



BOARD OF DIRECTORS

James Faulstich,
Chair

Dan Rasmussen,
Vice Chair

**Larry Wagner, Sec-
retary/Treasurer**

Jim Kopriva

Bart Carmichael

Pat Guptill

Mike McKernan

Brett Nix

Linda Gilbert

INSIDE THIS ISSUE:

**Celebrating 20
Years 2**
continued

**Range 101:
Rangelands 2-3**
Ecosystems of
the World

Linda Gilbert 4-5

The Customer 5-6
is Always Right

Green Side Up 7

Grassroots

VOLUME 20 ISSUE 6

NOVEMBER 2018

Celebrating 20 Years: The Next 20 Years by Sandy Smart

As we anticipate the upcoming 20-year celebration on December 12, we will spend a significant amount of time reflecting on our past accomplishments. In this article, I want to use this opportunity to ponder what the next 20 years will look like. I am hopeful that the recent changes to our organizational structure (501 c3 status) and the building up of our leadership capacity has put the Coalition on a trajectory where we will be able to secure endowment level funding for our staff positions. This effort will provide us a level of financial security to be more effective with our outreach without the worry of where the money will come from.

Also, I am envisioning a greater impact and a greater name recognition for our organization beyond our state borders. The Coalition has built a strong reputation and is a trusted organization to deliver practical, land-based solutions to grassland managers. The South Dakota Grazing School, our flagship outreach activity and envied by surrounding states, has just completed its 16th annual school, and expanding to reach more producers in the next few years and will be providing unique, one-on-one follow-up ranch management planning for graduates. Pete Bauman's native grassland mapping project will provide a baseline in South Dakota to focus conservation planning efforts to maximize expected results with greater efficiency and precision. New partnerships with organizations like the Mid-Missouri River Prescribed Burn Association will bring economical, common sense land management practices, such as prescribed fire, to become more prominent in South Dakota. Communicating the benefits of soil health and regenerative agriculture with the SD Soil Health Coalition will be a top priority. Consumer market-driven preferences for source verified, conservation minded raised livestock will necessitate the need for building partnerships with conservation orientated non-governmental organizations and companies to provide livestock producers with a greater "slice of the economic pie". Educational opportunities to teach about grassland conservation in the K-12 system as well as communicating and educating the public about the value of grassland in their everyday life will increase.

Finally, I believe we will see an explosion of new technologies that will transform the manner in which grasslands are grazed. I can envision the use of fenceless technologies and remotely sensed imagery data to be used to rotational graze livestock with the touch of your cell phone or computer. Big data imagery will help us monitor vegetation and pasture health. Cross fencing will no longer exist. Livestock implanted sensors (microchips) will be able to determine whether or not an animal is sick, in heat, pregnant, grazing, resting, drinking, walking, etc. Drones or robots will be able to move livestock, check water, and rid pastures of weeds. Maybe not all of these things will happen in the next 20 years, but certainly it is possible in the next 50 years. What will range management curriculum look like? I think it will be a high-tech world with practical applications to make rangelands better for both livestock and wildlife. Imagine controlled grazing without fences. A chance to see the wide-open west again, but in a new way.

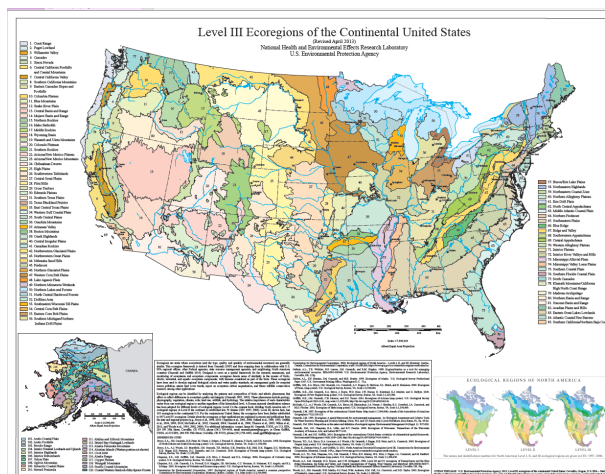
Range 101: Rangeland Ecosystems of the World - Northern Mixed-grass

Prairie by Sandy Smart

The northern mixed-grass prairie is located in the Northwestern Glaciated Plains region 42, Northwestern Great Plains region 43 and western portions of Northern Glaciated Plains region 46 on the Level III Ecoregions of the US (see map to the right and also on the EPA website). It covers the western 2/3 of North Dakota, South Dakota, east of the Rockies in Montana, and northeastern portion of Wyoming. The northern mixed-grass prairie has many



Green needlegrass at the SDSU Cottonwood Range and Livestock Research Station. (Photo: A. Smart 2003).



Level III Ecoregions of the Continental US. Available online at: ftp://newftp.epa.gov/EPADDataCommons/ORD/Ecoregions/us/Eco_Level_III_US.pdf

vegetation types depending on soil type, slope, aspect, and climate (see picture to the left). In the eastern portions of North Dakota and South Dakota the prairie transitions from tallgrass prairie (big bluestem, indianguass, little bluestem, sideoats grama, green needlegrass, porcupine grass) to mixed-grass prairie (little bluestem, sideoats grama, green needlegrass, western wheatgrass).

As you travel further west and north the vegetation becomes western wheatgrass, green needlegrass, needleandthread in the overstory with blue grama and buffalograss in the understory (see picture to the left). Warm-season grasses such as little bluestem and sideoats grama can also be found on steeper slopes and courser textured soils.

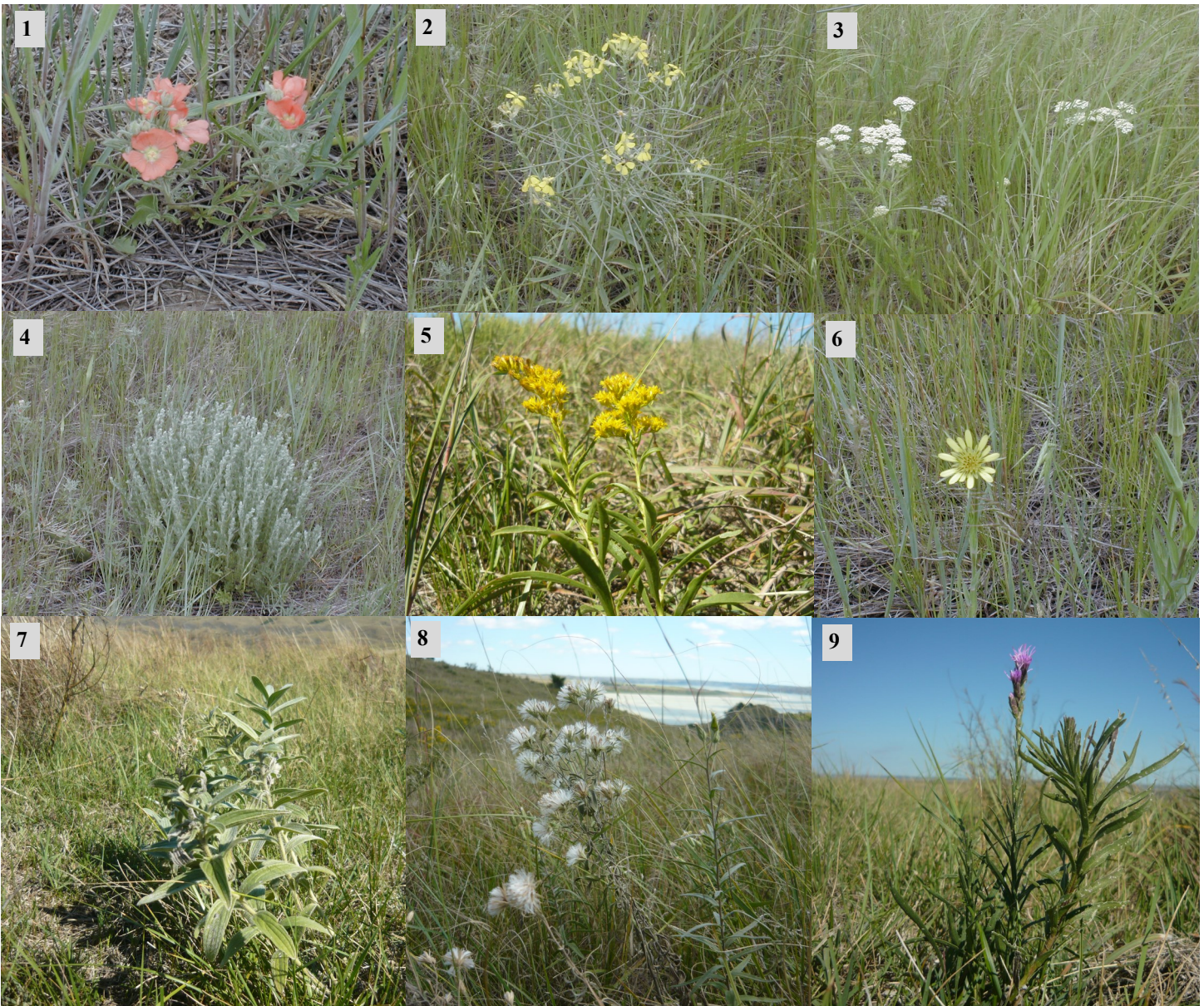
Minor cool-season grasses and grasslike species include Sandberg's bluegrass, scribners panicum, prairie junegrass, red threeawn, and sedges.

Introduced cool-season grasses such as cheatgrass, smooth brome, and Kentucky bluegrass can invade these prairies and reduce species diversity.

Range 101 continued on Page 3

Range 101 continued by Sandy Smart

The northern mixed-grass prairie has high forb diversity. Native prairies and their rich plant diversity play an important role in providing suitable habitat for insects, especially pollinators. North Dakota and South Dakota rank #1 and #2 in honey bee production, respectively. A number of forbs are also legumes, which have a symbiotic relationship with rhizobia bacteria to fix atmospheric nitrogen. In addition, legumes and forbs are higher in crude protein and lower in fiber than grasses. You can think of these plants as little “range cubes” in your pasture. A number of these forbs are sought after by livestock, which we would label as “decreasers”. Even if we don’t believe a particular forb is desirable by livestock, they probably play an important role in the food web nonetheless. In addition, they could occupy a niche that a grass wouldn’t, thereby defending that spot from invasion by an unwanted plant like spotted knapweed or leafy spurge. Pictured below are a few of the more common forbs in the northern mixed-grass prairie.



Panel 1: Scarlet globemallow; Panel 2: Western wallflower; Panel 3: Western yarrow; Panel 4: Fringed sagewort; Panel 5: Missouri goldenrod; Panel 6: Goatsbeard; Panel 7: False gromwell; Panel 8: False boneset; Panel 9: Dotted gayfeather. (Photos by A. Smart, 2003-2014).

Linda Gilbert: Managing Grass with Cattle, a Little Water, and Plenty of Good Ideas by Kate Rasmussen



Linda Gilbert explaining her grazing system. (Photo by K. Rasmussen, 2018).

Linda Gilbert, the most recent addition to the South Dakota Grassland Coalition's board of directors, isn't new to the cattle industry. Linda was raised alongside cattle and horses in western South Dakota. She inherited the land ethic of her father Ken Halligan, a lifelong cattleman and land steward. A veteran of the cattle industry and advocate for her heritage, Linda was appointed by Secretary of Agriculture, Tom Vilsack, to serve on the Cattlemen's Beef Board in 2010. Linda has also served for a number of years on the National Board of Beef Council and Public Lands Committee.

Linda and her husband, Ray, run a cow-calf operation outside of Buffalo, SD. The two work around an arid, practically high desert climate averaging only ten to twelve inches of rainfall per year. This dry country requires a delicate balance between running a profitable cattle business and careful land management.

Like many of the SDGC board members, the tough economic climate of the 80's pushed Ray and Linda to make drastic changes in their management style. They did plenty of research and landed on a rotational grazing system they thought might work on their ranch. They added around twenty miles of electric cross fencing and

increased their stocking rate by three fold.

The two were able to take in yearlings and run a herd of sheep to supplement the cattle business. Linda found these changes helped their business and also matched the "take care of the land, it will take care of you" philosophy of her father. After about three years, Ray and Linda started seeing the land change as a result of their grazing system. Places on the ranch that were historically hardpan began growing feed. Perennial native grasses began gaining a competitive advantage over invasive species they had around for years like prairie sand reed. "Since we started rotational grazing, we've never sold cattle because of drought," Linda said as she listed the unexpected positive results of their grazing system.

It's taken plenty of time to work the kinks out through trial and error, "we're still tweaking things each year. There are so many different methods of rotating. You just have to figure out what works on your place," she said, "find what works in your area and have an open mind. Be ready for change and be an observer. If you truly want to improve, watch your cattle and watch what your grass is doing." When I asked the two if they had any advice for folks who are beginning their own ranch or thinking about changing an existing model Linda said, "Be ready to learn, observe, and adapt."

Ray and Linda discovered that there are many elements of a grazing system that vary from place to place,

Linda Gilbert continued on Page 5

Linda Gilbert continued by Kate Rasmussen

but one rule they live by is to always start in a new pasture. Each spring they always start their rotation on a different pasture rather than grazing the same plants at the same time every year. Practicing this year after year has allowed desirable native grasses to thrive. They're also sold on fence line weaning. Ray and Linda both shook their heads, wishing they had done it years before: "The cattle are less stressed, they don't get sick, and there's really no shrink," Ray said.

Thinking back over the years, Ray added that he wishes they had taken more pictures of the progress they've made in their pastures over time. "I wish we would have done more grass monitoring and kept track of the data," Ray said. He also recommends doing thorough research on electric fence material. As a new member of the quickly growing organization, Linda is excited about the work the Coalition does for South Dakota land managers. She looks forward to being a part of the Coalition as it expands in the state. She believes that the organization "is a great opportunity for producers to learn from other producers. The coalition does a great job of sharing research." The Gilbert Ranch arrived where it is today by sifting through research, picking out the good ideas, and adapting them to their ranch through trial and error. The Coalition helps producers speed up this process and offers educational support for people looking to improve their land while getting the most out of it.

Ray and Linda agreed that if they could change anything about the way they did things in the early years of their ranch they would have gotten out more. "One of our biggest mistakes as young ranchers was that we worked all the time and never left the place. Talking to other producers and learning about different ways of doing things would have helped us a lot," Linda said, "Networking is really important and it's something the Coalition does well."

Kate Rasmussen is a freelance writer and ranch hand based near Belvidere, SD.

The Customer is Always Right by Garnet Perman

As the largest demographic in the workforce, millennials (born between 1982 -2004) and their sensibilities about food has pushed big food companies, both retail and restaurant, to make changes in how they do business. Overall meat consumption was expected to increase this year. Beef consumption per person is approximately 55 pounds, but millennials want it their way.

A Washington Post Feb 21, 2018 article noted that millennial's definition of healthy food isn't low-fat or high-fiber; it's more apt to be "natural, organic, locally sourced or sustainable". They are interested in how the food was sourced and grown, and how that affects their carbon footprint. Animal welfare is important. McDonald's, Walmart, Costco and Arby's, who purchase immense quantities of U.S. beef, participated in a Cows and Carbon meeting held at Rock Hills Ranch in September. In addition to keeping customers happy, these companies also recognize the future challenge of feeding a much larger human population with limited resources. To those ends, each company has an on-line sustainability report that describes their sustainability principles and goals and how they support that.

McDonald's has sold more than 300 billion burgers worldwide. The single largest beef purchaser in the U.S, beef for their U.S. restaurants is sourced from the U.S. with a small percentage imported from Australia and New Zealand. The website states: "McDonald's is synonymous with burgers and because the McDonald's system is one of the largest purchasers of beef globally, beef matters to us. This means supporting beef production that is environmentally sound, advances animal welfare and improves farmer livelihoods matters to us. That's why we're working with farmers and ranchers across the world to discover, practice and help scale sustainable farming methods."

Customer continued on Page 5

Customer continued by Garnet Perman

McDonald's support of sustainable food production is long and specific to each country/region where they are present. Covering everything from coffee to meat to potatoes, the list is worth taking a look at: <https://corporate.mcdonalds.com/corpmcd/scale-for-good/using-our-scale-for-good.html>. The Beef and Flagship Farms links will interest readers. In the U.S. they are a founding member of the Sustainable Beef Roundtable. This year, they became sponsors of the National Cattlemen's Beef Association Environmental Stewardship Award.

Arby's is the second-largest sandwich restaurant brand in the world with more than 3,400 restaurants in eight countries. Their business was built on roast beef and continues to be an important part of the business today. The current menu offers nine different beef sandwiches. They are unabashedly pro carnivore and have experimented with different seasonings and ethnic offerings that appeal to younger customers. Their 2016 sustainability report declared intent to transition to using more sustainably grown products, particularly in meat and eggs (all cage free by 2020). Specific information for beef was unavailable. Arby's is also a founding member of the U.S. Roundtable for Sustainable Beef.

Costco is the largest seller of organic products in the U.S. Their involvement with the Sustainable Beef Round Table increased in the last two years. Their sustainability statement emphasizes the need to learn from and work with other stakeholders in order to develop and implement ways to measure sustainability, "More information needs to be shared between the grower, feeder and packer about all the things that combine for profitability and environmental sustainability. That, in the end, translates into the best possible product for our members." Costco currently offers a variety of fresh beef choices that include both conventionally raised and organic labels. The Costco Connection member magazine is an effective education tool. A 2012 article explained how they source their organic beef and includes an educational side article about USDA guidelines required for livestock to be organically certified. Their 2017 Global Sustainability Report cites a commitment to animal welfare (specifically cage free eggs) and purchase agreements with organizations such as Rainforest Alliance. They've invested in honey bee research and have a comprehensive pollinator health policy that addresses land stewardship.

Walmart is the world's largest grocer. More than 20 key commodities have been identified to source more sustainably by 2025. Included in the "20x25" are produce, meat and seafood, packaged food, row crops, and specialty crops. Their 2018 sustainability website states, "This year, as part of the U.S. Roundtable for Sustainable Beef, we have worked to draft a comprehensive set of metrics for the U.S. beef supply chain. These metrics will help us measure and track improvement against six priority indicators for sustainable beef including animal well-being and greenhouse gas emissions, among others. Also, we worked with The Nature Conservancy to develop a set of sustainability criteria for our dedicated beef supply, which we expect will account for 15 percent of the industry by 2023." Walmart also offers both conventionally raised and organic grain and grass fed beef labels in their stores.

The Cows and Carbon meeting included hands on presentations on soil health, grassland management and its relationship to carbon storage and water infiltration, pollinator issues and an agricultural history lesson. Rainy weather allowed plenty of discussion time regarding common goals of profitability and environmental stewardship. The SD Grassland Coalition, SD Cattlemen, SDSU, Adeo Honey, Nature Conservancy, World Wildlife Fund and Ducks Unlimited also participated in the meeting.

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

The Green Side UP: Connecting dots, How the SDGC is Influencing Grasslands across North America

by Pete Bauman

Wow, 20 years! Quite an accomplishment and hats off to those of you who helped launch the Coalition in 1998 and to those of you who keep the organization moving forward today. In January 2016 in this column I wrote about a large project we were undertaking to inventory South Dakota's native grasslands. It sounds simple, but it is a very complex issue and not easily achieved without diligent analysis. This project is a testament to the incredible value that the Coalition offers to South Dakota and the region. When we started this project we knew we needed to develop a unique approach. For years, researchers have been using satellite images to determine where grass or grass-like land cover exists; there are a lot of inherent problems with that approach. Simply stated, satellite images can provide only a general idea of the broad scope of grasslands and aren't accurate enough to determine where grasslands actually occur at the farm or ranch level.

We needed a different approach, and found the solution in a data set held by USDA Farm Services Agency that has tracked land use history for decades. However, this data is not available to the public, and to access it, one must prove they are a 'cooperator' with USDA. Unfortunately, SDSU could not directly show that we had a cooperative history of partnership with USDA. However, we did have a long history as a cooperator with the SD Grassland Coalition. Since the Coalition has a proven relationship with SD NRCS, the Coalition met all the necessary USDA requirements needed to release these data. We developed a strong methodology to assess where our native habitats still exist across South Dakota. Now, nearly four years later, we are nearly finished with the basic inventory. It is only because of the strong relationship with the Coalition that we've been able to secure funding from our in-state partners and other granting organizations.

So what's next? The map (pictured right) shows the extent of native habitats remaining in South Dakota. It's a detailed process, and some counties remain to be finished in the south-western part of the state. The truly exciting part of this story is the national significance of our work. Our project partners understand that grassland issues reach well beyond South Dakota's borders, and we believe that if we could develop the methods, others would be able to adopt our techniques to inventory native grasslands in other states.



In 2016, the World Wildlife Fund (WWF) and the University of Wisconsin began using our methods to assess grasslands in the upper Midwest in an effort to create 'conservation friendly' options for the emerging high-oleic soybeans that, if successful, will discourage the conversion of grasslands for producing this crop. Another example of the far reaching implications of the Coalition's influence can be seen in the map (pictured right), where seven North American migratory bird joint ventures and other partners are using our methodology to inventory native grasslands from Canada to Mexico. Who would have thought that a small landowner-based organization formed in 1998 in South Dakota would be central to understanding the scope of grassland importance across the continent?

Project Collaborators

- ConocoPhillips
- Prairie Pothole Joint Venture
- Northern Great Plains Joint Venture
- Rainwater Basin Joint Venture
- Playa Lakes Joint Venture
- Oaks and Prairies Joint Venture
- Rio Grande Joint Venture
- Farm Service Agency
- Bird Conservancy of the Rockies



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



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

Calendar of Events

Event	Date	Location	Contact Person	Phone
SD Cattlemen's Association Annual Meeting	Nov 27-29	Huron	Jodie Anderson	605-945-2333
Leopold Award Presentation	Nov 28	Huron	Jodie Anderson	605-945-2333
NRCS State Technical Meeting	Dec 4	Huron	Kathy Irving	605-352-1205
SDGC 20 Year Celebration	Dec 12	Chamberlain	Judge Jessop	605-280-0127
Ranching for Profit	Jan 20-26	Rapid City	Ranch Management Consultants, Inc.	707-429-2292
NPSAS Annual Winter Meeting	Jan 25-26	Fargo, ND	Judge Jessop	605-280-0127

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