

## BOARD OF DIRECTORS

**Brett Nix, Chair**

**Jim Faulstich, Vice  
Chair**

**Larry Wagner,**

**Secretary**

**Mike McKernan,**

**Treasurer**

**Bart Carmichael**

**Dugan Bad Warrior**

**Pat Guptill**

**Riley Kammerer**

**Jeff Zimprich**

### INSIDE THIS ISSUE:

**End-of-Season 2  
Monitoring  
Continued**

**Go to the 3  
Meeting**

**The Green 4 & 5  
Side Up**

**Creating 6  
Healthy  
Pastures**

**SRM Corner 7  
2023 SD SRM  
Annual Meeting**

# Grassroots

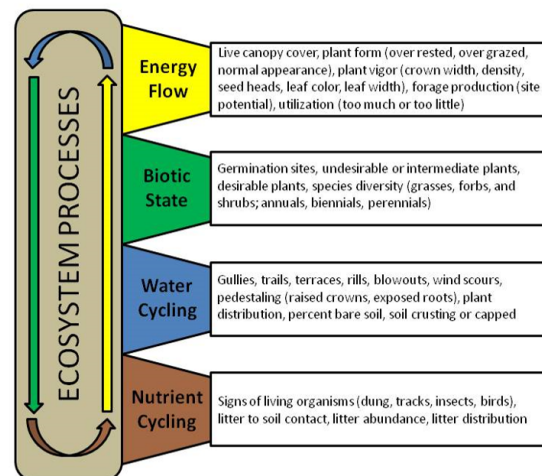
VOLUME 25 ISSUE 6

NOVEMBER 2023

## Range 101: End-of-Season Monitoring *Sandy Smart*

It's often said "you cannot manage something that has not been measured". The late Peter Drucker, founder of modern business management theory often stressed this principle. The same can be applied to range management. The end of the grazing season is a great time to monitor your pasture/rangeland resources.

Livestock grazing on rangeland and pastureland is a complex process. Livestock interact with climatic (precipitation, temperature, wind), topographic (slope and orientation), edaphic (soil), and biotic (plants and other animals) factors that make up the grazing environment and act as regulators of nutrient cycling and energy flow. In order to reduce the complexity of this system, Orchard (2013) described a simplified model of these processes and the biotic state and combined it with a monitoring program for ranchers to aid in management decisions (see figure to the right).



modified after Pyke et al. 2002; Pellant et al. 2005; Orchard 2013

Indicators of these four key areas can be monitored and plotted over time to help the manager identify management strategies to bring the pasture environment back into optimal ecosystem function. Monitoring tools include 1) soil surveys and maps (Web Soil Survey, Google Earth, etc.), 2) grazing records (keeping track of number of head, grazing dates), 3) rain gauges (track monthly precipitation and keep a rolling 12-month average), 4) grazing cages (small enclosures used to exclude livestock so that annual forage production and utilization can be estimated), 5) permanent enclosures (recovery pens used to compare several years of no grazing to see if a shift in species composition has occurred), and 6) permanent transects (includes visual estimates, notes, and pictures of indicators described in the figure above).

My favorite monitoring tool is the grazing enclosure. This tool allows you to look at how much forage is produced inside the enclosure and how well the livestock utilized the forage outside the enclosure. If you clip the vegetation inside the enclosure using a grazing hoop, dry it, and weigh it you can get an accurate measurement of total season forage production. Tying those measurements to monthly rainfall data allows you to make site specific predictions for your ranch which you can use to develop your drought plan.

**End-of-Season Monitoring Continued on Page 2**

## End-of-Season Monitoring Continued by Sandy Smart



A grazing enclosure built using two t-posts and a 16-ft cattle panel (Photo by S. Smart, 2012).

Another practical use of grazing exclosures is to map the utilization across a pasture or ranch. This allows you to see if cattle overgraze or undergraze portions of your pasture. If you have areas that are routinely overgrazed or undergrazed then you might consider subdividing your pasture to get more even distribution.

Jim Gerrish spoke at one of our Winter Road Shows several years back and gave an excellent real world example of this. He showed an aerial photo of a 2,640 acre winter pasture composed of native and seeded rangeland that spanned 2.3 miles diagonally, had no interior fences, and only one water source. They mapped the utilization the first winter and showed the classic pattern of overgrazing on one end of the pasture near the only water source and light grazing on the far end. The number of grazing days per acre was limited to 7.2 animal unit

days/acres (AUD/A). The next year they installed a stock water system with eight watering tanks spread out evenly across the pasture. The second winter the pasture supported 13.6 AUD/A because the cows did a better job spreading out over the pasture. In the third year, they installed crossfencing to create 16 160-acre paddocks and achieved a stocking rate of 29 AUD/A resulting in even grazing distribution on each paddock. Jim provided the economic analysis and showed that the crossfencing alone provided an additional \$36,000 in feed savings which paid for the cross-fencing cost (\$33,000) in one year.

A second example of utilization mapping comes from published work out of Kansas State University from Smith and Owensby (1978) comparing intensive-early stocking with season-long grazing. Intensive-early stocking is a practice where you double stock the rangeland but only graze half the season. This grazing method was developed in warm-season grass dominated rangeland grazed by yearlings in eastern Kansas and Oklahoma. The theory is to avoid the typical forage quality declines and poor weight gains in the late summer due to the higher lignified warm-season grass during this time. Also, traditional market prices usually decline for yearlings in September and October. Thus if you double the stocking rate and sell the yearlings in July you take advantage of higher average daily gains and more favorable sale barn prices. The point is that this grazing method is like splitting your pasture in half and grazing it during the first part of the season and resting it the second half. In doing so the stocking density increases and you get better grazing distribution. The pasture map for each grazing system is striking. The season-long continuous grazed pasture has the classic patchy grazed appearance with heavy grazing around the water and light and moderate grazing elsewhere. The intensive-early stocking has a mostly moderately grazed appearance with a little bit of heavy grazing. If you are interested in reading the paper you can find it online at <https://repository.arizona.edu/handle/10150/646676>. The intensive-early stocking method was more efficient as it produced 34% more beef per acre at the same stocking rate compared with season-long grazing because animal performance declined in for late-summer/early autumn period with season-long grazing.

In conclusion, monitoring pastures at the end of the grazing season is a very important activity to gather information about the performance of your pasture/rangeland. If you are new to grazing or monitoring, reach out to a technical provider like SDSU Extension, NRCS, a Grassland Coalition mentor, or attend a SD Grazing School.

## Go to the Meeting by Garnet Perman

The SD Grassland Coalition annual meeting is coming up on Tuesday, December 5th at the Best Western in Rapid City. Dave Pratt of Ranching for Profit fame is the featured speaker and will speak on profitable ranching in the morning session and generational transfer in the afternoon. Registration starts at 9:15 AM MST.

Continuing education for grass managers has been a main focus of the SD Grassland Coalition since it began 25 years ago. The ABOUT US page on the Coalition website says this: “The SD Grassland Coalition is a group of volunteers focused on presenting workshops, field tours, and nationally and internationally known speakers tailored to the information needs of producers.” If the SDGC doesn’t put it on themselves, they co-sponsor multiple types of educational opportunities. What many SD producers may not realize is what the SDGC does has become a model for grazing management organizations in other states.

Dugan Bad Warrior, Dupree, attended Ranching for Profit in 2016. “It changed my whole world,” he said. He applied several ideas gleaned from that experience to both his business and grass management plans.

“The SD Grassland Coalition has been an invaluable asset to our operation. Every event we attend we bring new thoughts and perspectives home to see how we can use the information to help improve what we are doing at our place,” said Crystal Neuharth. She and husband Levi operate Prairie Paradise Farms near Ft. Pierre and were the Aldo Leopold Award for Conservation recipients in 2021.

Doug Sieck, Selby is currently on the board of the Soil Health Coalition. The Grazing School was an event he attended early on in his regenerative journey. “I didn’t have three days to take off, but I did.” He’s able to keep more cattle because of the labor saving ideas he’s put into practice such as early calving and running smaller cattle. Other producers in attendance are also a great resource. “I always come away with my batteries charged up and more enthused.”

Mike McKernan, Twin Brooks, echoed the importance of peer to peer learning. He said of his experience attending the Grassfed Exchange, “You’re gonna learn a lot from the speakers but you will learn as much or more from the other attendees.” The SDGC helped sponsor the Grassfed Exchange in Rapid City in 2019.

Al Wind has managed several ranches for other people. He’s attended the Grazing School as well as Ranching for Profit. He only works for Ranching for Profit graduates. “The type of land manager that type of meeting attracts is always a positive,” he said.

In the 12 years I’ve written articles for this newsletter I’ve interviewed numerous producers and listened to many featured speakers at events in South Dakota, North Dakota or Nebraska and at the national Grazing Lands meeting. Nearly to a person, they mention an “a ha” moment that came about as a result of going to a meeting.

Do yourself a favor. Take the time and go to the meeting! Register on-line at <https://sdgrass.org/annual-meeting/> or contact Judge Jessop at 605-280-0127 or email [jljessop@kennebectelephone.com](mailto:jljessop@kennebectelephone.com)



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

## The Green Side Up by Pete Bauman



**SOUTH DAKOTA STATE  
UNIVERSITY EXTENSION**

**Many parts, all one body. We need everyone if we're going to preserve the grasslands!**

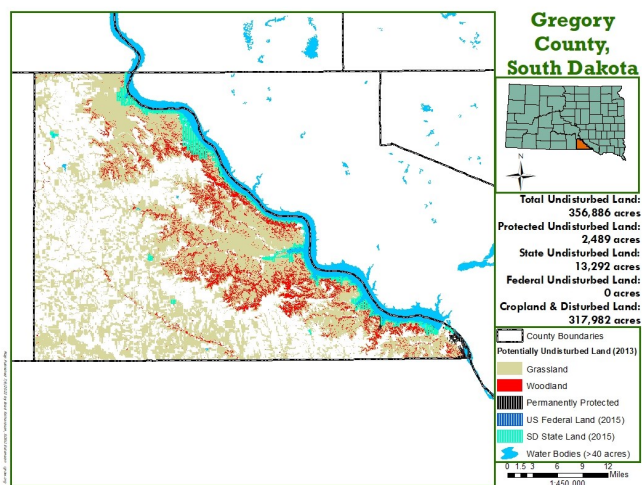
In the September issue I promised to use this November article to discuss what the 'value' of a plant is. I'm going to push that article to the January 2024 issue in order to address a more pressing topic – the critical state of South Dakota's grassland heritage and its preservation.

At the October meeting of the Board and advisors to the Coalition, Chairman Brett Nix addressed us with a reminder of what a coalition is, how the SD Grassland Coalition began, and what the focus must be as we move forward. He highlighted people, understanding, relationships, and partnerships as keys to success in the board room and in the landscape.

Every so often, things align and opportunities present themselves that seem new, but are in truth a culmination of efforts that can persist for years before the spotlight falls upon them. We are at such a point once again in our grassland legacy, and I believe we will look back on this time as pivotal. I hope that this time is defined as one where those who cared about grasslands rose up in unison for the collective good, setting aside small disagreements in favor of large-scale progress.

Today in South Dakota, there are many grassland related issues that seem to be creating a bit of noise, angst, or even some low level bickering. In addition, there are a few major threats that, if we are not careful, will render small arguments meaningless, as there will be fewer grassland acres to argue about. Contrast this with the tremendous opportunity we have to do something significant by truly coming together under a few large-scale endeavors.

First, we must understand that local or regional grassland issues are real, and we must not limit another person's ability to address issues on the home ranch by labeling an issue as unimportant. Specifically, I hear grassland conservationists and ranchers often debating what the 'most important' grassland issues are. Recently, woody tree encroachment and use of prescribed fire to reclaim ranches has given rise to a debate on whether the threat of trees is now 'more important' than grassland loss to conversion, other invasive species, or broad-scale chemical use on rangelands. The invasive tree conversation isn't new, its decades old. But, the pace of response has been slow and so it feels like a new topic. So if woody species and fire are needed to ensure a Gregory County ranch is there for the next generation, so be it. Everyone, and I do mean everyone, should acknowledge and support the tools needed to save that ranch. In turn, the Gregory County rancher then also has an obligation to support the tools necessary for the Grant County rancher to remain viable, even if those tools include a conservation easement or some other 'tool' he or she might not agree with or understand.



**The Green Side Up Continued Page 5**



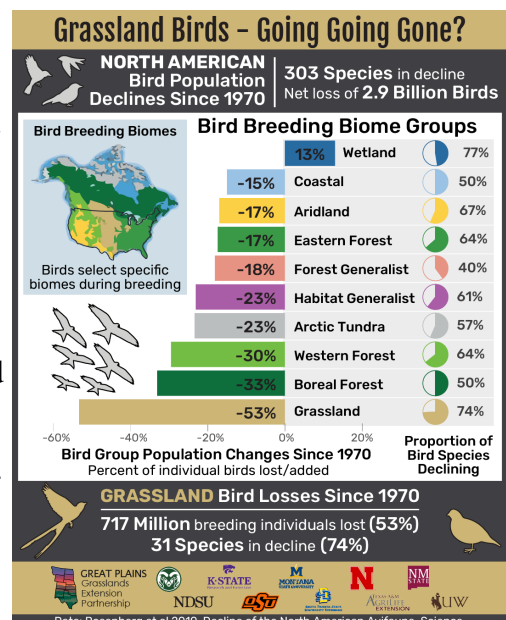
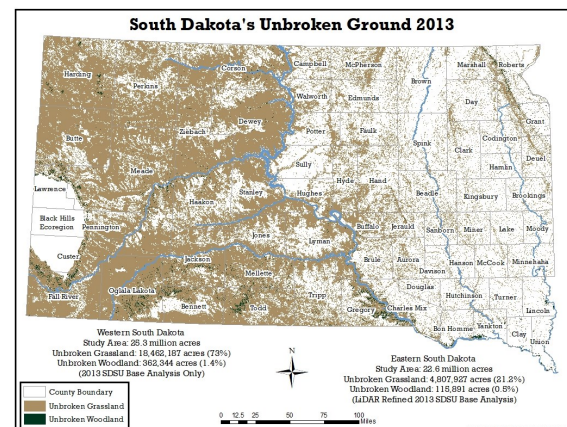
## The Green Side Up Continued by Pete Bauman

Second, major grassland threats loom large, especially in regard to policy. We must continue to acknowledge grassland conversion as a primary concern and be bold when discussing needed changes to things like crop and pasture insurance and other policies that can lead to a decision to break up grasslands. We need all the tools at our disposal. This includes things like voluntary conservation easements and (hopefully) new policies that would actually reward a rancher for having always done the right thing instead of basing financial reward only on fixing past mistakes. The current carbon markets have me very concerned that ranchers will be encouraged to invest in inputs to raise their carbon 'stock' on healthy native grasslands. Such an approach is counter intuitive. It's time to reward those who have always done right by the land by not destroying what they have in the first place, while still providing much needed opportunity to fix broken systems. Both are good and right and beneficial.

Finally comes opportunity. You met Laura Kahler in the September issue of this newsletter. The formation of the new South Dakota Grassland Initiative and the hiring of Laura as its Director might seem 'new'. However it is the culmination of nearly 3 decades of work by the Coalition and others to shed light on South Dakota's Grassland needs. Part of that work has been laying the foundation for renewed conversations, friendships, partnerships, and collaboration among many organizations in South Dakota. This new initiative embraces participation from anyone and everyone who might have a stake in South Dakota's grassland future – from farm commodity groups to livestock interests to those who value biological diversity. This initiative puts the SD Grassland Coalition in the place of an equal partner among many, and the benefits will be great!

We'll be releasing our final data soon on the status of South Dakota's remaining native (unplowed) habitats. Of course, grasslands dominate. More importantly, many of those remaining native grasslands are privately owned and operated as grazing lands. The data is both hopeful and scary. The hope comes from the fact that we truly now know where our unbroken sod lies, and we can plan to retain it by supporting profitable ranching, voluntary conservation and protection, and policy when necessary. We are in better shape than most states. The scary part is that things are in steep decline. Biodiversity of insects, birds, and communities are a major concern. Think about endangered species. It would be an ironic thing if those most responsible for preserving grasslands are ultimately held responsible for preserving species while those who choose not to protect grass have no future responsibility. The key is to keep the greenside up in a way that is profitable and desirable for all.

So, what can we do? The first order of business is to get involved and recommit to the SD Grassland Coalition's mission by attending the annual meeting in December in Rapid City. Beyond that, plan to attend the upcoming South Dakota Grassland Summit in March. Specifics are still being finalized, but this event will be one for your voice to be heard. It is our hope that this summit will set the stage for South Dakota's grasslands well into the future and that collectively everyone will benefit.



## Creating Healthy Pastures: Rest/Recovery Part 2 by Dan Rasmussen

“YOUR GRASS PLANTS NEED MULTIPLE PASTURES TO BE HEALTHY”

The following BULLET POINTS will be helpful in designing or improving your own grazing plan with a goal of creating healthy pastures:

- The reason rotational grazing creates healthier pastures is the time allowed for plants to recover after being bit by livestock.
- Rest can be much different than recovery. Recovery is rest during the growing season. Rest is simply the amount of time cattle are off the pasture.
- Managing plant recovery is one key to successful pasture management.
- It's important to note, plants do not recover during extreme drought and winter.
- Recovery time varies greatly between soil types and rainfall amounts. Grass plants in a loamy soil east river with high rainfall will recover much faster than a low rainfall clay soil west river.

### Some guidelines: During a pasture rotation when do I re-graze a pasture?

1) In a native plant mix, grazing the plants once during the growing season will encourage both warm and cool season plants to move to a healthier state. If your goal is to increase plant diversity, then one time through a pasture/growing season is almost always more productive long-term. The focus here is plant recovery.

Example: A ranch near Chamberlain leaves 1500#/acre in their rotation with a goal of increasing plant diversity. In this case, 14 months rest is optimal for pasture health.

2). If your goal is to maintain a cool season monoculture, such as brome or crested wheat grass, rainfall will determine whether a second graze during the growing season will be positive long-term.

Example: A ranch near Corsica is rotating through brome grass pastures one time during the growing season because rainfall did not support a second graze. In this case, 10-14 months rest/recovery is optimal for pasture health. **A second graze during the growing season should only be done if it will maintain or improve soil health.**

The key is to learn to work with nature. This is done by observing what is happening in the pasture. Then adapting your management plan to improve pasture health.

In conclusion: Rotational grazing over time creates healthy soil leading to healthy pastures. This may require a change in the ranch management model and even a change in the ranch culture. Making healthy soil a priority will pay for years to come. The Grassland Coalition Grazing Schools teaches land managers how to create healthy pastures. Go to [sdgrass.org](http://sdgrass.org) for more information. Look for “Creating Healthy Pastures-Part 3” in the next issue of Grassroots.

*Dan is a third-generation cattle rancher living in south central South Dakota. Dan served as a past board member of the Grassland Coalition and is currently the Grazing School Follow-up Ranch Consulting Coordinator for the Coalition.*





C  
O  
RNER

## - News from the SD Section of the Society for Range Management 2023 SD SRM Annual Meeting by Tyler Swan

I would like to send out a THANK YOU to everyone who attended the 2023 SD Section of SRM events in Custer, SD on October 16!

Many topics of discussion on grazing lands were covered at our two tour locations: with Stuart Adrian west of Hermosa and with Chad Kremer at Custer State Park.



At Crazy Horse we had:

- A successful Business Meeting covering our plans for the next year
- A wonderful meal
- An award for 3 great Excellence in Range Management (ERM) Winners: Sisseton Wahpeton Oyate Bison Program, Jon and Abby Smikle, and Bart and Shannon Carmichael
- An award for our Top Hand, Doug Sieck
- An award for Mitch Faulkner: for his support of SRM and the Board of Directors, and for his service to producers all over western South Dakota and the impact his work leaves everywhere he goes
- And presentation of awards (from 2019) for 55 years of service to SRM to Jim Johnson and Rod Baumberger
- A presentation by our High School Youth Forum (HSYF) representative, Bobbi Eide
- And another great addition of the CRAZY AUCTION where we were able to raise proceeds for an amazing cause.

THANK YOU again for everyone that attended, donated, or helped in any way to make this year's meeting a success.



Sandy Smart  
Box 2207D, 114 Berg Hall,  
SDSU  
Brookings, SD 57007

## Calendar of Events

Event	Date	Location	Contact Person	Phone/email
SD Cattlemen's Convention	Nov 28-29	Watertown	Taya Runyan	trunyan@sd cattlemen.org
Northern Plains Forage Association Annual Meeting	Dec 1	Brandon	Sara Bauder	Sara.bauder@sdstate.edu
SDGC Annual Meeting	Dec 5	Rapid City	Judge Jessop	605-280-0127
Managing Soil: Maximizing Profit	Dec 12	Colton	Sara Bauder	Sara.bauder@sdstate.edu

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



