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VOLUME 21 ISSUE 2

MARCH 2019

The Green Side Up: More Opportunities for those Who've Attended Grazing or Grass Management Schools in the Past by Pete Bauman

For many years, the Coalition has recognized the need to offer continuing education to alumni of its popular grazing school, but has been generally limited by a lack of resources to make this desire a reality. However, 2019 marks a substantial shift in the Coalition's education program. Through support from NRCS and others, the Coalition is now poised to offer new education opportunities while also focusing on the needs of its large grazing school alumni base, which numbers over 400 students.

The desire to offer continuing education to students has been a personal goal of Belvidere area rancher and long-time Board member Dan Rasmussen. Dan has served the Coalition for nearly twenty years in various capacities including Vice Chair to the board, Education Committee Chair, and Grazing School Curriculum Coordinator, and has a great feel for the need. Most recently, Dan has taken on a new role with the Coalition as its Grazing Land Educator/Consultant. It is with this expanded capacity that Rasmussen realizes the opportunity for the Coalition to reach its full education potential (see Dan's article "The Grazing School Follow-up Program" in the January, 2019 issue of *Grassroots*.)

This year we will offer the staple education that has defined the Coalition over the years. Events such as the annual Bird Tour, Chamberlain area Grazing School, pasture walks, guest speakers, Road Shows, and the recently developed Grassland Management School will continue to be offered. In addition, the Coalition will offer follow-up opportunities specifically targeted to alumni of the Grazing and Grassland Management schools. These new opportunities are as follows.

Ranch Consultants Program:

The Coalition recognizes that the Grazing School can be an intensive 2.5 day learning experience, and many leave the school full of excitement at new-found opportunity only to return to the ranch and fall into old habits. Or, they simply cannot navigate all of their potential without some coaching or mentoring. Through a unique partnership with NRCS and others, the Coalition is now offering on-ranch consultation support for Grazing School alumni. A team of dedicated individuals has compiled a well-rounded team of consultants ready to assist alumni in assessing their resources, goals, and future plans. Contact Dan Rasmussen or Judge Jessop for more information on this program.

The Green Side Up Continued by Pete Bauman



Rancher and SDGC Vice-Chair, Brett Nix, explains how he converted cropland back to grassland at a 2017 pasture walk (Photo by J. Jessop).

Grazing and Grassland School Alumni Ranch-Based Refresher: June 19-20.

The Coalition recognizes that some folks need a day away from the ranch in the company of like-minded people to hit the re-set button. To address this need, Board member and Murdo area rancher Brett Nix will be hosting this first ever Refresher. This will be a ranch-based event where the Nix's will discuss their transition from row crops to grass-based agriculture, goal setting, resource planning, grazing techniques, etc. Participants will not only be able to observe the ranch operations, but will be ample time allowed for questions, answers, discussion, and socialization among attendees in a true information-sharing atmosphere. Space is limited. To register contact Pete Bauman or Judge Jessop.

West River Grazing School: June 25-27.

This new school is being offered in addition to the traditional Chamberlain-based Grazing School. The focus of the West River school is simply to offer an alternative climate, growing conditions, and other considerations that more accurately reflect ranching in western SD. The school will take place in Wall; field activities will be hosted by Coalition Board member and Quinn area rancher Pat Guptill. Space is limited. To register contact Dan Rasmussen or Judge Jessop.

Grassland Management School and Alumni Refresher Tours: July 23-25.

We will be holding the 2nd annual Grassland Management School in Watertown, focusing on key considerations of soil preparation, chemical carryover, seed mixes, establishment, and long-term management tools of a variety of grass and grass/forb stands for wildlife, haying, or grazing. Mowing, fire, grazing, chemical, and fertilizer impacts on grasslands are discussed in depth. This school is a great mix of classroom, field site visits, equipment overview, and landowner/operator experiences. In addition, alumni of the 2018 school are invited for one-day field tours that will revisit 2018 tour sites to re-assess stand health, responses to various management, and discussion on continued stand improvement. This school is taught by a variety of agency personnel and landowners including Board members Mike McKernan, Jim Kopriva, and Brett Nix. Space is limited. To register contact Pete Bauman or Judge Jessop.

Pete Bauman is an Extension Range Field Specialist in Watertown, SD.

GRASSROOTS

Arthropod Community Responses to Fire and Grazing by Sandy Smart

It appears as if insects rule the world when it comes to sheer numbers. A recent study led by Alyssa Vachino, an undergraduate student in the Department of Natural Resource Management at SDSU advised by Dr. Lan Xu, sampled over 24,000 arthropods at the Cottonwood Research Station. Vachino and Dr. Xu investigated the effects of patch-burn grazing and winter-patch grazing on arthropod communities living in mixed-grass prairies.

Historically, the Great Plains were grazed by large, roaming herds of bison. Fire was common place, either set on purpose by Native Americans or by nature from summer thunderstorms. Fire and bison grazing interacted to create a mosaic of grassland structure across the vast prairie. Following the invention of barbed wire, settlers hemmed in their livestock and pastures were heavily grazed. Later, range professionals suggested rotational grazing could help even out the grazing distribution such that land managers could reduce over- and under-grazing their rangeland. This resulted in a more uniform use of the land. In ecology, we call this “managing for the middle”; species that rely on the extremes appear to lose out.

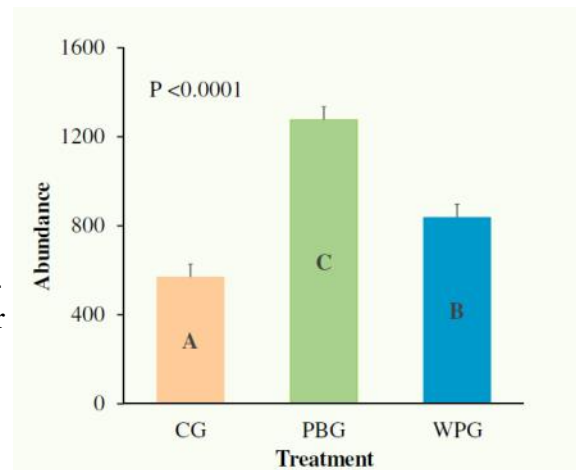
Some methods to encourage a patchy land-use to recreate a shifting mosaic of prairie vegetation are patch-burn grazing and winter-patch grazing. Patch-burn grazing was started by researchers in Oklahoma, Kansas, and Nebraska in tallgrass prairie. The pasture burns are rotated every year; cattle create the focus grazing such as the bison of the past. Winter-patch grazing was an idea created by SDSU professor Dr. Pat Johnson. to use livestock to graze a patch heavily in the winter to remove standing dead grass and litter. Thus, the patch would warm up quicker and consist of greener grass, as well as attract focus grazing by livestock in the summer much like a fire.

Interestingly, these data collected supported their hypothesis. In the figure to the right, patch-burn grazing had the highest arthropod abundance, followed by winter-patch grazing, and continuous season-long grazing. The most abundant orders were Hemiptera (true bugs), Diptera (flies), and Hymenoptera (wasps, bees, and ants).

Many of these species play a role in pollination (butterflies), regulate pest insects (wasps), cycle nutrients (beetles), and are food for birds and small mammals. This study demonstrates the importance of providing a variety of vegetation structure to support more diversity of life.

We recognize that fire is not practical in many areas of the Great Plains, not to mention its cost. Patch-grazing most likely could be applied to create heterogeneity on the landscape. In fact, most producers would have the capability to do this because of the cross-fencing and water infrastructure. Rotational grazing pastures and purposely varying the degree of use could create a mosaic of structure at the ranch scale rather than at a single pasture as was experimented with winter-patch grazing.

Warren Hammerbeck essentially does this with his rotation near Iona, SD. He grazes his pastures according to four categories: light, moderate, heavy, and “golf course”. However, Warren does not return to those pastures for 15-18 months. This low-frequency, high-intensity style grazing creates a shifting mosaic of tall, medium, and very short structure on his ranch. No matter what technique is used, the point is to provide a variety of habitats at a large scale to maximize diversity. Arthropod diversity is just as important if not more so because it provides so many ecosystem services.



Total arthropod abundance in continuous season-long grazing (CG), patch-burn grazing (PBG), and winter-patch grazing (WPG).

South Dakota's First Burn Association Celebrates its three-year Anniversary by Sandy Smart



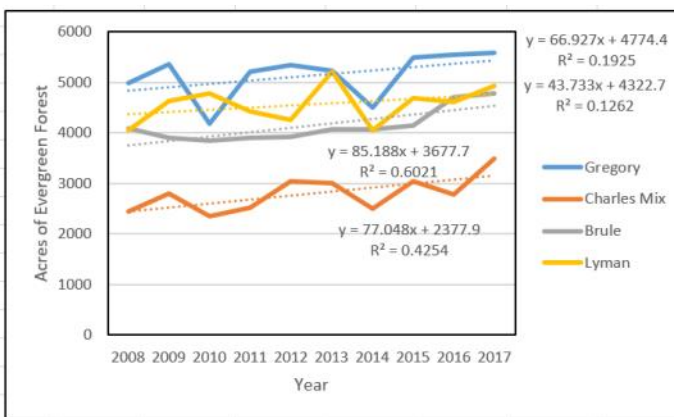
According to USDA-NASS Cropscape, the acres of evergreen forest (cedar) have been on a steady increase in this region (see graph on right). In total, the cedar trees are contributing to closed cedar forest of 275 acres/year.

The MMRPBA is attempting to burn approximately 2,000 acres/year to stay ahead of the cedar tree expansion. In order to accomplish this, they are increasing their membership, adding equipment, and bringing fire training to the area.

This year the featured speakers were Brian Teeter and Doug Whisenhunt. Brian is a Prescribed Fire Coordinator with Nebraska Pheasants Forever and Doug is a Nebraska Prescribed Fire Specialist with NRCS. Brian and Doug discussed strategies to conduct a safe prescribed burn in this hilly, tree covered region of South Dakota. The take-away from this presentation was planning and communication, communication, and communication. In terrain where neighbors aren't visible, constant radio communication is crucial to create a safe burn.

The next time the association announces a workshop on prescribed fire training, plan on attending. The complexity of conducting a prescribed fire in this country demands a healthy respect for all the logistical aspects of conducting a burn.

The Mid-Missouri River Prescribed Burn Association (MMRPBA) celebrated its three-year anniversary on February 27 at its annual meeting in Bonesteel. The formation of this rancher-lead burn association was in response to the growing "green glacier" of cedar trees in the four county region (Brule, Charles Mix, Gregory, and Lyman) of southcentral South Dakota. As of present, the MMRPBA has 72 current and former members.



Area of evergreen forest (cedar) in Brule, Charles Mix, Gregory, and Lyman Counties from 2008-2017 (USDA-NASS Cropscape, 2018).



Brian Teeter and Doug Whisenhunt speaking at the MMRPBA in Bonesteel, SD on Feb 27, 2019 annual meeting (Photo by S. Smart).

How are you Wintering? by Garnet Perman

The calendar may indicate spring, however many South Dakota producers are still working around large piles of snow. According to the National Weather Service, February 2019 made the top ten in record books around the state in terms of cold temperatures and snow fall. Winter grazing ended for most producers around the first of February. A rare central U.S. bomb cyclone March 10-11 hit the state hard with heavy snow in the west and central with rain and flooding in the east and south.

I spoke with several producers in different areas of the state to determine how they handled the extreme cold and snow and what they expect to deal with as it appears there will be a muddy season ahead.

Dallas Anderson near Eureka dealt with record amounts of snow and temperatures that hovered in the single digits either side of zero all of February and into March.

Plenty of good quality feed and an adequate mineral program have kept his cattle in good condition. Late spring calving makes a hard winter easier to handle mentally and physically. He'll spread out bedding to help combat muddy conditions until he can get the cattle on grass.

Bart Carmichal, Faith rancher, was able to winter graze up until February 1. His herd is fed wheat hay daily and extra alfalfa hay every other day. He reported that the cows are holding condition well. He calves 45 days later than he did in 1997. His mineral feeder got snowbound in the pasture, requiring some effort to extricate.

Jim Kopriva lives west of Watertown. Because they sell breeding stock and many of his customers calve in February, he and son Lee are now calving synchronized heifers. Good wind protection and a calving barn that he admits could use some improvement got them through this year's March blizzard. They were able to graze corn stalks with supplemental alfalfa and cover crops until mid-January. Kopriva said a late spring might create more problems than the cold weather. He anticipates some flooding at their ranch, resulting in mud which can cause health problems. A year that demanded feeding more than usual during the winter and into the spring might result in short hay supplies for some producers. He also expects to be fixing fence once the thaw arrives.

Reid Suelflow lives in White Lake and travels to the ranch. Getting there was problematic at times because of road conditions. He's been feeding since early February. He calves in May and weans in the winter. He believes his steer calves were lighter than expected because of the weather but sold well in the light calf market. His heifers still have calves at side, a decision that was weather driven. He has stockpiled grass he'll feed later than anticipated. Rain during the last storm induced flooding on Platte Creek which may alter some spring grazing plans.

Some take-aways: harsh weather demands extra time and attention, however these producers were content with how their cattle handled the conditions. Most expressed gratitude that the snow and cold didn't begin until the end of January. The logistics of being able to access feed and equipment as well as poor driving conditions created most of the headaches. Flexibility remains an important tool in adverse weather. No one regrets making the switch to late spring calving from a calving or marketing perspective. The prospect of muddy conditions in the near future wasn't a big concern for these producers if they can turn cows out on grass within a week or two. The longest lasting repercussion of the winter is the time it will take to fix fence. The good news is that everyone is looking forward to a good grass year!



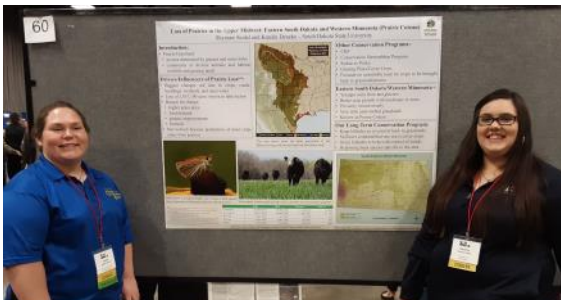
Lyle Perman moving snow at Rock Hills Ranch near Lowry, SD (Photo by Garnet Perman., 2019).

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

2019 SRM Meeting by Sandy Smart

The 72nd Annual SRM meeting was held in Minneapolis, MN on Feb 10-13. SDSU faculty and staff (Pete Bauman, Krista Ehlert, Pat Johnson, Sandy Smart, Lora Perkins, Lan Xu, Maribeth Latvis, Joshua Leffler, and Michele Dudash) along with nine undergraduate students and five graduate students participated in the activities. Undergraduate students participated in the Undergraduate Range Management Exam (URME) and Plant ID contests.

Undergraduate students Shyanne Seidel and



Above: undergraduate students Katelin Deneke, Aubrey Weishaar, and Shyanne Seidel tending the SDSU booth during the trade show at the 72nd SRM meeting in Minneapolis (Photo by S. Smart).

Left: Katelyn Deneke and Shyanne Seidel with their Rangeland Cup poster.

Katelin Deneke also participated in the Rangeland Cup poster competition. Undergraduate students,

Alyssa Vachino, Kaitlyn Cihoski, David Flanery gave research posters along with graduate students Jake Comer and Luke Zilverberg. Ph.D. student, Jamie Brennen gave several oral presentations.

Others attending were Jeff Vander Wilt (NRCS), Tate Lantz (NRCS), Emily Helms (NRCS), Cody Zilverberg (SDSU Dakota Lakes Research Farm), Krecia Leddy (FSA) and Korb-in Leddy (SD High School Youth Forum presenter).

A neat highlight for South Dakota, was the winning of the Excellence in Rangeland Management Award by the Dan and Cindi Conner Ranch. Tate Lantz accepted the honor on their behalf.

The meeting was a great opportunity to reunite with friends and showcase all the great accomplishments from South Dakota students, professionals, and faculty working on rangelands!



SRM President Barry Irving and Tate Lantz (SD NRCS) accepting the Excellence in Ranchland Management Award on behalf of Dan and Cindi Conner.

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- News from the SD Section of the Society for Range Management

By: Pete Bauman

In the January issue of Grassroots, we used this space to re-introduce the Society for Range Management. In this issue, we will highlight our programs to assist in your better understanding the small, but critical role that SRM plays in advancing South Dakota's rangelands. Look for future articles in this space by various SRM members who volunteer their time to bring these programs to youth and adults in South Dakota.

Some highlights over the years include:

SD official state grass: The SD section successfully lobbied for western wheatgrass to become South Dakota's official state grass.

Range Camp: Established in 1975 for high school students to improve rangeland skills. Range camp has now expanded its focus to include adults who work in all aspects of rangelands with specific emphasis on educating those in ranch support roles, especially financial officers, bankers, etc.

Rangeland Days: Established in 1983, Rangeland Days is held in cooperation with Conservation Districts and other agencies across South Dakota and is designed for youth and adults to further their rangeland ID and judging skills from beginners to experts.

Ranch Management Awards: Starting in 1964, the SD section began recognizing ranchers for sound stewardship through the Rangeman of the Year Award. This award, now known as the Excellence in Range Management Award, continues today and is awarded annually to landowners showing exemplary innovation and practices in rangeland health and management. Over 100 individuals and families have received these awards.

Leopold Conservation Award: SD SRM officers and directors are committed to annually nominating a deserving ranch family for this most prestigious award.

Youth Education Endowment: In 1980, forward-thinking members of SD SRM worked with the state of SD to establish an endowment for youth rangeland education activities. These funds help ensure youth activities, travel, and scholarship support will continue well into the future.

Annual meeting and Crazy Auction: Every year, our membership gathers for a meeting and banquet that includes officer elections, awards, and the much anticipated Crazy Auction fundraiser with proceeds going toward youth education. Our recent meeting yielded over \$2,000 for additional youth education support.

Why join and support SRM? For ranchers in SD, it may be hard to understand why SRM is important. The \$100 membership includes membership for the SD Section, and at the Section level, membership and participation really do matter for our youth. South Dakota's youth are well respected; recently our teams won the National Range Judging competition. By keeping range and ranching at the forefront, we hope to encourage these bright kids to make a home and a living in South Dakota as our next generation of ranch stewards!

How To Join: Visit sdrangelands.com and click Membership or go to rangelands.org and click the JOIN or RENEW tab.

Pete Bauman is an Extension Range Field Specialist in Watertown, SD.



Dr. Pat Johnson teaching youth at 2015 Rangeland Days near Chamberlain, SD
(Photo by S. Smart, 2015).



Sandy Smart
Box 2170, ASC 219, SDSU
Brookings, SD 57007

Calendar of Events

Event	Date	Location	Contact Person	Phone
Ag Day at the Washington Pavilion	March 23	Sioux Falls	Judge Jessop	605-280-0127
National Land and Range Judging Contest	May 2	Oklahoma City	David Ollila	605-394-1722
SD Natural Resource Professionals Rangeland Workshop	June 4-6	Sturgis	David Ollila	605-394-1722
Annual Bird Tour	June 7-8	Mitchell	Judge Jessop	605-280-0127
Rangeland Days	June 18-19	Redfield	David Ollila	605-394-1722

Please remit any comments, suggestions, or topics deemed necessary for further review to: Sandy Smart, SDSU Box 2170, Brookings, SD 57007, alexander.smart@sdstate.edu, (605) 688-4017