine wilt.

At the end of the project, each community inventoried was provided with a report and maps. These data were designed to help them understand the trees that they currently have, the condition of those trees, the threats that their community forests face, estimated costs to remove and replace their ash trees, and suggestions for tree species to help diversify their community forests. The division hopes that having a better assessment of current tree resources will encourage communities to actively manage their urban tree resources.



Community Forestry

Community Forestry Challenge Grant

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 Challenge grants. These grants 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. Twelve grants totaling

\$20,076 were awarded in FY2014 (pages 31-33). These grant funds leveraged \$32,263 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 community forestry five year strategic plan.

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 South Dakota Division of Resource Conservation and Forestry 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.

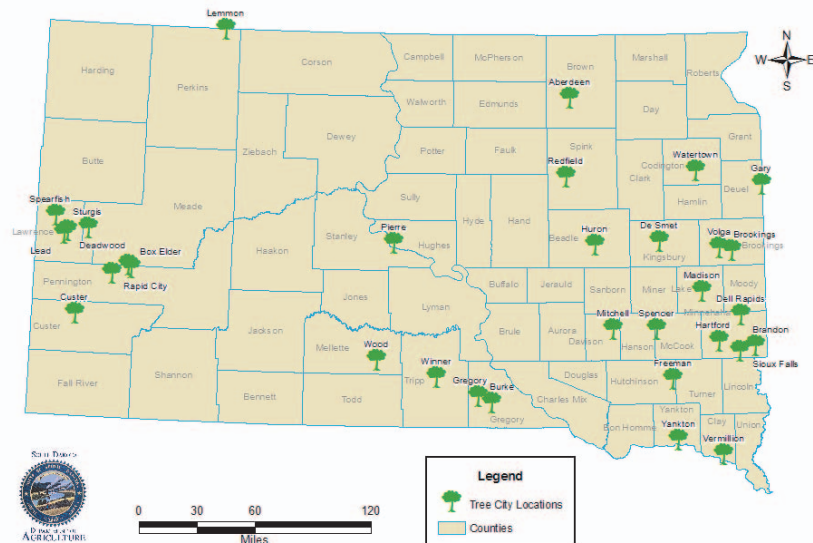
Community Forestry

Division foresters recertified 32 Tree City USA communities in 2014.

2014 South Dakota Tree City USA Statistical Data

Number of Tree City, USA Communities:	32
Recertification rate:	91%
Number of Growth Award recipients:	1
Percent of population living in a Tree City, USA:	51.2%
Largest Tree City, USA community (153,888):	Sioux Falls
Smallest Tree City, USA community (62):	Wood
\$ spent by communities on community forestry management:	\$7.5 Million+
Average per capita spent on community forestry programs:	\$17.26

2014 Tree City USA Certified Communities within S.D.



Arbor Day in South Dakota

In 1947, the State Legislature designated the last Friday in April as South Dakota's official Arbor Day. The law was repealed in 1995 as part of an omnibus elimination of laws that restrict or pertain to education, but was reestablished by the 1998 Legislature. Arbor Day is designed to specifically 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 planting and properly caring for our rural and urban trees, and of celebrating Arbor Day.

Arbor Day Poster Contest

The South Dakota Arbor Day Poster Contest is designed to build awareness and appreciation for trees and Arbor Day in fifth grade students across the state. Studies show that young children benefit educationally, behaviorally, and developmentally from connecting with trees and nature. The poster contest activities are intended to :

1. Increase student's knowledge about the importance of diversity in forest ecosystems;
2. Provide fun activities to get students excited about learning;
3. Provide teachers with a creative way to introduce new concepts; and
4. Incorporate principles of science, geography, language arts, civics, and the arts.

The theme of the 2014 contest was "*Trees Are Terrific ... And Forests Are Too!*" The first place winner, Kendra Kaiser, who attends Hoven Elementary in Hoven, received a \$100 cash prize, a certificate of achievement, and her artwork featured on the South Dakota Arbor Day Poster Contest. Kendra's

Community Forestry

teacher, Nina DeRouchey, received \$100 for the purchase of educational supplies.

The second and third place winners were Remedy Morrison of White River Elementary in White River and Meghan DeLozier of Stewart Elementary in Yankton, respectively. Remedy received a \$75 cash prize and a certificate. Meghan received a certificate of achievement and a \$50 cash prize.

Additionally, the top 12 artists receive a certificate of accomplishment and

their posters are featured in the annual South Dakota Arbor Day Poster Contest Calendar.

Arbor Day Poster Contest 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.



*2014 South Dakota Arbor Day Poster Contest Winner,
Kendra Kaiser's artwork.*



South Dakota Register of Big Trees

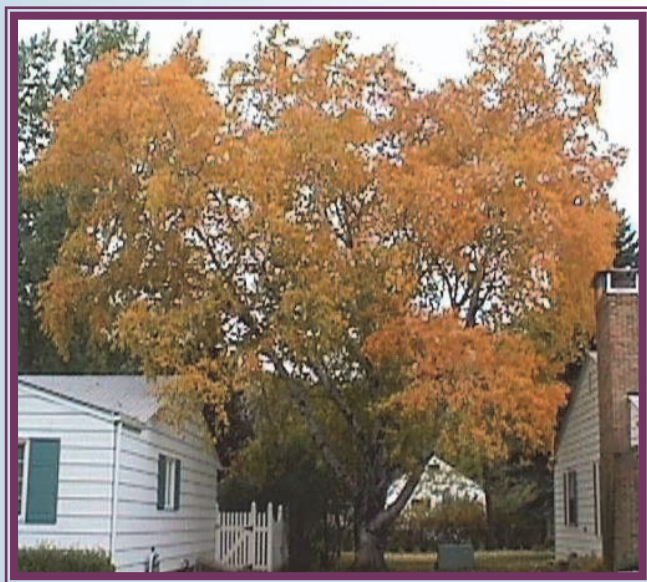
In 1980, the South Dakota Register of Big Trees was initiated. This is a list of the largest reported specimens of both native and naturalized tree species found within the state. The primary purpose of the register is to recognize big trees as a valuable natural resource worthy of conservation that 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 which measures 9 feet 9 inches in circumference, 103 feet tall, and 30 feet in average crown spread. In FY2014 the division responded to 13 requests to measure trees for the register.

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

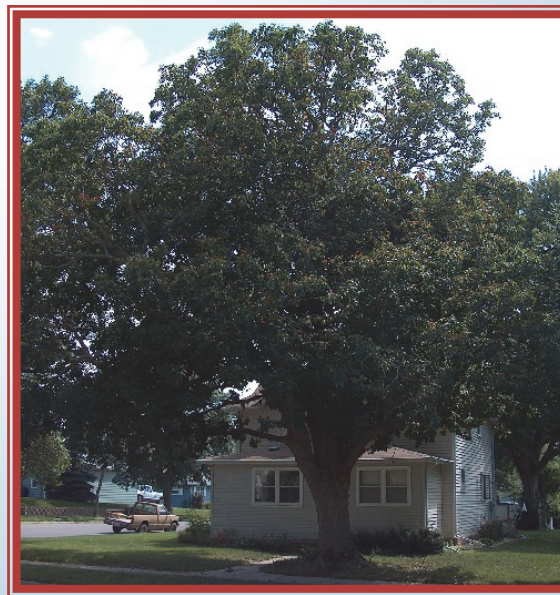
Paper birch (*Betula papyrifera*)

South Dakota's largest paper birch tree is located near Aberdeen, in Brown County. It is 7 feet 9 inches in circumference, 55 feet tall, and 30 feet in crown spread.



Ohio buckeye (*Aesculus glabra*)

South Dakota's largest Ohio buckeye tree is located near Colton, in Minnehaha County. It is 8 feet 6 inches in circumference, 48 feet tall, and 54 feet in crown spread.



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 them to make 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 (PreK 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.

The audience for FY2014 included 600 students, 225 educators, and 900 members of the general public. Audience members reached on an indirect basis totaled 4,500 students which is the number of educators who received the training times 20 students for one year.

The number of educators reached indirectly totaled 675 which is the number of educators trained talked with 3 others for one year. An additional 1,000 members of the general public were also reached through word of mouth.

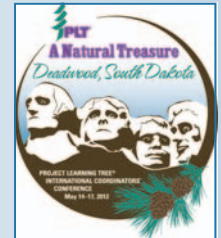
This has been a notable year for South Dakota Project Learning Tree, with the retirement of longtime Coordinator Dianne Miller, and the appointment of a new coordinator, Tracy Sigdestad. Tracy started in May 2014 and has a Bachelor's Of Science in Outdoor Education from Black Hills State University and is currently working on a Master's of Science in Sustainability from the same institution.

The following workshops/training sessions were completed during FY2014:

- Three Formal Educator Workshops
- Two Pre Service Workshops
- Two Video Conference Workshops
- One Early childhood Workshop

Other activities:

- Kids Expo
- Spearfish Nature Day
- South Dakota Afterschool Conference
- Spearfish Canyon Science Day
- Sawyer Tree Farm Dedication Ceremony
- Black Hills State Sting's Eco Explorers Camp
- Summer Nature Day in the Park



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;
- Coordinated Natural Resources Conservation Grant Program;
- Conservation District Programs; and
- Technical Assistance.

South Dakota Coordinated Plan for Natural Resources Conservation

The South Dakota Department of Agriculture, Division of Resource Conservation and Forestry, State Conservation Commission, conservation districts, and their federal, state, tribal, and local partners developed the plan. Goals of this plan include:

1. Fifty percent of South Dakota waters will meet their beneficial uses;
2. South Dakota waters will provide sufficient quantities of quality water;
3. South Dakota will have healthy soils appropriate for their capability;
4. All of South Dakota will meet air quality standards;
5. Enhance or establish fish and wildlife habitats;
6. South Dakota citizens will have an awareness and understanding of the benefits of natural resource management;
7. Each conservation district will increase their supplemental funding by pursuing additional services or projects; and

South Dakota Conservation Districts & Area Boundaries.



8. Promote the use of renewable energy and energy consumption through advocacy and education.

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. Loans made in FY2014 included:

Conservation District	Loan Amount	Project Description
Butte	\$ 28,299.39	No-till Drill
Jackson	\$ 15,000.00	Grass Drill
Hamlin	\$ 40,000.00	No-till Drill
TOTAL	\$ 83,299.39	_____

Resource Conservation

Conservation District Assistance

In FY2014, program staff made 578 grant and loan program assists, 286 non-grant related assists.

Conservation Grants

During FY2014, 46 grant applications were received and 36 projects were funded for a total of \$644,520 (pages 31-33).

Conservation Commission

Support to the State Conservation Commission in 2014 consisted of refining the grant application review approval process developed in FY2009; revising the grant cost-share docket; 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 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 five 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

Eleven projects involving 54 partnerships between conservation districts were funded in FY2014. 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 FY2014, six 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 FY2010, 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

Resource Conservation

National Association of Conservation Districts recognized South Dakota's program at their annual conventions in 2011, 2012, 2013, and 2014. For more information, see: <http://sdda.sd.gov/conservation-forestry/conservation/district-tools/supervisor-modules/>.

2014 State Speech Contest

The 53rd annual State Finals of the Resource Conservation Speech Contest was held Saturday, April 5, 2014 at the state capitol in Pierre. The theme of this year's contest was "Why Conservation Saved Us From Another Dust Bowl." Eleven high school students from across South Dakota competed at the state level. Winning first place and a \$1,100 scholarship was Kiera Leddy sponsored by the Grant Conservation District. Kiera was a junior at Milbank High School and is the daughter of Donnie and Krecia Leddy of Stockholm, SD. Receiving second place and a \$750 scholarship was Joanna Geffre, a freshman at Aberdeen Central High School. She is the daughter of Jeannie Ryncarz of Aberdeen and was sponsored by the South Brown Conservation District. Receiving third place and a \$450 scholarship was Tiffany Schell, sponsored by the Pennington Conservation District. She was a sophomore at New Underwood High School and is the daughter of Steve and Lynn Schell of Rapid City. 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.



Kiera Leddy of Stockholm, Grant Conservation District, receives her 1st place prize from Ken Gillaspie of East River Electric.

Service Forestry

The division provides rural forestry technical assistance across South Dakota. In 2014 the division had one full time agroforester located in Mitchell, and two rural foresters located in Lead and Hot Springs in the Black Hills. A rural forestry staff specialist was located in Huron.

Rural forestry technical assistance consists of forest stewardship plan development, non-commercial thinning assistance, design and approval of tree planting plans for various agroforestry objectives, agroforestry education and technical assistance, forest health assistance, Tree Farm certification, forest landowner education, and wood utilization. Funding for technical assistance comes from a variety of federal and state sources.

The Forest Stewardship Program (FSP) is the primary source of federal funding for the division's rural forestry technical assistance. 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 and local funds.

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 1,156 plans written covering 77,463 acres of forestland. Current forest stewardship plans are new, or have been revised or updated within the last 10 years. There are 101 current stewardship plans in South Dakota covering 24,505 acres of private lands.

The State Forest Action Plan approved in 2010 established a set of priority areas for emphasis that includes 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 17,334 acres are covered by current forest stewardship plans.

Stewardship Plans

In 2014, the division prepared, revised, or approved 15 forest stewardship plans for private landowners covering 4,876 acres. Each year, approximately five percent of the current forest stewardship plans are monitored to determine if the landowner is implementing practices as

recommended in his/her 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 2014 monitoring sample, 92 percent of current plans within state priority areas are being implemented, and 99 percent of the acres covered by plans within priority areas are being managed sustainably.



A clean cultivated shelterbelt.

Service Forestry

Agroforestry Assistance

Assistance and planning by division service foresters resulted in the planting of 60 new trees and shrubs on 0.2 acres for wildlife habitat. Foresters reviewed and approved 99 agroforestry tree planting plans for cost-share by South Dakota Conservation Commission grants. 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 provide technical assistance for 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 SD Conservation Commission Coordinated Natural Resources Conservation Fund Grant Program provided funds to private forest landowners for timber stand improvement projects. The NRCS 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 is funded by the FSP. NRCS funds are matched dollar for dollar with State general funds that support division activities.

Written prescriptions for 13 non-commercial projects were prepared and when completed will result in the improvement of 255 acres of pine and hardwood stands. Fieldwork was completed in preparation for 16 non-commercial thinning projects covering 296 acres. EQIP funding supports three projects covering 40.7 acres, Wildlife Habitat Improvement Program (WHIP) provides cost share for two projects covering 58 acres, nine are funded by Conservation Commission grants covering 180 acres, and two projects covering 17.3 acres received no cost-share assistance.

Non-commercial thinning was completed on 17 projects covering 262.9 acres. EQIP assisted with 11 projects covering 206.9 acres. Another 56 acres on six projects were thinned using Conservation Commission grant funds.



A thinned stand of ponderosa pine trees (left) next to a stand of trees that has not been thinned (right) in the Black Hills.

Service Forestry

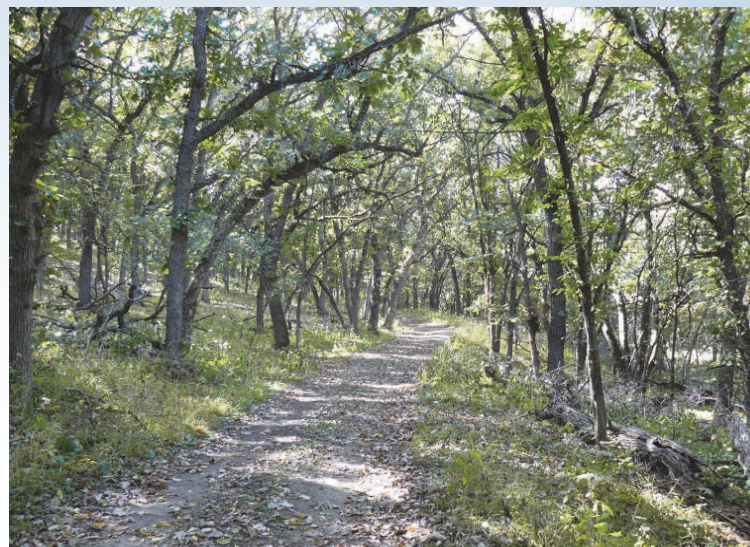
Forest Legacy—Blood Run Project

In 2012, Game Fish and Parks asked the division to locate additional acres to reforest so that the Blood Run area would qualify for the Forest Legacy Program (FLP). After a few suggestions and some minor changes, we developed a plan for reforestation of twenty-six acres and a three acre grass study in a bottomland area of the property.

In FY2014, the division updated the Blood Run stewardship plan with a new prescription to address the reforestation of an additional four acres of bottomland on the property. This revision was necessary because the final acreage of the tract acquired under FLP was 236 acres instead of the 224 acres that was previously estimated. The revised prescription recommended 29,182 trees be planted at an 8X6 spacing, which would provide a density of 907 trees per acre. The trees recommended are mostly tall and mid-size trees. Most of the trees recommended for planting are native to South Dakota. The mid-size trees are a mixture of shade and non-shade tolerant trees. This will address different aspects within the 33 acres. The site will be monitored annually to verify that the forest cover remains intact and the new tree plantings will be maintained.

On March 27, 2014, the USDA Forest Service Forest Legacy Program provided \$1.2 million along with matching funds from the South Dakota Parks and Wildlife Foundation and South Dakota Department of Game Fish & Parks to purchase the land. Officially named Good Earth State Park 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. The area was an important gathering place and trading center for American Indians from 1350 to 1700 A.D.



A path through Good Earth State Park at Blood Run near Sioux Falls.

Wood Utilization

The division developed and launched a Log finder website at <https://apps.sd.gov/AG50LogFinder/default.aspx>. The website provides a statewide networking tool for people who want trees cut down and people that want to utilize the wood to create value added products. The goal is improved utilization of hardwood and softwood timber. Buyers can search for sellers or post information about the type of logs they want. Sellers can search for potential buyers, or post information about the type of trees they have. Users can post photographs of their trees or equipment for tree removal and hauling. There are currently 102 active users enrolled in the site.

Service Forestry

Cooperative Conservation Partnership Initiative

The division received two Cooperative Conservation Partnership Initiative grants from the USDA NRCS in July 2010. One grant was for shelterbelt renovations and the other was for riparian tree plantings. Both grants are five year grants and cover South Dakota, North Dakota, Nebraska and Kansas. The division is the lead agency for these two grants.

Shelterbelt Renovation				
	# of Applications Received	# of Contracts Funded	Obligation Amount	Staff Hours Used
South Dakota	123	78	\$974,732	-
North Dakota	0	0	\$0	-
Nebraska	6	6	\$34,416	-
Kansas	102	65	\$326,126	-
TOTALS	231	149	\$1,335,274	-

Table 1. CCPI shelterbelt renovation applications received and funded in FY2014.

For FY2014 the four states received 231 applications for shelterbelt renovation. One hundred forty-nine applications were funded amounting to \$1,335,274. A breakdown of applications received, funds requested, contracts funded, funds obligated can be found in Table 1.

Eleven applications for riparian tree planting were received from Kansas and South Dakota during the FY2014 sign-up. Of those applications, six applications were funded in the amount of \$53,169. A breakdown of applications received, funds requested, contracts funded, funds obligated can be found in Table 2.

Forested Riparian Buffers				
	# of Applications Received	# of Contracts Funded	Obligation Amount	Staff Hours Used
South Dakota	1	1	\$8,363	-
North Dakota	0	0	\$0	-
Nebraska	0	0	\$0	-
Kansas	10	5	\$44,806	-
TOTALS	11	6	\$53,169	-

Table 2. CCPI forested riparian buffer applications received and funded in FY2014.

Service Forestry

Tree Farm Program

The American Tree Farm System promotes good forest management through the certification of sustainable managed woodland Tree Farms, and recognition of well managed windbreaks. The division provides technical assistance to Tree Farmers, certification inspections, and administrative assistance to the South Dakota Tree Farm Committee. There are 187 Tree Farms in South Dakota covering 30,140 acres of forestland and windbreaks. There are 113 certified woodland Tree Farms covering 26,947 acres, and 74 Windbreak Tree Farms covering 3,193 acres. Division foresters completed 13 of the 26 Tree Farm inspections in FY2014 covering 4,769 acres.

In FY2014, the division provided a \$10,000 grant to the South Dakota Tree Farm Committee and the SD Family Forests Association (FFA) to provide an incentive to private landowners to prepare and update forest stewardship plans. The funds are to be matched by contributions from Neiman Enterprises, Inc. and the private landowners benefiting from the incentive. Landowners are required to pay at least 25 percent of the cost of plan preparation. The program began in 2007 with a similar grant from the division. At the end of FY2014, 28 applications have been approved totaling \$25,609.50 covering 2,358.15 acres. 27 plans have been completed covering 3,831.15 acres. The cost of the completed plans is \$21,663.50.

Thelma Deffenbaugh of Tripp, SD received the 2014 Woodland Tree Farmer of the Year award. Thelma's Tree Farm property covers 141 acres in Gregory County. Division service forester, Nathan Kafer, from the Mitchell field office, nominated Thelma for the award.

Division personnel and the FFA provided Tree Farm inspector training to 5

foresters from South Dakota and Wyoming. The American Forest Foundation, which is the national body of the Tree Farm system, works to sustain forests, watersheds, and healthy wildlife habitat through the power of affordable forest certification for family forest landowners. The training provided foresters with the qualifications needed to certify private forest lands in the American Tree Farm system.



2014 Woodland Tree Farmer of the Year.

Thelma Deffenbaugh (center, red) with her sons and daughters-in-law (L-R: Jean, Brenda, Thelma, Mike, Brad, Ruth)

Service Forestry

Information and Education

The division has targeted education workshops in multi-state landowner-training program called Today's Forest Landowner Education Series. The project is funded through a State & Private Forestry competitive grant, which calls for development of seven workshops. Other partners include South Dakota State University Extension, Wyoming State Forestry, and Nebraska State Forestry. Topics covered were forest management and ecology; forest health and invasives; forest taxation, estate planning and conservation easements; firewise; best management practices for protecting water quality; and contracts and marketing. SDSU Extension recorded the workshops and posted them on their iGrow website under Today's Forest.

During the four year life of the project, 225 forest landowners attended at least one workshop in South Dakota. The most popular workshop was forest health; this was not surprising because of the mountain pine beetle epidemic in the Black Hills. The most popular among landowners involved in various technical assistance programs offered by the division was the silviculture and forest ecology workshop.

A series of 21 video vignettes was created for posting on the Today's Forest website. These vignettes cover short single topics and have been very



successful attracting viewers. The most popular vignettes were on measuring basal area, forest protection, mountain pine beetle, invasive weeds, and fire. The vignette with the most viewings, and remaining among the top ten viewings for all videos placed on the South Dakota

Cooperative Extension iGrow website regardless of subject matter, was "Measuring Basal Area".

The average length of the vignettes is 2 minutes, 34 seconds, and the average viewing time was 1 minute, 28 seconds. This contrasts to the average workshop video length of 64 minutes, 19 seconds with an average viewing time of 3 minutes, 47 seconds. The lesson learned from this is people are willing to watch short video segments that cover a specific topic, but are not willing to watch long presentations.

In a survey completed after project completion, respondents indicated a preference for lectures or field sessions as the desired educational method. Videos and webinars were ranked lower.

Division personnel presented four prairie forestry workshops attended by 95 NRCS and conservation district employees. The workshops provided general information about shelterbelt design, maintenance, and renovation.



A group of private forest landowners listens during the Today's Forest presentation of best management practices for protecting water quality during timber harvests.

Windbreak Condition Grant

Age and drought have caused decline in windbreak health throughout the Great Plains. Eighty-four percent of windbreaks in South Dakota are classified in fair to poor condition, threatening loss of the multiple benefits they provide. The majority of windbreaks in the state were established following the Dust Bowl and are in decline due to old age and severe drought resulting in increased windblown soil erosion from cultivated cropland.

Decline of windbreak/shelterbelt health and function are stated as priority issues in the State Forest Action Plan (FAP). Pages 39-46 in South Dakota's State Assessment ([https://sdda.sd.gov/legacydocs/Forestry/educational-information/PDF/rsi-2117-sd-forestry-assessment-safr\[2\].pdf](https://sdda.sd.gov/legacydocs/Forestry/educational-information/PDF/rsi-2117-sd-forestry-assessment-safr[2].pdf)) suggest that 60-80% of the windbreaks are in poor health. Invasive species are described as issues in the plan and it identifies ash as the major species in windbreaks placing them at high risk to emerald ash borer. Black walnut may also be present in windbreaks and is susceptible to thousand canker disease. The plan identifies the seven counties in the South Dakota Association of Conservation Districts South James-Missouri Area as high priority landscapes.

In FY2014, South Dakota Department of Agriculture, Division of Resource Conservation and Forestry was awarded a US Forest Service grant to assess condition and inventory the windbreaks in the seven counties which include Davison, Hanson, Hutchison, Douglas, Aurora, Jerauld, and Sanborn counties. The strategies to address the issues listed in the state's FAP will be implemented through the accomplishment of this project's deliverables where remote sensing is used to identify condition and location of windbreaks. Federal Farm Bill conservation programs such as the Environmental Quality Incentive Program (EQIP) were identified as possible financial incentives to improve windbreaks currently in fair to poor condition.

Specific data on location & current condition of windbreaks is lacking in

South Dakota. This grant will provide resources to identify the locations of windbreaks and contact information of landowners that qualify for financial assistance through EQIP for windbreak renovation. The project will encourage landowner participation in the program, restoring windbreaks to functioning condition and sustaining their benefits.

Under this grant, South Dakota will partner with the Kansas Forest Service. Kansas GIS specialists will use remote sensing to map locations of windbreaks in need of renovation. The project builds on successful methods from a US Forest Service grant awarded to Kansas in 2008 but introduces LIDAR to increase accuracy.

The division and its partners will ground-truth and inventory 12% of the windbreaks in each county to determine remote sensing condition accuracy and identify the presence of invasive species. Inventory will also include quantifying biomass and identifying trees at risk from emerald ash borer and thousand canker disease.

*RCF Service
Forester
Nathan
Kafer and
Robert
Atchison of
the Kansas
Forest
Service
inspect a
windbreak.*



Forest Health

Forest Health Management

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 288 technical assists (not including mountain pine beetle assists 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 communicated to over 1,900 individuals associated with extension services, conservation districts, the Department of Game, Fish and Parks personnel, and the general public through the weekly Pest Update located on the division's website (<http://sdda.sd.gov/conservation-forestry/forest-health/tree-pest-alerts/>). Many more 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 1860s. 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 elm trees that remain in the communities across South Dakota. One Dutch elm disease survey was conducted by division personnel in the town of Mobridge at the request of city officials. Division personnel also responded to requests for positive identification of Dutch elm disease on a case-by-case basis.



Gypsy moth trap



Mountain pine beetle and Ips pini beetle funnel trapping at sawmills in the Black Hills.

Forest Health

Sawmill Trapping Initiative

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.

Information and Education

The division issued a public service announcement with information on mountain pine beetle and workshops that were held throughout the Black Hills. A total of 15 workshops were presented on mountain pine beetle by division personnel.



Dr. Kurt Allen (USFS) and Dr. John Ball (RC&F) presenting at land-owner workshop in Spearfish

Emerald Ash Borer Initiative

Although this pest has not yet been detected 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 has made the jump across the prairie to Boulder, Colorado, reminding us that it could show up anywhere.

Educational poster about the potential for moving pests through firewood.



Adult emerald ash borer (actual size).



Mountain pine beetle preventative spraying demonstration for the local media in Rapid City

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 is well adapted to the natural conditions of the region. The Black Hills experienced epidemics in the 1890s, 1940s, 1970s, and the present.

Epidemic Status in the Black Hills

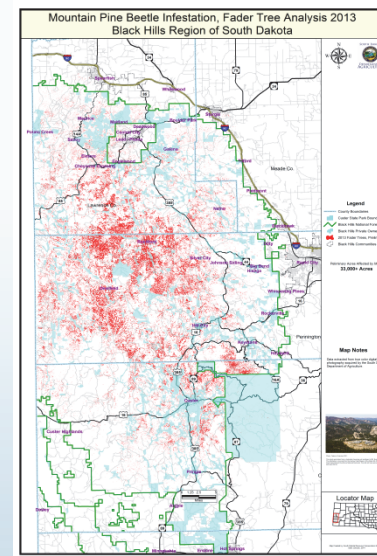
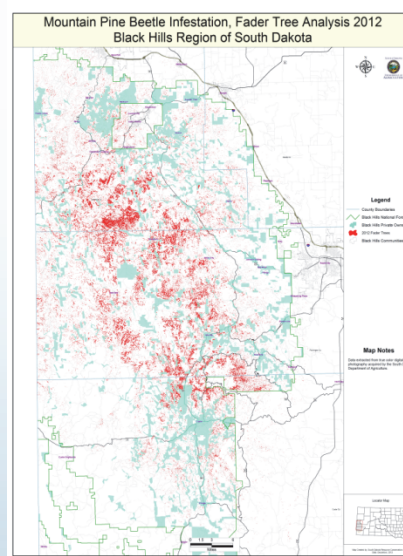
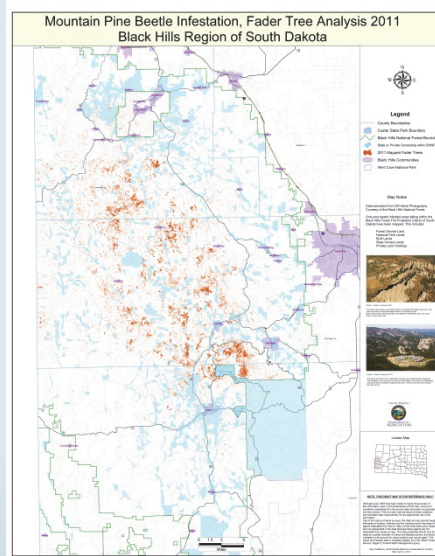
The mountain pine beetle epidemic continues to grow and expand within the Black Hills National Forest. Areas with expanding beetle populations and subsequent tree mortality can be found throughout the central Black Hills with the largest expansion appearing in the northern Black Hills. There are indications that the epidemic is peaking. This means that we will continue to see large areas throughout the Black Hills affected but some areas may not continue to expand at the rate that we have seen in previous years.

A forest health evaluation done by the USDA Forest Service in May of 2008 states that “the number of trees killed per acre found in parts of Norbeck/Black Elk Wilderness is extremely high. There are large portions of wilderness that already have 100% mortality of the pine overstory, and this level of mortality is expected to continue in the near

future.” The evaluation also states that “the only effective long-range strategy to minimize beetle-caused mortality is controlling stand conditions through silvicultural means over large landscapes and monitoring for areas of beetle buildup.” The infestation continues to move into the vicinity of Mt. Rushmore National Memorial

In response to this expanding population, the division and Custer State Park 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—were used to purposely draw beetles to specific trees. Baited trees draw many times the normal number of beetles, essentially ‘soaking up’ a population. Once the trees are infested,

they are felled, cut into 2-foot lengths, and left to dry out. The drying wood does not provide sufficient food for the larvae and therefore most die before emerging. Pheromones are also being employed to repel beetles from specific trees in an innovative effort to protect the rare limber



Maps showing extent and expansion of the mountain pine beetle epidemic over three years.

Black Hills Forest Initiative

pine trees present in the park. The specific mountain pine beetle projects in Custer State Park include:

- **Spot baiting FY2002:** A 230 acre baiting and thinning project was initiated and completed by spring 2001. This project successfully eliminated several small infestations within the park.
- **Spot baiting 2006-2014:** Trees near existing infestations were baited in 2005 and in subsequent years trees were baited near the previous year's trees. Baited and naturally infested trees were felled and cut into 2-foot lengths and left to dry, killing most of the beetle larvae that were inside them.
- **Total trees treated in Custer State Park (by fiscal year):**

⇒ 2006: 3,000	⇒ 2009: 21,000	⇒ 2012: 99,507
⇒ 2007: 4,100	⇒ 2010: 22,000	⇒ 2013: 35,028
⇒ 2008: 11,900	⇒ 2011: 14,000	⇒ 2014: 31,282
- **Special appropriations buffer winter of FY2008:** 450 acres around the border of the park were thinned to slow bark beetle movement into or out of the park. Fuels on some of those acres were piled to be burned for aesthetic or fire danger reasons. This was finished in 2009.
- **Anti-aggregation baiting of limber pine 2006-2014:** A relic stand of limber pine in the Cathedral Spires has received National Natural Landmark status from the National Park Service. Limber pine is a preferred host to the mountain pine beetle and there is 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. Less

than ten limber pines have become infested with mountain pine beetles (MPB) as a result of this practice. *These pheromones are not known to work on ponderosa pine.*

- **Commercial tree harvesting FY2010:** The same area where all of these projects have been taking place have been commercially logged to reduce stand density, which reduces susceptibility to beetle attack and fire risk.



Placement of anti-aggregation pheromone

- **Helicopter logging FY2010:** A helicopter logging crew was contracted to remove the infested trees that would have normally been treated on site in remote locations. The contract was extended to harvest more trees in these locations to reduce stand density on more acres.
- **Private lands surveying:** FY2014 marked the third and final year of Governor Dugaard's Black Hills Initiative to help private landowners suppress the mountain pine beetle (MPB) epidemic. This year

Fiscal Year	Acres Surveyed	Landowners	Infested Trees
2012	111,858	1,665	185,386
2013	30,023	1,006	96,731
2014	44,814	1,175	81,865

Black Hills Forest 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, and quality control.

- **What is the outcome, increase, decrease, or no change, for those landowners who participated in the Black Hills initiative?:**

For those landowners who participated for all three years 764 parcels contained one or more marked trees.

Marked Ownerships	Years Participating	Outcome
563	3	Decreasing
150	3	Increasing
51	3	No Change

For those landowners who participated at least two years 1,915 parcels contained one or more marked trees

Marked Ownerships	Years Participating	Outcome
874	2	Decreasing
370	2	Increasing
671	2	No Change

The data also shows that more landowners with larger parcels, who participated in the initiative for two or more years, experienced a “decrease” in infested trees.

Landowners who participated in the initiative for at least 3 years and larger ownerships had a decrease in infested trees. Landowners who participated

in the initiative for only 2 years had a decrease but need to continue with their efforts.

- **County MPB Suppression:** 2 million dollars was authorized by the legislature to grant to the counties to continue their efforts to mitigate the impacts of the current epidemic. The division administered the program and trained county personnel on proper infested tree identification. The counties have funds remaining and work will continue in FY2015.
- **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 approached the legislature for funding more work on the epidemic. The request was eventually combined with the Custer State Park bill introduced. A total of \$1.95 million was allocated. The work in CSP will use the first \$350,000 and the remaining \$1.6 million will go towards an “all lands” program for FY2015.



Crew planning to survey property

Black Hills Forest Initiative

Future Needs: The MPB epidemic continues to affect a large area in the Black Hills. Custer State Park, Mt. Rushmore National Memorial, and private lands are at risk from unchecked infestations on the surrounding Black Hills National Forest. This risk demands that control efforts be continued in the coming years. A continued proactive approach to management will reduce the risk of mountain pine beetle and provide a barrier for the ongoing spread of beetle populations. These management strategies will help to ensure that Custer State Park, and surrounding lands, remain a place of beauty and biodiversity in the Black Hills of South Dakota.

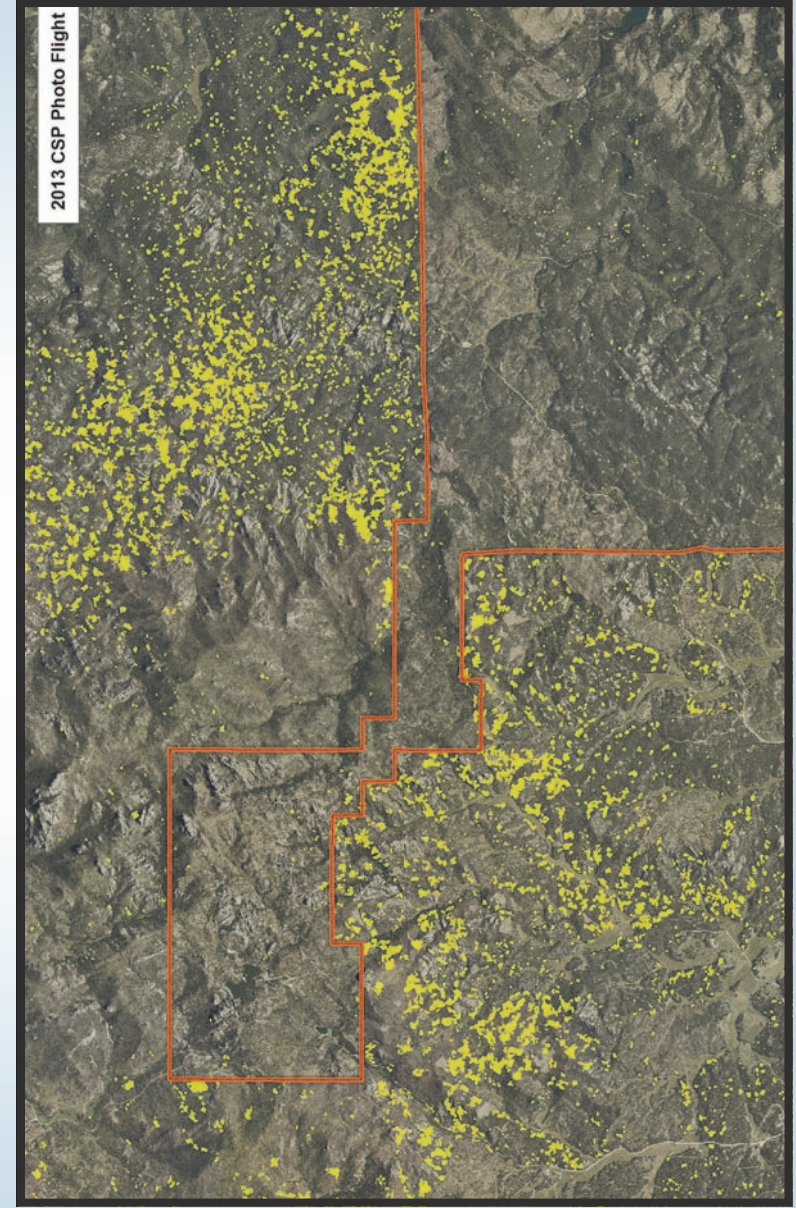
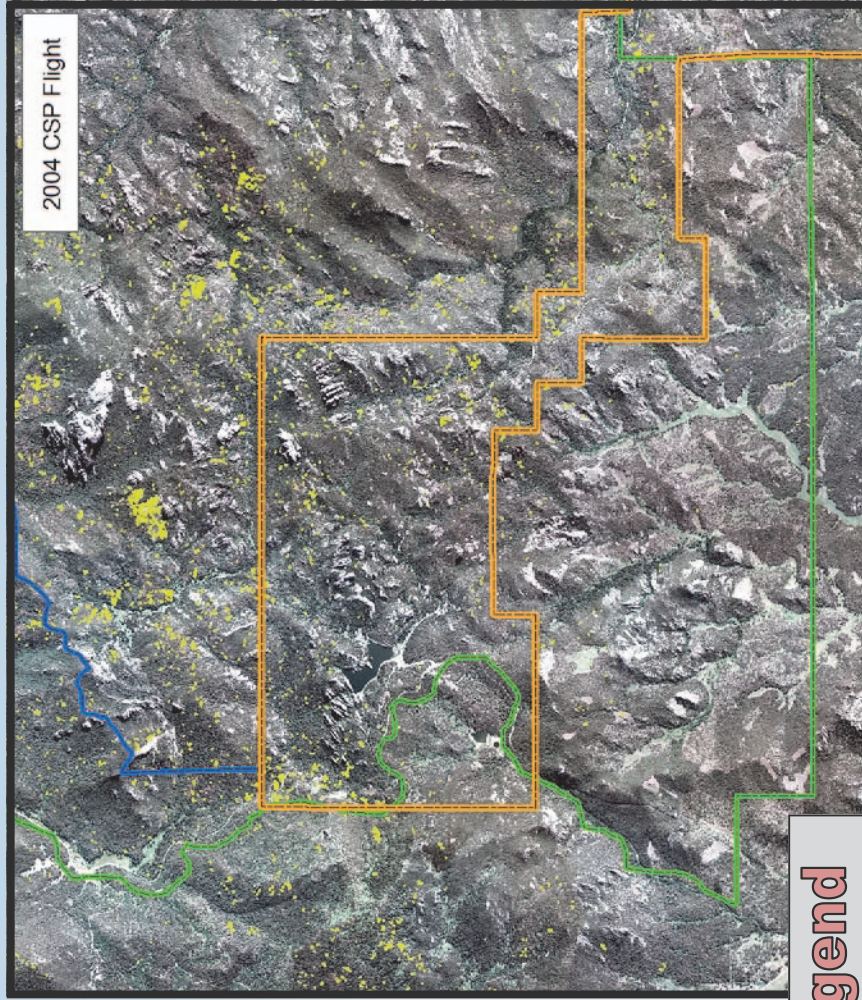


Infested tree identification training



Mountain pine beetle marking on private lands in the Black Hills.

Mountain Pine Beetle in Custer State Park



Legend

- Bark Beetle Damage
- Norbeck Preserve
- Black Elk Wilderness
- Custer State Park Boundary

Conservation District MPB Partnership

As part of Governor Dugaard's Black Hills Forest Initiative, marking efforts on private lands to identify trees infested with mountain pine beetle (MPB) were continued for the final year of the program in FY2014. The division's partnership with the conservation districts in Custer, Lawrence & Pennington Counties and the South Dakota Association of Conservation Districts (SDACD) remained to accomplish this task. Under this partnership, the division provided training, funding, and technical assistance to the marking staff employed by the conservation districts. SDACD provided the supervision, vehicles, and managed the payroll for the marking crew and supervisory staff.

The partnership was successful again in FY2014. Under this partnership, 81,865 trees on 44,814 acres of private lands were marked at a cost of

\$577,308. The partnership was again used to mark MPB infested trees within Custer State Park. During FY2014 the area surveyed in the park was reduced to cover areas where beetles were at epidemic levels. In total, 31,282 trees on approximately 15,000 acres of Custer State Park were marked at a cost of \$237,234.

Presently, MPB infestations on both private land and Custer State Park will continue to be a situation that will need to be managed as the epidemic continues. Legislation was passed to provide funding for an "all lands" approach in FY 2015. The division and its partners have renewed their efforts to accomplish the project of marking on private lands, National Forest lands, and within Custer State Park during this fall and winter.



Conservation District mountain pine beetle marking crews learning how to identify and mark infested trees.

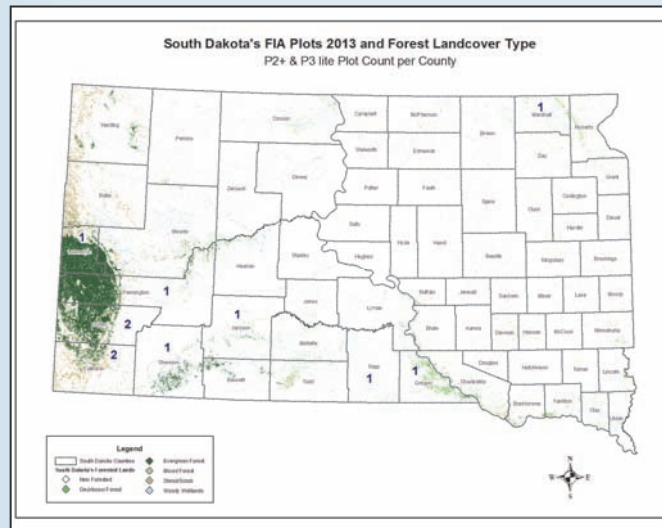


Conservation District mountain pine beetle marking crews marking infested trees.

Forest Inventory and Analysis

The Forest Inventory and Analysis (FIA) program collects, analyzes, and reports information on the status and trends of America's forests. Information is collected on:

- how much forest exists;
- who owns it;
- how it is changing;
- how the trees and other forest vegetation are growing; and
- how much forest has died and/or been 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 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. The program also projects what the forests may be like in 10 to 50 years under various scenarios. 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.

There are four primary FIA regions across the lower 48 states. South Dakota is part of the 24 state Great Northern Area region administered by the Northern Field Station, with offices in St. Paul, MN. and Newtown Square, PA.

Since the passage of the Agricultural Research, Extension, and Education Reform Act of 1998 (Public Law 105-185), the Northern Field Station has been conducting the annualized inventory over a five year cycle. Due to federal budget issues, the Northern Field Station's inventory period slipped from a five year cycle to a seven year cycle. South Dakota had just finished its third panel of the inventory cycle. This means the remaining two panels of plots will be divided over the next four years. During FY2014, a fourth panel of the revised inventory was completed.

These re-inventories will show how the state's forest resources are changing. In FY2014, the State of South Dakota received \$58,397.33 from the USDA Forest Service's Northern Research Station FIA Unit to inventory 69 forest inventory plots and 17 quality control plots.

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, 2013" and can be found at: <http://www.nrs.fs.fed.us/pubs/45704>.

The most recent periodic report on the periodic inventory of the Black Hills National Forest is titled "Forests of the Black Hills National Forest 2011" and can be found at: <http://www.nrs.fs.fed.us/pubs/43882>.

Capitol Christmas Tree

Every year thousands of guests visit the South Dakota State Capitol to enjoy the Christmas tree display. More than 90 Christmas trees are on display in the Capitol, and are decorated by schools, churches, communities, and civic groups from across the state. The 33rd annual Christmas at the Capitol holiday display featured the 2013 theme: "Christmas in the Great Outdoors." Every year, the division searches out the perfect tree to be the crown jewel in the display. The two-story high blue spruce tree featured in the Capitol rotunda was donated by Cassandra and Brandon Deffenbaugh of Brandon, SD.



South Dakota State Tree

Black Hills spruce is a naturally occurring variety of white spruce native to South Dakota. It is more compact and slower growing than its eastern cousin and can live 150+ years. Its needles are denser and are darker in color, varying from bright green to bluish green. It was first reported by French explorers in 1743.

Black Hills spruce ranges from 30 to 60 feet in height and 15 to 25 feet in width. The tree is fairly drought resistant and prefers full sun exposure. It grows best in acidic, moist loams, but adapts to many soils including gravelly or sandy loams to fine clay soils. It is flood intolerant and sensitive to soil compaction. Its United States Department of Agriculture growth hardiness zone rating is 2. It makes a good yard or ornamental tree and is good winter cover. The seeds provide food for songbirds, upland ground birds, and small mammals. The bark is eaten by porcupines and the foliage is lightly browsed by deer.

Black Hills spruce is used in conservation plantings and agroforestry windbreaks. The Plains Native Americans used the inner bark and shoots for food and the hardened sap for gum. They collected the spruce wood for tipi poles. Today the wood is used for dimensional lumber, pulpwood, and is a popular Christmas tree species. In 1997, the National Capitol Christmas tree was a 63 foot Black Hills spruce from the Black Hills National Forest in South Dakota.

Common diseases include *Lirula* needle blight. Common insect pests include spider mite, spruce needle miner, pine needle scale, yellow-headed spruce sawfly, and aphids.



Between the years of 1933 and the early 1970's, Black Hills spruce was considered to be a distinct variety of the white spruce, variety *densata* referring to its tendency to grow in dense stands. However, today it is not considered a variety of white spruce and the variety *densata* has been dropped.

The Black Hills spruce had a rocky and controversial start as South Dakota's State Tree. Some contended that the cottonwood would be more suitable as the State Tree due to its widespread distribution throughout the state. Others thought that the Black Hills spruce, because of its tricky and controversial scientific name, should be dropped and replaced with the juniper (or cedar) as the State Tree. Both of these ideas were researched and dismissed by a joint committee. The committee's report was accepted by both the Senate and the House. On March 10, 1947 the Black Hills spruce became the official State Tree of South Dakota (South Dakota Codified Law § 1-6-11).



Financial Assistance to Local Organizations

Summary of Grants Awarded by County, Program , and Amount Awarded during FY2014

County	Grant Recipient	Program	Award Amount	Local Match	Total Project Costs
	Custer State Park	BHC	\$ 70,000.00	\$ 70,000.00	\$ 140,000.00
	SD Family Forest	STW	\$ 10,000.00	\$ 10,000.00	\$ 20,000.00
Bennett	Bennett Conservation District	CSW	\$ 7,314.00	\$ 7,314.00	\$ 14,628.00
Bon Homme	Bon Homme Conservation District	CRP	\$ 645.77	\$ -	\$ 645.77
	Bon Homme Conservation District	CSW	\$ 23,236.00	\$ 29,236.00	\$ 52,472.00
	Bon Homme Conservation District	CSW	\$ 24,900.00	\$ 39,325.00	\$ 64,225.00
Brookings	Brookings Conservation District	CSW	\$ 10,500.00	\$ 8,000.00	\$ 18,500.00
Brown	City of Aberdeen	UCF	\$ 1,000.00	\$ 1,000.00	\$ 2,000.00
Brule-Buffalo	Brule-Buffalo Conservation District	CSW	\$ 11,500.00	\$ 10,000.00	\$ 21,500.00
	Brule-Buffalo Conservation District	CSW	\$ 55,000.00	\$ 150,000.00	\$ 205,000.00
Butte	Butte Conservation District	CSW	\$ 13,000.00	\$ 28,910.00	\$ 41,910.00
	Butte Conservation District	CSW	\$ 35,000.00	\$ 98,000.00	\$ 133,000.00
Clark	Clark Conservation District	CRP	\$ 123.96	\$ -	\$ 123.96
Custer	Custer Conservation District	CSW	\$ 17,000.00	\$ 17,500.00	\$ 34,500.00
Davison	Davison Conservation District	CSW	\$ 14,500.00	\$ 13,542.00	\$ 28,042.00
Day	Day Conservation District	CSW	\$ 40,000.00	\$ 553,200.00	\$ 593,200.00
Deuel	Deuel Conservation District	CRP	\$ 296.94	\$ -	\$ 296.94
	City of Gary	UCF	\$ 1,000.00	\$ 2,280.00	\$ 3,280.00
Dewey	Dewey Conservation District	CSW	\$ 15,000.00	\$ 15,964.00	\$ 30,964.00
Edmunds	Edmunds Conservation District	CSW	\$ 25,000.00	\$ 54,834.00	\$ 79,834.00
Fall River	Fall River County Weed & Pest	WPC	\$ 7,625.00	\$ 7,625.00	\$ 15,250.00
Haakon	Haakon Conservation District	CSW	\$ 20,804.64	\$ 22,804.00	\$ 43,608.64
Hamill	Hamill Conservation District	CRP	\$ 712.08	\$ -	\$ 712.08
Hamlin	Hamlin Conservation District	CRP	\$ 112.43	\$ -	\$ 112.43
	Hamlin Conservation District	CSW	\$ 8,380.00	\$ 8,560.00	\$ 16,940.00
	Hamlin Conservation District	CSW	\$ 17,000.00	\$ 17,000.00	\$ 34,000.00

Financial Assistance to Local Organizations

County	Grant Recipient	Program	Award Amount	Local Match	Total Project Costs
Hand	Hand Conservation District	CSW	\$ 30,000.00	\$ 28,963.00	\$ 58,963.00
Hanson	Hanson Conservation District	CRP	\$ 259.46	\$ -	\$ 259.46
	Hanson Conservation District	CSW	\$ 7,500.00	\$ 8,375.76	\$ 15,875.76
	Hanson Conservation District	CSW	\$ 17,000.00	\$ 17,000.00	\$ 34,000.00
Hutchinson	Hutchinson Conservation District	CRP	\$ 285.41	\$ -	\$ 285.41
	City of Freeman	UCF	\$ 1,576.00	\$ 6,424.00	\$ 8,000.00
Jackson	Jackson Conservation District	CSW	\$ 7,001.00	\$ 9,117.00	\$ 16,118.00
Jones	Jones Conservation District	CRP	\$ 123.96	\$ -	\$ 123.96
	Jones Conservation District	CSW	\$ 15,000.00	\$ 18,886.00	\$ 33,886.00
Lake	Lake Area Zoological Society	UCF	\$ 1,000.00	\$ 5,840.00	\$ 6,840.00
Lawrence	City of Lead	UCF	\$ 2,500.00	\$ 2,500.00	\$ 5,000.00
	City of Spearfish	UCF	\$ 4,000.00	\$ 4,000.00	\$ 8,000.00
Lincoln	Lincoln Conservation District	CRP	\$ 66.31	\$ -	\$ 66.31
Lyman	Lyman County Weed & Pest	WPC	\$ 7,000.00	\$ 7,000.00	\$ 14,000.00
Marshall	Marshall Conservation District	CRP	\$ 2,418.75	\$ -	\$ 2,418.75
	Marshall Conservation District	CSW	\$ 4,392.00	\$ 4,392.00	\$ 8,784.00
McCook	McCook Conservation District	CRP	\$ 92.25	\$ -	\$ 92.25
Meade	Sturgis, City of	UCF	\$ 4,000.00	\$ 4,219.00	\$ 8,219.00
Mellette	Mellette Conservation District	CRP	\$ 1,009.02	\$ -	\$ 1,009.02
	Mellette Conservation District	CSW	\$ 21,000.00	\$ 21,500.00	\$ 42,500.00
Miner	Miner Conservation District	CRP	\$ 144.15	\$ -	\$ 144.15
	Miner Conservation District	CSW	\$ 1,725.00	\$ 2,225.00	\$ 3,950.00
	Miner Conservation District	CSW	\$ 10,000.00	\$ 10,000.00	\$ 20,000.00
	Miner Conservation District	CSW	\$ 10,000.00	\$ 11,000.00	\$ 21,000.00
	Miner Conservation District	CSW	\$ 14,080.00	\$ 14,080.00	\$ 28,160.00
	Miner Conservation District	CSW	\$ 20,000.00	\$ 44,781.00	\$ 64,781.00

Financial Assistance to Local Organizations

County	Grant Recipient	Program	Award Amount	Local Match	Total Project Costs
Minnehaha	Minnehaha Conservation District	CSW	\$ 9,600.00	\$ 24,267.00	\$ 33,867.00
	Minnehaha Conservation District	CSW	\$ 16,920.00	\$ 25,380.00	\$ 42,300.00
Moody	Moody Conservation District	CSW	\$ 22,000.00	\$ 22,000.00	\$ 44,000.00
Pennington	Pennington County Weed & Pest	WPC	\$ 7,000.00	\$ 7,000.00	\$ 14,000.00
	City of Wall	UCF	\$ 1,000.00	\$ 1,000.00	\$ 2,000.00
Perkins	City of Lemmon	UCF	\$ 4,000.00	\$ 5,000.00	\$ 9,000.00
Roberts	Roberts Conservation District	CRP	\$ 95.14	\$ -	\$ 95.14
	Roberts Conservation District	CSW	\$ 5,784.00	\$ 7,675.00	\$ 13,459.00
	Roberts Conservation District	CSW	\$ 23,384.00	\$ 24,754.00	\$ 48,138.00
Todd	Todd Conservation District	CSW	\$ 15,000.00	\$ 16,825.00	\$ 31,825.00
	Todd Conservation District	CSW	\$ 25,000.00	\$ 38,620.00	\$ 63,620.00
Turner	Turner Conservation District	CRP	\$ 409.37	\$ -	\$ 409.37
	Turner Conservation District	CSW	\$ 29,000.00	\$ 30,954.00	\$ 59,954.00
Totals	-	-	\$ 771,016.64	\$ 1,588,871.76	\$ 2,359,888.40

- BHC = Black Hills Competitive Grant
- CRP = Conservation Reserve Program Grant
- CSW = Coordinated Natural Resources Conservation Grant
- STW = Forest Stewardship Grant
- UCF = Urban & Community Forestry Challenge Grant
- WPC = Weed & Pest County Grant

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

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Ring Thunder Road Near White River, SD

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