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Grants:



\$250,000 Long Pine Creek Watershed Phase II \$451,530 Woody Biomass Utilization Compost Tractor \$192,000 Expansion of Water Quality & Quantity Monitoring Sites

Long Pine Creek Watershed Phase I

\$111,250

NEBRASKA Good Life. Great Resources. Dept. of environment and energy

319: Long Pine Creek Watershed Phase I
\$97,500
Nonpoint Source Water Quality Grant
Waste Reduction
\$41,300



John Deere 544 GTC Payloader \$20,000



MNNRD

303 East Highway 20 Valentine, NE 69201

Contact us at **402-376-3241**

www.mnnrd.org

NSWCP Cost Share

- Sign-up for 2020/21 practices will be May 2020
- Trees 50% up to \$4,000
- Planned Grazing 60% up to \$5,000
- Miscellaneous practices, including; grassed waterway, pasture seeding, critical area planting 60% up to \$5,000

No-Till Drill

The Middle Niobrara NRD has no-till drills available for rent.

• 4 ft no-till drill (Four-wheeler)

• 7.5 ft Haybuster no-till drill (Tractor) Both drills are capable of planting food plots or seeding native grasses. We also have food plot seed, alfalfa and can also obtain grass seed varies for your planting needs. Call the MNNRD office for prices and details.



Conservation Tree Plantings offer TREE-mendous Benefits

During 2018 and 2019, winter storms in the months of February and March wreaked havoc on sandhills cattle producers, killing and burying cattle that had nowhere to find protection from the snow and wind. Since this time, the Middle Niobrara NRD (MNNRD) has seen a steady increase in the number of tree shelterbelts being planted in the district as cattle producers are reminded of the benefits shelterbelts provide for their livestock. For the upcoming 2020 planting season, the district will be planting 52 tree shelterbelts totaling 20,776 trees. For comparison, in 2019, MNNRD installed 30 tree shelterbelts with 11,583 trees and 22 tree shelterbelts with 8,019 trees in 2018. Eastern Red Cedar and Rocky Mountain Juniper continue to be the main component of MNNRD tree shelterbelts comprising 55% of the total of all species planted. Contact Dana Krueger at the MNNRD about planting for the 2021 season, as the district already has 29 landowners interested in cost-sharing tree shelterbelts. The need for livestock protection is directly correlated with the current upward trend of tree shelterbelt plantings.



An excerpt from <u>Helping Cows Cope with Cold Stress</u>, by Mary Drewnoski, Nebraska Extension Beef Systems Specialist, UNL, and Karla Wilke, Cow/Calf Systems and Stocker Manager, UNL., helps explain the benefits a shelter belt can provide. Cold stress increases a cow's energy requirement and can pull down body condition. Body Condition Score (BCS) should be maintained in the 5 - 5.5 BCS to help reduce the impacts of cold weather on cows. The threshold at which cattle must start using energy to maintain their body temperature is called the Lower Critical Temperature (LCT). Cows in good condition (BCS 5.0 or higher) having a heavy winter coat

that is dry do not need to use energy to maintain body temperature until ambient temperature or windchill index is below 19° F. By comparison, a thin cow with a BCS 4 and a dry winter coat has an LCT of 27° F vs. the 19° F of a cow in BCS 5. Wet hair also increases the LCT of a cow in good condition to 53° F. This brings us to the point of providing wind protection for livestock. By providing wind protection, you can decrease energy needs by removing wind as a factor. If cows have protection from wind, the ambient temperature can be used to determine energy needs, not the wind chill index. Providing wind protection during winter can be huge for reducing feed supplementation needs due to the cold temperatures. To read the entire article you can stop by the MNNRD office to get a copy or use this link: https://grassland.unl.edu/pdf/newsletters/2019WinterNewsletter.pdf

Trees not only provide livestock protection, but other benefits, including protecting crops and homesteads, wildlife habitat, improving water and air quality, property enhancement and community beautification. Most people are familiar with flowering annual and perennials in flower beds attracting bees and other pollinators, however, trees provide benefits to bees and pollinators as well. Fact is, bees and other pollinators forage for pollen and nectar in tree canopies. Trees covered with thousands of flowers provide an abundant source of pollen and nectar in one place, requiring less energy in searching for other food sources. In early periods of spring, when few plants are in bloom, bees take food from wind pollinated plants, including these trees: poplar, cottonwood, elm, oak, birch, walnut, honey locust and Kentucky coffee tree. Trees that bloom early in spring provide an energy boost to bees that have depleted their stores of honey during the winter. Additionally, bees emerging with the first warm days of spring gather resins from cottonwoods. They mix these resins with their own enzymes and use this highly



antimicrobial glue to line their hives. The most popular trees for bees are those listed above and others including willow, cherry, plum, crabapple, maple, boxelder and linden. In addition to food sources, trees also provide nesting opportunities for bees making their nests in holes, hollows or crevices in tree branches. Dead trees can also serve as nesting areas for cavity-nesting bees. In all, native flowering trees are not only beneficial to foraging bees and pollinating insects, but also to larvae of many native butterflies and moths that feed upon tree foliage. So, by planting trees you are in effect creating pollinator habitat.

They say the best time to plant trees is 20 years ago. The second-best time is now! Order your trees today for spring 2020. Trees will be ready in early April for spring planting.

Long Pine Creek Watershed



The MNNRD with the help of JEO Consulting Group are addressing threats to water quality, streambed channel, aquatic habitat and infrastructure within the Long Pine Creek Watershed (LPCW) by implementing Best Management Practices (BMP) within the LPCW and an In-Stream Structure (SD-14) on Sand Draw Creek (SDC). After the March "Bomb Cyclone" and September rain events, the LPCW was devastated and played a huge impact on the implementation of the SD-14 on SDC. JEO re-surveyed the project site and re-design so the project continues moving forward. The watershed, approximately 332,000 acres primarily in Brown County, is mostly irrigated farming and

rangeland within the Ainsworth and Long Pine communities. Grants from Nebraska Department of Environmental Quality and Nebraska Environmental Trust are helping fund the BMP's and construction of the structure on Sand Draw Creek.

An application for an NRCS Watershed Work Plan (EA) in the LPCW – Long Pine Creek Watershed Improvement Project (LPCWIP), through the Watershed and Flood Preventions Operations (WFPO) Program was submitted and approved. MNNRD Board of Director's selected FYRA Engineering for the WFPO twoyear planning. This planning will focus on 9 resource management concerns. Once the planning effort has been completed and approved MNNRD will apply for USDA funding nationally to address priority resource concern areas throughout the watershed. The WFPO "Kickoff Meeting" was held November 6th, 2019 in Ainsworth, NE followed by a mini LPCW tour. The first WFPO LPCWIP Agency and Public Scoping Meeting was held February 18thAinsworth, NE.



MNNRD and FYRA Engineering will continue hosting meetings periodically in the upcoming months.

Priority efforts to address a major headcut on SDC and to work with the Brown County Commissioners to address the loss of the Old Highway 7 Box Culvert are current funding needs.



Paper Shredding Event



On December 13, 2019 the North Central RC&D hosted a paper shredding event with stops along Highway 20 that included; Merriman, Cody, Valentine (MNNRD parking lot), Bassett, and Stuart. This event collected a total of 10,920 pounds of paper and \$875 in donations.



Nebraska Law on Cleaning Your Watercourses, Drains, or Ditches

31-224. Watercourses, drains, or ditches; annual removal of rubbish by landowners or tenants; exceptions.

It shall be the duty of landowners in this state, or tenants of such landowners when in possession, owning or occupying lands through which a watercourse, slough, drainage ditch or drainage course lies, runs or has its course, to clean such watercourse, slough, drainage ditch or drainage course at least once a year, between March 1 and April 15, of all rubbish, weeds or other substance blocking or otherwise obstructing the flow of the water in such watercourse, slough, drainage ditch or drainage course, whenever such obstruction is caused by any of the acts of said owner or tenant, or with his knowledge or consent; *Provided, however*, this and sections 31-225 and 31-226 shall not apply to drainage ditches under control of any drainage company or corporation.

31-202. Watercourse, defined.

Any depression or draw two feet below the surrounding lands and having a continuous outlet to a stream of water, or river or brook shall be deemed a watercourse.

31-221. Injuring or obstructing watercourse, drain, or ditch; penalty; liability for costs of cleaning.

If any person or persons shall willfully fill up, injure or destroy any watercourse or any drain or ditch constructed as herein required, or willfully prevent or delay the construction or repair of any watercourse or any drain or ditch in the manner provided by sections 31-201 to 31-223, such person or persons shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined in any sum not less than twenty-five dollars nor more than one hundred dollars, or be confined in the county jail not to exceed thirty days, and in addition thereto maybe liable for the cost of cleaning out any such watercourse, drain, or ditch as determined by the court.

2019 Fall Static Water Measurements

	Cherry	Brown	Keya Paha	Rock	District
Average Change Since Spring 2019	0.25 ft.	2.72 ft.	1.57 ft.	4.11 ft.	2.16 ft.
Average Change Since Fall 2018	2.6 ft.	3.54 ft.	4.29 ft.	7.3 ft.	4.43 ft.
Average Change in last 10 years	4.16 ft.	4.85 ft.	3.89 ft.	5.74 ft.	4.66 ft.

- A total of 184 wells were measured for static water levels in the fall of 2019. 180 wells showed an increase from the fall of 2018, while 4 wells showed a decrease.
- The largest increases were on the wells SouthWest of Bassett and the largest decreases were on the wells North of Crookston.

Nitrate Changes

Changes from 2018 to 2019	Avg. ppm Change	2019 Avg. ppm
Cherry	(+) 0.05	3.06
Brown	(+) 0.47	7.37
Rock	(-) 0.16	6.88
Keya Paha	(+) 0.39	5.22



Reminder:

Fertilizer reports for all fields in Management Zone 3 are due by April 15.

Woody Biomass Utilization

The MNNRD is utilizing its woody biomass program to improve angler access, upgrade roads, and enhance the boat ramp launch at Cub Creek Recreational Area. Eastern Red Cedars have been cleared along the bank, cut out of pine tree belts, and removed from draws surrounding Cub Creek Recreation Area. Removal was achieved with the use of chainsaws, a tree shear implement, and loppers.

Utilizing the skid steer and chipper we have produced an estimated 10 tons of woodchips for use as road base and material for under the picnic shelters. During the month of January, the MNNRD crew also worked at Pony Lake on the National Wildlife Refuge chipping dead trees that had burned in recent wildfires. The crew created nearly 40 tons of chips that will be used to improve the base of roads and trails across the refuge to provide better and more reliable access. While these chips will be used in a multitude of ways, it saves the trees from being burned, thus improving air quality.



Included in the woody biomass program at the MNNRD is a new composting project in conjunction with a local producer and a Waste Reduction Grant from the Nebraska Department of Environment and Energy (NDEE). Taking wood chips from different chipping projects, and mixing them with beef manure at different ratios, creates a very nutrient rich compost. While the project is still ongoing, preliminary studies from a similar project with the University of Nebraska-Lincoln shows a multitude of benefits. Higher crop yields, more retained soil moisture, reduced soil temperature, and minimized fertilizer leeching are just some of the highlights. Pre and post soil samples, soil moisture probes, yield data, and GPS systems on the equipment will allow the MNNRD to provide quality data for further advanced research. This project will continue in 2020 and will utilize nearly 250 tons of wood chips and manure, turning a "waste" product into something beneficial for our district.

CARE OF TREES PLANTED WITH FABRIC MULCH

There have been many tree belts planted with weed barrier fabric installed during the planting process. The black bio-degradable barrier eliminates the need for mechanical or chemical weed control between and around the trees and helps retain moisture longer in the soil. While providing these benefits early in the windbreak for young trees, the fabric may be choking larger trees in belts over 10 years old. The black fabric may not degrade as quickly as necessary when grass or trees grow at a fast rate and quickly shade the material from UV rays needed to break down the fabric. Thus, the base of trees may become girdled or choked by the fabric which eventually will kill the trees. Landowners with tree belts over 4 years old are encouraged to inspect their trees and if the fabric is not breaking down, cut the openings around the base of the trees larger and in as many directions away from the tree as possible to allow for unrestricted growth or remove the fabric altogether.

There are several ways to cut the fabric away from trees. Utility knives work well around hardwood trees where access to the trunk is not restricted by limbs. If you have conifers such as cedar, juniper, pines or spruce, it may be more difficult to get close to the trunk to remove the barrier. In this case a long-handled brush knife or sawed knife taped to a long handle can be very effective. These knives can be purchased at a home improvement or farm store. If you have questions, please give us a call at 402-376-3241.



A tree girdled by fabric mulch. Cutting fabric away from hardwood with a knife. Using a sawed knife with handle to cut away fabric.

Board of Directors



Back Row: Dean Jochem, Greg Wilke, Justin Hammond (Vice-Chairman), & Len Danielski (Chairman)

Front Row: Marty Graff, Cherryl Lovejoy (Secretary/Treasurer), & Mark Johnson

Staff:

Mike Murphy General Manager Zachery Peterson Assistant/Office Manager Tim Storm Water Programs Supervisor Dana Krueger Natural Resources Supervisor Chandler Schmidt Watershed Coordinator Kyle Temple Natural Resources Technician Steffan Silva Natural Resources Technician Kaleb Puncochar Natural Resources Technician Wendy Tillman Administrative Assistant

Introducing New Employees

Hello, my name is Kaleb Puncochar. I was born in Western Nebraska before eventually moving to Grand Island, Nebraska. I studied Rangeland Management with an option in wildlife at Chadron State College, graduating in May of 2018. I spent my first two years after college working as a Conservation Technician for the Nebraska Game and Parks Commission in Valentine, Nebraska. I am excited to start my career with the Middle Niobrara NRD as a Natural Resource Technician and look forward to working with you.



Hello, my name is Steffan Silva. I graduated from California State University, Chico in 2015 and majored in Parks & Recreation/Natural Resources with a minor in welding. Prior to attending Chico State I spent my summers working in Alaska operating heavy equipment in a rock pit and also for a demolition company. I've worked for large timber companies, dairies, the U.S. Forest Service, and the National Park Service. I look forward to working with you as a Natural Resource Technician for the Middle Niobrara NRD.

