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# Grassroots

#### VOLUME 25 ISSUE 3

## Flash Grazing in the Spring By Sandy Smart

Have you ever found money? I lost a \$20 bill one time and found it under the couch cushion several months later. Since it was my money it was nice to get it back. I once found a \$10 bill on the street. No one was around so it became mine. That was a net gain to me. Flash grazing in the spring is kind of like both of these scenarios.

When I first came to South Dakota over 20 years ago, I conducted a clipping study at our Cottonwood and Antelope Research Stations to observe regrowth of mixed-grass prairie from light (25%) or moderate (50%) defoliation in May, June, July, and August and compared that to a winter only clipped plot. What I found was that the plots clipped in May at 25% utilization had the same amount of biomass, two years out of three, at the end of the year compared with the plots that were defoliated in the winter. The figure to the right doesn't include the weight of the forage removed in the clipping (which would make the graphs look better for total forage produced compared to the Winter only plots). Regardless, this meant that there was free forage available if I could somehow graze it early and then let it recover. Hence, the idea of "flash grazing" or moving cattle very fast through a pasture to limit their grazing to just the very top of the plant. This is easier said than done. In 2007, I attended a grazing tour at Bill Slovek's place. The neat thing I learned from Bill was that he set up water and portable windbreaks in every pasture so that he could graze winter pastures in the



Total winter standing biomass (December/ January) from plots clipped in May, June, July, August, or Winter only. Bars with similar letters are not statistically different. (From Smart et al. 2011).



Pasture water development at the Bickel Ranch near Firesteel, SD (T. Lantz 2006).

spring and vice-versa. Bill confirmed what I was hoping for, that you could actually "flash" graze through winter pastures (maybe a day or two per pasture) to capture that "free" grass.

## What' Good for the Bird is Good for the Herd: Connecting

#### People, Birds, and Land by Olivia Lappin

Often regarded as the father of wildlife management, Aldo Leopold quotes in his 1933 book *Game Management* "...game (wildlife) can be restored by the creative use of the same tools which have heretofore destroyed it – **axe, cow, plow, fire, and gun**". As a Private Lands Wildlife Biologist (PLWB) working with the Bird Conservancy of the Rockies in South Dakota, knowing and understanding the teachings of Aldo Leopold is like knowing your ABCs.

GRASSROOTS

Now I will admit, it wasn't always like this for me. I grew up in Maine, a state with more lobster than cattle, and I was never fully exposed to the world of rangelands. I never learned how grazing native grasslands can actually benefit wildlife. I was your typical firstyear wildlife student from Maine who was clueless about livestock and especially livestock as potential drivers of ecosystem health! Then I attended Mississippi State University to obtain my master's degree in wildlife & fisheries, where I took a course titled "Principals and Practice of Conservation in Agricultural Landscapes". One of my biggest takeaways from the course was remembering that to be an effective land manager, one must consider the history of the landscape, specifically the historic disturbance regime. In historic western South Dakota, most natural disturbances came from grazing bison and fire. Today, livestock (largely cattle ranching) and prescribed fire fill that ecological role. By appropriately managing disturbance on the land, we can maintain and strengthen healthy grasslands and provide habitat and resources for



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a variety of wildlife species. Conversely, poor grazing and land management techniques can have catastrophic effects on our natural resources.

South Dakota boasts such amazing natural resources, from the Black Hills to the Badlands or even the vast amount of some of the last remaining intact grasslands in the world! With grassland birds experiencing the fastest and greatest declines ( $\sim 53\%$  loss since 1970) compared to any other group of birds in North America, South Dakota holds a real treasure. However, with South Dakota losing vast amounts of intact grasslands due to row crop production and urban sprawl

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## Birds Continued by Olivia Lappin

(2.6 million acres of grassland plowed up between 2018-2019) in addition to increasing threats of woody encroachment, the health of native grasslands in South Dakota is at risk. For example, between 1990 and 2019,

**<u>\$5 billion</u>** worth of forage was lost in the western United States due to the encroachment and growth of new trees. The Bird Conservancy of the Rockies and South Dakota Grassland Coalition have a shared view: native grasslands of North America are one of the most imperiled ecosystems in the world and working to make land both profitable and healthy is key to conserving these threatened grasslands and the wildlife and communities that call them home.

But GOOD NEWS!! South Dakota has a lot of livestock, and we can use these animals to help improve

grasslands by creating structural diversity. Every wildlife species responds differently to different grazing pressure on the land. Many grassland birds are ground-nesters, so they need some sort of vegetative concealment when nesting. However, <u>some birds</u>, like the horned lark, prefer shorter grass length that develops from heavier grazed pastures. Alternatively, species like western meadowlarks and long-billed curlew prefer an ar-

ea with lighter use. I like to call this patchwork of varying vegetation heights a "mosaic" and we can work with ranchers to achieve this mosaic by implementing practices such as prescribed grazing. When implementing prescribed grazing, we determine the optimal amount of time livestock should spend in each pasture based on the type and number of livestock, vegetation type, soil type, precipitation, and current pasture condition. By varying grazing geographically and seasonally, ranchers can not only improve forage productivity for cattle, but they can also provide more structural diversity for breeding grassland birds.

At Bird Conservancy of the Rockies, our mission is to conserve birds and their habitats through an integrated approach of science, education, and land stewardship. My role as a PLWB focuses on stewardship, which allows me to work with private landowners to develop ways to manage land in a way that provides benefits to

#### **Conservancy Continued Page 4**





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#### Conservancy Continued by Olivia Lappin

vegetation, soil, wildlife, livestock, and landowners. The homebase of Bird Conservancy of the Rockies is Colorado. However, our work radiates from the Rockies to the Great Plains, Mexico and beyond with 15 PLWBs working in 6 states across the west. Further, our stewardship work is sustained through a multitude of partnerships. In South Dakota, I work closely with a variety of organizations including but not limited to; <u>Natural Resource Conservation Service (NRCS)</u>, <u>South Dakota Game, Fish, and Parks (SDGFP)</u>, <u>Pheasants Forever</u>, <u>World Wildlife Fund (WWF)</u>, the <u>Northern Great Plains Joint Venture (NGPJP)</u>, <u>South Dakota Grassland Coalition</u>, <u>South Dakota State University</u>, <u>The Nature Conservancy</u>, and many others. It is through these partnerships that we can put effective conservation on the ground and help landowners manage healthy lands for generations to come.

Sound land management also stems from sound science and public outreach. Thanks to generous private landowners in western South Dakota, we have recently constructed a <u>Motus Wildlife Tracking Systems (Motus)</u> which is a network of automated radio telemetry stations that allows us to research and understand migratory bird movements in the region and these stations are affixed to existing structures with permission. Birds are captured and equipped with small tracking devices that send off signals to the stations to alert our science team when a tagged bird is passing through a certain area. There are hundreds of Motus stations across North America and Mexico. There is currently one Motus station in South Dakota located at the <u>Cammack</u> <u>Ranch</u> in White Owl, SD. In June 2022, the Cornell Lab of Ornithology filmed a video called <u>Vital Signs</u> which highlighted the importance of ranching for grassland birds and featured South Dakota ranchers Reed, Gary, and Floyd Cammack. There are plans to install four more Motus stations across South Dakota in 2023 and we are excited to continue this research to further understand the needs of grassland birds and how land managers can use this information to strengthen land management efforts.

"A land ethic of course cannot prevent the alteration, management, and use of these 'resources', but it does affirm the right to continued existence, and, at least in spots, their continued existence in a natural state. In short, a land ethic changes the role of Homo sapiens from conqueror of the land community to plain member and citizen of it. It implies respect for his fellow members, and also respect for the community as such" – Aldo Leopold in A Sand County Almanac.

Olivia Lappin is a Private Lands Wildlife Biologist with Bird Conservancy of the Rockies, based in Sturgis, South Dakota in partnership with the USDA: <u>Natural Resources Conservation</u> <u>Service, South Dakota Game, Fish and Parks</u> and the <u>National Fish and Wildlife Foundation</u>.



#### Grazing School Workshops: Concerns in Grazing Management Part I by Dan Rasmussen

In March, the Grassland Coalition put on a series of four Grazing School Workshops across the state of South Dakota. Participants were encouraged to present their grazing concerns to the group for discussion. These concerns were then addressed by local ranchers and agency personnel.

The following are some of the grazing management concerns people brought to the workshops and answers from the ranchers and agency staff:

## Question: I subdivided 640 acre pastures to 160 acres. My goal is to leave 1200 #/acre. However, within each quarter there are over grazed patches and patches with knee high grass. What is causing this?

**Answer:** Decreasing paddock size will reduce patch grazing. As paddock size and pounds of livestock per acre increases, cattle become less selective. Less palatable plants will be consumed along with the more palatable plants. The result will be more pounds of forage consumed per acre.

## Question: My cows are not eating invasive plants like thistle and leafy spurge. Will they eat these plants if I decrease the paddock size?

**Answer:** If the paddock size, herd size, amount of forage remaining after grazing and recovery are planned properly, cattle will eat many invasive forbs. Expect control, not eradication.

## Question: My 1000 acre paddocks are a "gather and move" operation during the rotation. If I subdivide these pastures enough, will the moves become easier?

**Answer:** Yes. Cattle learn to expect new fresh forage when you arrive to move them. The smaller the pasture the easier it is for the cattle to figure this out and make your job easier.

#### Question: Will grazing intensively help during the next drought?

**Answer:** Yes. Proper grazing planning will increase soil organic matter. For every one percent increase in organic matter the soil will hold one more inch of rainwater. Plant photosynthesis and respiration are wonderful gifts land managers can learn to take advantage of. Healthy soil is much more drought tolerant than unhealthy soil.

## Question: My pastures are predominantly Brome grass, Thistles and Wormwood. What will intensive grazing do for my pastures?

**Answer:** Thistles and Wormwood in a Brome Grass pasture are often a result of season long grazing resulting in unhealthy soil. Short duration grazing will improve the soil health. Native grasses thrive in a healthy soil environment and will out compete most invasive species.

## The Grazing Schools are designed to help land managers implement improved grazing planning. Each 3 day school is led by experienced land managers and agency professionals.

Wall June 20-22 Summit July 25-27 Chamberlain Sept. 12-14

Dan is a third-generation cattle rancher living in south central South Dakota. Dan served on the board of the Grassland Coalition for 18 years and is currently manages the Grazing School Follow-Up Ranch Consulting Program for the Coalition.

## Test That Water Source by Garnet Perman

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With spring snowmelt and some good rains, one might think that testing water sources for salt content isn't all that necessary. According to SDSU Extension Cow/Calf Field Specialist Robin Salverson, she would tell you to please reconsider. In fact, the day I contacted her regarding an article, she had just returned feedback on several water samples that indicated medium to high salts content.

Typically a concern in drier years, the incidence of poor water quality due to salts seems to be increasing in both West and East River areas. Water quality is linked to soil type.

Sulfates tend to be the main culprit in poor water quality although nitrates can be a problem in wetter years. An entire study has not been done, but water test results tend to indicate that sulfates comprise 60-65% of salts in many of the water samples Salverson has seen. Sulfate toxicity can cause Polioencephalomalacia (PEM) a neurologic disorder that causes swelling to the brain in any age or type of cattle. Symptoms include blindness, staggering, star gazing or looking upward, head pressing and seizures where the animal will go down flailing. Veterinary attention is required ASAP. Antibiotics are not effective against PEM. Thiamine, a B vitamin, is part of the treatment.

Sulfates can also tie up copper which affect immunity and reproduction. Research at the Cottonwood Station in the early 2000's showed cows lost a significant amount of weight, up to 36 pounds when they drank high sulfate water. Calves had a lower rate of gain. Tweaking the mineral package may be necessary in areas with significant sulfate presence.

Any type of water source except rural water can run high in salts. Stock dams are more susceptible than other sources but even wells and spring fed sources can be toxic. Nothing can be added to the water to improve water quality. Dealing with poor water quality may mean reworking the grazing plan and piping or hauling water. Testing water sources along with checking fences in the spring would be a good practice.

Testing is easy. Salverson or another specialist can come out to the location. Simpler yet, fill a clean 12-16 ounce pop bottle or canning jar with water and take it to the local extension office. Call ahead or check the SDSU Extension website to see if your local office tests water or where the nearest testing site is: <u>https://extension.sdstate.edu/news/sdsu-extension-aids-producers-protecting-livestock-through-water-testing-service</u>. Testing is free but only measures total salts, not specific components of the sample. Further testing can be done at a commercial lab at the producer's expense. Extension cow/calf specialists are able to help with adapting grazing plans, mineral programs and water testing.

Salverson said that decent electroconductivity meters can be purchased for about \$60. Some producers who routinely deal with poor water quality take them along when they check cattle or fences. Salverson can recommend different brands and where to purchase meters. Exactly why the increase in poor water quality is occurring is not known. The SD School of Mines and Technology is currently doing water quality research, which may eventually help manage water quality issues. Until then, test that water!

Garnet Perman is a freelance writer and ranches with her husband, Lyle, near Lowry, SD.

#### C O RN E R 2023 National Range Judging Contest by Sandy Smart

The National Range Judging Contest was held in El Reno, Oklahoma on May 4. One 4-H and 3 FFA teams from South Dakota participated in the competition. Dave Ollila (SD Soil Health Coalition), Tyler Swan (NRCS), and Sandy Smart (SDSU Extension) assisted in helping the high school ag teachers and their students practice for the contest. South Dakota students are at a distinct disadvantage as the contest is held around the Oklahoma City area each year. The students need to be able to identify 130 plants (39 grasses, 19 legumes, 41 forbs, and 31 trees/woodies) of which the vast majority are not found in South Dakota. For example, there are 6 bluestems to identify (big bluestem, broomsedge bluestem, old world bluestem, little bluestem, silver bluestem). They also, need to learn/memorize each plant's characteristic (life history, season of growth, origin, desirability for bobwhite quail food, cover, and cattle food). Let me tell you, it is a lot of work! I have attended the trip the last 5 times and I am finally learning how to tell these plants apart. The South Dakota teams typically arrive on Saturday and practices Sunday-Wednesday with the contest held on Thursday morning. When not studying the students get to tour some of the interesting sites, museums, and of course a perennial favorite Brahms. If you haven't had Brahms' ice cream you need to make the trip! We typically start at 7 am and arrive back at the hotel by 9 pm each day, so the ice cream is a nice reward for the long days we put in.

The Day County 4-H team included Matt Mork, Brent Snaza, Sage Sippel, and Blaise McGregor and their coach Fred Zenk placed 2nd in the nation out of 6 teams. Matthew Mork placed 3rd out of 24 student competitors. The Webster FFA team included Chris Gaikowski, Bobbie Eide, and Caleb Weyh coached by Fred Zenk placed 14th out of 26 teams.

The Wessington Springs FFA team included Kristi Munsen, Austin Schimke, Blake Larson, and Laden Christensen and their Coach Brady Duxbury placed 7th in the nation out of 26 teams. Team member Kristi Munsen's scored 820 out of 1000 points which earned her 9th out of 98 student competitors.

The Lemmon FFA team included Katelyn Gebhart, Alyssa Dix, Shannon Gebhart, and Samuel Weishaar and was coached by Renae Gebhart placed 12th out of 26 teams.



Lemmon FFA team. Pictured left to right: Alyssa Dix, Katelyn Gebhart, Shannon Gebhart, Sam Weishaar, and Blake Drayton (Photo by Renae Gebhart).

Day County 4-H and Webster FFA teams. Pictured left to right: Fred Zenk, Sage Sippel, Bobbi Eide, Caleb Weyh, Brent Snaza, Matt Mork, Blaise McGregor, and Chris Gaikowski. (Photo by S. Smart).



Wessington Springs FFA team. Pictured left to right: Brady Duxbury, Landen Christensen, Austin Schimke, Blake Larson, Kirstie Munsen, Ridge Roduner (Photo by Renae Gebhart).



## **Calendar of Events**

Event	Date	Location	Contact Person	Phone/email
Bird Tour	June 2-3	Brandon	Judge Jessop	605-280-0127
Rangeland and Soil Days	June 14-15	Watertown	Deanna Kunkel	605-882-4989 ext 3
Grazing School	June 20-22	Wall	Judge Jessop	605-280-0127
Professionals Range Camp	June 27-29	Deadwood	Krista Ehlert	605-394-2236
Young Adult Rancher Management Workshop	July 10-13	Sturgis	Judge Jessop	605-280-0127
Grazing School	July 25-27	Summit	Judge Jessop	605-280-0127
Grazing School	Sept 12-14	Chamberlain/Oacoma	Judge Jessop	605-280-0127

Please remit any comments, suggestions, or topics deemed necessary for further review to: Sandy Smart, SDSU Box 2207D, Brookings, SD 57007, alexander.smart@sdstate.edu, (605) 688-4940