CUSTER CONSERVATION DISTRICT NEWSLETTER

Custer County Conservation District was established in 1940.

Special points of interest:

- Pine loopers
- Managing your forest
- Funding for private land habitat projects
- NRCS assistance programs

Inside this issue:

District hosts soil health & sustainability meeting

This past summer, the Conservation District co-hosted a soil health workshop along with the Pennington County Conservation District and the USDA-Natural Resources Conservation Service (NRCS). The meeting included presentations on principles of soil health, ranching and soil health, soil testing, and NRCS landowner assistance programs. Attendees were also given demonstrations of the NRCS rainfall simulator and wind erosion simulator. Finally, the meeting concluded with a tour of the Freeland Farm, which included hands-on soil health analysis activities and a no-till drill calibration demo. The event was sponsored by Millborn Seeds and Hefty Feed and Seed.

Participants in the field tour of Freeland Farm during the Soil Health meeting (top & center right). Presentation on soil health by NRCS staff during the meeting (lower right). Rainfall simulator to demonstrate water infiltration rates by varying soil conditions/quality (left).

Status of the pine looper near Pringle

The second year of the pine looper (*Phaeoura mexicanaria*) outbreak northeast of Pringle has come and gone. Once again the loopers, which feed exclusively on pine needles, defoliated a large area of ponderosa pine trees; however, there is hope that the pesky caterpil-

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Landowner meeting held in July near Bowman Ridge to inform residents on the status of the pine looper outbreak (above).

Managing your forest for disturbances and structure by Laura Bosworth, State Forester, South Dakota NRCS

Have you noticed your forested land or the forested land around you changing? Like all ecosystems, forests are dynamic. They will continue to grow and change and have disturbance such as fire and insects. These disturbances determine the forest structural diversity and composition within the Black Hills. Prior to European settlement, fires were highly variable in size and severity. These fires were responsible for sustaining a diverse forest stand structure, consisting of open stand conditions and meadows. Because this forest was so diverse, its structure was resistant to major stand replacing disturbances. Following European settlement of the Black Hills and the rise of the gold mining industry, fires were suppressed in order to protect towns and resources. Although fire suppression is needed, there are long term consequences. Fire suppression has altered the structures of the Black Hills forests by increasing tree densities, and creating a more uniform forest, decreasing the frequency of open forests, and meadows.

While ponderosa pine, the most common tree species in the Black Hills, is considered a fire-adapted species, it is not immune to the effects of fire. Ponderosa pine regenerates profusely in the Black Hills creating multistoried

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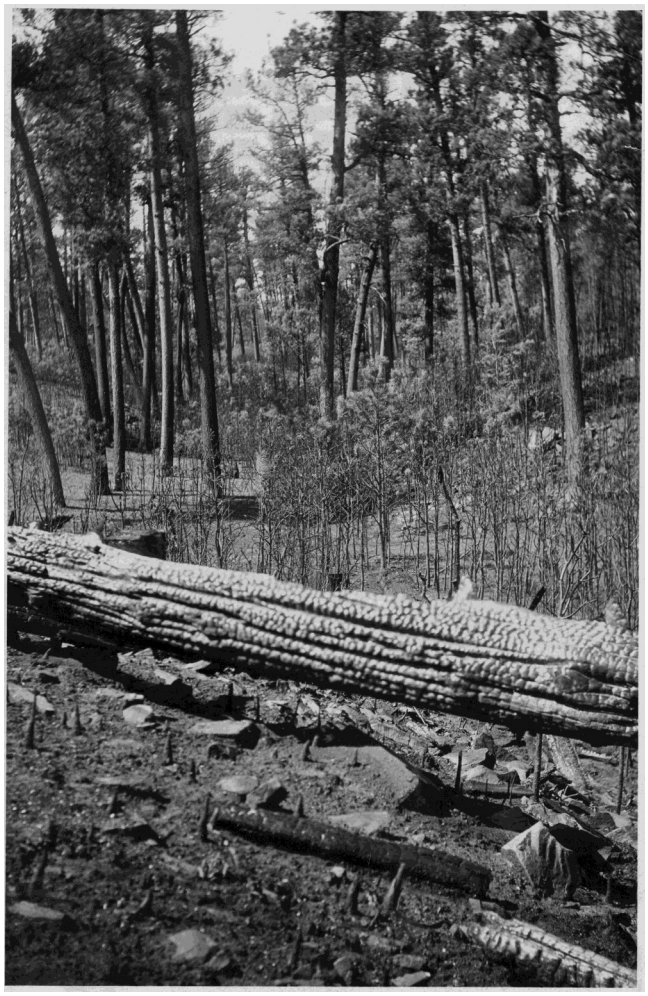
Example of a stand of ponderosa pines in need of thinning (above). The crowded trees are more vulnerable to wildfire and insect pests. Overcrowded stands are also frequently void of understory vegetation as in this example. Photo by USDA NRCS South Dakota.



Post Mayo Fire possibly taken in 1910 (right). Photo credit Black Hills National Forest Historical Collection, Leland D. Case Library for Western Historical Studies, Black Hills State University.

Cost-share thinning grants available

The Custer Conservation District has cost-share funding available for landowners interested in improving their forest health. Funds can be used for non-commercial tree thinning, brush management, and slash removal. The project's goals are to improve forest conditions and wildlife habitat while also reducing wildfire hazards. Overstocked forests are vulnerable to insect outbreaks and wildfires.

Qualified applicants are eligible to receive up to $225/acre for thinning and up to $100/acre for slash disposal. Payments will be made after work is completed and certified by a Staff Forester from the SD Department of Agriculture and Natural Resources. Applications are available at our website (custercountysd.com/conservation-district/) or in the office. Call 605-673-5680 for additional information.

Funding available to landowners through SD Game, Fish & Parks programs

Cost-share funds area available from South Dakota Game, Fish & Parks for landowners to implement habitat-related projects. Information about supported practices are described below.

Photos courtesy of USDA-NRCS South Dakota.

South Dakota Game, Fish & Parks Private Lands Habitat Program

The goal of GFP's Private Lands Habitat Program is to help landowners establish, restore, or manage habitat on private land to enhance reproduction, recruitment and survival of wildlife. Several program options are available to support management practices that emphasize healthy working grasslands. All projects are subject to approval by a GFP private lands habitat biologist. Cooperators must allow some amount of reasonable public hunting.

Food Plots

- Food plots must remain unharvested/standing through March 15th.
- Annual payment of $20 per acre for food plot acres ($80/acre for food plots enrolled in a public hunting access program).
- Free food plot seed is available from GFP each spring (corn, sorghum, brood mix, big game mix).
- Maximum of 20 acres per quarter section and unlimited total acres per landowner.

Woody Habitat

- Shelterbelt plantings
- Shelterbelt renovations
- Riparian shrub clump plantings
- Hardwood release program

Grassland Establishment

- Native grass and forb seed mixes are the priority and plantings must be at least 10 acres.
- Landowners are reimbursed 100% up to a maximum of $125/acre for seed costs.
- Cost-share is NOT available on CRP or WRP plantings or hay land.
- Additional incentives available if plantings are enrolled into public hunting access program

Brood/Pollinator Plots

- Designed to provide high quality native perennial habitat for broods and pollinators
- Landowners are reimbursed 100% up to a maximum of $150/acre for seed costs
- Individual plantings must be a minimum of 2 acres and a maximum of 9 acres

Grassland/Grazing Management Practices

- To enhance grazing management opportunities and plant community health on working grasslands
- Cost-shared practices include:
  - ✓ Perimeter and cross fence
  - ✓ Woven-wire fence replacement in pronghorn range (wildlife friendly fence design)
  - ✓ Water development - stock tanks, pipeline, rural water hook-ups, wells, solar pump units
  - ✓ Multi-purpose stock/wildlife impoundments
  - ✓ Wetland restorations
  - ✓ Grassland establishment
  - ✓ Riparian pastures
  - ✓ Habitat exclusion fencing
  - ✓ Additional incentives available if enrolled into public hunting access program

Riparian Habitat Enhancement Program

- One-time rental payment of 75% per year of the county NASS rate for pasture (10-year contract)
- Cost share livestock exclusion and alternative water sources
- Minimum width 35 feet and maximum width of 240 feet.

For more information landowners may contact a SDGFP Private Lands Habitat Biologist:

Custer: Tom Miklos - 605-416-4080
Hot Springs: Ben Pucket - 605-786-8144

Pine Loopers

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lars will not return for a third year. Specialists from SDSU, US Forest Service, and NRCS have been monitoring the looper population over the last two seasons. Their observations indicate that the population has collapsed and the possibility of a third-year outbreak seems unlikely.

Dr. John Ball, Forestry Specialist and Forest Health Specialist with SDSU, stated that there were significantly fewer pupae than the previous year and that mature larvae were dying at a "remarkably high rate", likely due to natural enemies (e.g., pathogens and other insects). Although the possibility of the outbreak continuing into a third year is not likely, Dr. Ball noted there were a few new small pockets within 4-5 miles of outbreak area. Those areas will need to be monitored.

Regardless of their return, tree mortality is expected in the impacted area. Two years of severe defoliation have left the trees quite vulnerable. In fact, Dr. Ball has observed affected trees are now being attacked by red turpentine beetles and sawyer beetles. A rough estimate is that around one third of trees may die. A final tally of tree mortality will not be certain until the next year or two.

Information for this article was gleaned from Dr. Ball's Tree Pest Alerts published by SDSU Extension and the SD Dept. of Agriculture and Natural Resources. Available at www.extension.sdstate.edu/tree-pest-alert

Defoliated ponderosa pine trees (above) near Beaver Creek Road in September, 2023. These trees experienced two years of heavy defoliation from the pine looper caterpillars (pictured left). Some level of tree mortality is expected.

Tree sales going on now!

It's that time of year again to start thinking about those trees that you want to plant next spring. Both the Fall River and Pennington County Conservation Districts have trees for sale. Trees arrive in the spring, but orders need to be placed soon before supplies run out. Fall River District asks that all orders be placed by December 31. Pennington accepts orders until April 1, but some trees will sell out so don't wait! Order forms can be found at fallriverconservation.com/services-7 and penningtonconservation.com/services.

Managing your forest

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stands that contain numerous and often dense patches. Historically, fire would have thinned the patches, but without these frequent disturbances they create/accumulate as ladder fuels. These fuels provide vertical continuity that allow fire to carry from surface fuels into the crowns of trees with relative ease creating and continuing crown fires. In addition to ladder fuels, forest stands that historically had low tree density have become very dense. These dense forests create a continuous, uniform canopy that can facilitate the unimpeded spread of a crown fire. These forests are more prone to larger and more severe fires. This has resulted in several large fires throughout the Black Hills including the Jasper fire in 2000 that occurred within Custer County.

In order to restore our forest disturbances to those that are less severe, we need to manage our forest structure. This can be done by reducing forest densities and cover, increasing the size and frequency of openings, and restoring the landscape mosaic. Restoring historical forest structure is consistent with reducing the potential for crown fires. Forest thinning can be designed to make the landscape more heterogeneous with stands of varying age and size structures, along with openings interspersed throughout. These treatments combined with reducing woody surface materials, increasing height to live branches, increasing tree spacing, and maintaining the larger fire-resistant trees best impedes fire spread and severity. Restoration treatments have many other benefits as well. With restoration there is an increase in vertical and horizontal diversity increasing wildlife habitat. There is also an increase in light to the forest floor this allows an increase in species diversity and forage. However, the goal of restoration should not be to re-create historical forest structure and function, but to use our knowledge of historical structure and function to create forest structures and processes that are sustainable and meets the conditions for that particular location.

Private land makes up 39 percent of forested land in South Dakota, and there are roughly 475,000 acres of privately owned forested land in the Black Hills. This leaves landowners in a unique ability to impact our forests and how they function: we can increase tree health and vigor, decrease risk of catastrophic disturbance, and increase forage for wildlife or cattle. Individuals play a critical role in restoring the function of the forest to one that is less susceptible to severe forest fires. The first step to having a healthy forest is to a have a comprehensive Forest Management Plan or a Forest Stewardship plan. One way to do this is through the NRCS's conservation planning process. Through this process we can clarify your forest stewardship goals and objectives and assist you in identifying and addressing resource concerns affecting your forestland. This will enhance your ability to reach your forest stewardship goals. The Black Hills are loved by many, by working together on a shared mission we can help restore both forest structure and ecosystem function.

Photo taken one year after the 2000 Jasper Fire in the Black Hills. More than 80,000 acres burned in that fire. Photo credit US Geological Survey, Dakota Water Science Center

Scholarship notice!

The Custer Conservation District is excited to offer another $1,000 scholarship to two graduates in the class of 2024. Eligible students are graduating high school students that reside in Custer County and plan on attending a post-secondary institution. Applications are available online at custercountysd.com/conservation-district/ and at our office. Applications are due by March 31. Any questions can be directed to our office at 605-673-5680 or email us at custercd@sdconservation.net.

Attention landowners and agricultural producers: the Natural Resources Conservation Service has financial assistance programs available to help your operation and improve the health of your land

The Natural Resources Conservation Service (NRCS) was founded in 1935 with the mission of helping farmers and ranchers prevent soil erosion. After 88 years of working with private landowners, that mission has expanded to help landowners protect all natural resources. NRCS's motto is "Helping People, Help the Land", this is accomplished through several voluntary conservation cost-share programs, and strong local partnerships. This article will discuss some of the financial assistance programs available through NRCS.

Environmental Quality Incentive Program (EQIP)

In the past EQIP has been called the Bootstraps Program or Great Plains Conservation Program, regardless of the name the goal is to protect natural resources. EQIP is a working lands program, that provides cost share to producers and landowners who install practices and/or management on their land. The purpose of this program is to increase conservation on an operation while also increasing sustainability and profitability for a farmer or rancher. EQIP can be applied on all land uses including crop, range, and forest lands. EQIP contracts can be 1-10 years long, depending on when practices are scheduled and has a Farm Bill payment limitation of $450,000. Below are a couple common examples of how EQIP could be used on each land use:

Range Land: Common practices include wells, livestock pipeline and tanks, livestock shelter, prescribed grazing, cross fences, grass seedings, and stream crossings. These practices are meant to increase grass utilization by allowing the implementation of rotational grazing which benefits the environment and the producer.

Crop Land: Common practices include grass seedings, cover crops, no-till, nutrient management, center pivots, irrigation pipeline and irrigation water management. These practices can improve crop productivity and soil health while still addressing concerns such as soil erosion, inefficient use of irrigation water, and soil compaction.

Forest Lands: Common practices include forest stand improvement (precommercial thinning), brush management, and fire breaks. Most of the common practices from range land can also be applied to forest land if the forest is being grazed.

Conservation Stewardship Program (CSP)

CSP is NRCS's newest program and is designed to improve the existing conservation being implemented on an operation. As an example, a producer could be planting a single species cover crop currently and CSP assistance we could financially support planting a multispecies cover crop on the same fields. CSP makes payments to the producer based on conservation they are currently implementing as well as the conservation activities they plan to implement in the contract. Improvements to existing conservation in this program are called enhancements and there are hundreds of different enhancements that can be implemented. With this program the contract holder must be the operator of the land and all acres they operate are enrolled in the program. CSP is a working lands program and does not require the producer to remove land from production. Contracts for this program are five years in length and earn up to $200,000 per Farm Bill cycle. Small acreage or specialty growers are eligible also and the minimum contract earnings is $4000 annually.

The first step for CSP or EQIP is to visit your local NRCS office and sign a program application. At this time the NRCS staff will discuss your goals with you and help you decide which program is the best fit for you and your operation at this time. Producers can enroll in one or both programs at the same time if it will help them reach their conservation and production goals. For more information about either of these programs visit https://www.nrcs.usda.gov/programs-initiatives or stop by your local NRCS office.

NRCS
Natural Resources Conservation Service

Conservation District Board tours the Buffalo Gap National Grassland

On November 6, the Custer Conservation District Board of Supervisors participated in a tour of the Buffalo Gap National Grassland in eastern Custer County. The tour focused on grazing management on the Grassland and covered topics such as water distribution, riparian management, multiple use, and the 2021 Agate Bed Fire.

Some of the areas visited are within the boundary of the Conservation District's "Grazing and Riparian Health" CIS project, funded by NRCS. The importance of current and future partnerships between the District, the US Forest Service, and others is critical in obtaining grant funds to implement conservation practices in the area. The Board is thankful to Julie Wheeler and Mandy Irwin, USFS Buffalo Gap N.G., for the tour.

Conservation District and Forest Service participants during the Buffalo Gap National Grassland tour (top). Examples of areas visited (center, bottom).

Calendar of Events

November 29—Dakotas Society of American Foresters Symposium, Rapid City, SD. For more information, contact kristaerdman@gmail.com.

December 5—SD Grassland Coalition Annual Meeting, Rapid City, SD. For more information, visit sdgrass.org/Annual-meeting.

December 14—Custer Conservation District Board meeting, Custer Co. Courthouse, Custer, SD.

January 11—Custer Conservation District Board meeting, Custer Co. Courthouse, Custer, SD.

January 18 & 20—11th Burning Beetle event, Custer, SD. Educational event on the 18th with topics on forest insects/diseases, fire, forest management, etc.. Beetle burning on the 20th. For more information, visit the Burning Beetle Facebook page.

January 23-24—2024 Soil Health Conference by the SD Soil Health Coalition, Rapid City, SD. For more information, visit sdsoilhealthcoalition.org/soil-health-conference

February 8—Custer Conservation District Board meeting, Custer Co. Courthouse, Custer, SD.

March 14—Custer Conservation District Board meeting, Custer Co. Courthouse, Custer, SD.

March 31—Application deadline for scholarship. Custer Conservation District.

April 11—Custer Conservation District Board meeting, Custer Co. Courthouse, Custer, SD.

May 9—Custer Conservation District Board meeting, Custer Co. Courthouse, Custer, SD.

Electronic newsletter mailing list

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Newsletter of the Custer County Conservation District

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SD Game, Fish & Parks
National Wild Turkey Federation
USFS, Buffalo Gap National Grassland
USFS, Black Hills National Forest

The mission of the Custer County Conservation District is to promote conservation of soil, water, and natural resources for residents and visitors now and in the future.

Established in 1940