SRM 2020 Denver: Symposium/Workshops/Ignite Sessions

Wednesday PM (1:30 pm to 3:30 pm)

Session 31	Governors 15	**Engaging Rangeland Managers in Grass-Cast to Improve Translation & Transfer** (Symposium)
Session 32	Plaza F	**Translation of key insights from long-term stocking rate studies to range managers** (Symposium)
Session 33	Governors 14	**Addressing Flexibility through Outcome Based Grazing Authorization** (Symposium)
Session 34	Plaza A-C	**Science to Action: Communication Needs of the 21st Century Rangeland Manager** (Symposium)
Session 35	Silver	**Ignite Your Rangeland Collaboration: Lessons Learned and Keys to Success** (Ignite)
Session 36	Windows	**Improving Communication and Collaboration Among Diverse Experts** (Workshop)

The Grassland Productivity Forecast or "Grass-Cast" uses over 30 years of historical data on weather and vegetation growth—combined with satellite NDVI data and seasonal precipitation forecasts—to predict if rangelands in individual ~6 mile x 6 mile areas are likely to produce above-normal, near-normal, or below-normal amounts of vegetation. Grass-Cast can help rangeland managers throughout the Great Plains and Southwest adaptively manage lands to better match animal demand to available forage by providing early warning for drought-induced forage shortages. It was first released to the public in 2018 for the Northern Great Plains, and to the Southern Great Plains in 2019. Work is now underway to develop Grass-Cast for the Southwest region of the United States. This symposium will provide an overview of Grass-Cast, followed by a demonstration of its interactive online maps. Finally, we will use scenarios from 2018 and 2019 to engage participants in small-group discussions centered on how Grass-Cast might fit within existing conservation planning and outreach activities of rangeland specialists with University Extension, private industry, and land management agencies such as NRCS, Forest Service, and BLM.

The symposium will open with a 30-minute introduction to Grass-Cast by a duo of senior and junior team members. Participants will learn how the Grass-Cast maps are made, how to find them online, and how to interpret them. The next 20 minutes will be dedicated to Q&A with the audience to address technical questions. During the second half of the symposium, the USDA Northern Plains Climate Hub will kick off an interactive portion by introducing Grass-Cast maps from the 2018 and 2019 seasons (10 minutes), which exhibited very different characteristics and management implications. Participants will then use the maps in small groups to hone their understanding of Grass-Cast and discuss how they might act upon the early-season information for a location of interest to them (30 minutes). The symposium will conclude with a report-out from all groups to capture their insights about the opportunities and challenges of using Grass-Cast to help inform rangeland management decisions. We are seeking input from rangeland managers to help make Grass-Cast more usable and envision how it might be incorporated into existing conservation planning and outreach programming efforts.

Speakers: Dannele Peck, Justin Derner, Kristin Dickinson, Matt Reeves, Windy Kelley.

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Sustainable livestock production is centered on matching animal demand with forage availability, which presents a challenge to managers faced with changing climatic conditions. Long-term stocking rate studies have provided fundamental knowledge to the range management profession. Key insights from these studies have not been translated well to range managers or to agencies (state, federal, tribal) for land management recommendations.

In this symposium, translation of the key insights from several multidecadal stocking rate studies could provide the focus and vision (i.e., 20/20) for reshaping the sustainable management of rangelands in a changing climate. Our goal is to highlight ways that science-based information on livestock production can benefit sustainable ecosystem management. Objectives of resulting discussion with attendees will be: 1) advance questions centered on how long-term data can inform our understanding of climatic drivers and rangeland conditions which mediate livestock production, 2) introduce novel uses of such long-term data for management/practice applications, and 3) engage attendees and speakers in a discussion of livestock production using operation examples from different regions. Expected outcomes for attendees include a better understanding of regional variation in livestock production under different stocking rates, and implications for rangeland ecosystem management and decision-making under changing climatic conditions.

Alexander "Sandy" Smart, South Dakota State University, Dept. of Natural Resource Management, "Balancing ecosystem goods and services: why do ranchers do what they do?"

Keith Harmoney, Kansas State University, Dept. of Agronomy, "'Old' Stocking Study Still Yields New Information for Current Management".

Peter O'Reagain, Queensland Australia Department of Agriculture and Fisheries, "'Testing, developing and communicating guidelines for sustainable and profitable management in the rangelands of northern Australia"

Edward J. Raynor, USDA-ARS, Rangeland Resources & Systems Research Unit, "Large-scale and local climatic controls on large herbivore productivity: Implications for adaptive rangeland management"

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The Bureau of Land Management initiated the Outcome Based Grazing Authorization (OBGA) demonstration project in September 2017. The OBGA project is intended to support enhanced collaboration and partnerships for managing livestock based on conservation performance and ecological outcomes rather than process and prescription. This is expected to result in cooperative improvement, management and/or protection of public lands within the project areas as well as creating or continuing achievement or attainment of positive economic and social outcomes. Flexibility in yearly operational management is key to the OBGA, and clearly stated objectives and an associated monitoring plan is key to implementing legally sound flexibility.

Speakers will be comprised of the OBGA lead and speakers from 2 of the OBGA projects. The symposium will begin with the OBGA lead giving an overview of the effort and the variety of projects involved. The overview will include information regarding the expected outcome of the initiative, which is new national policy and direction on how to renew BLM grazing permits in order to enhance collaboration and maximize flexibility. Two of the 11 National OBGA projects will then present, specifically focusing on innovative monitoring, and successful approaches to collaboration. The projects will also include a discussion of the importance of monitoring to the effort, and how some innovative new techniques are being used to compliment other 'agency' monitoring techniques and support management decision making. Discussions will include information on flexibility that has already been implemented, and how that information is being captured and shared.

Public lands grazing is an important contributor to the agricultural industry in the west, and there is expected to be much conversation initiated through this presentation.   There are many opportunities to improve the flexibility afforded a public lands grazing permit, and this project explores those opportunities. Benefits of OBGA are expected to include improved relationships, healthier ecosystems, and enhanced economic viability.

We have from Oregon: Autumn Toelle-Jackson (BLM) and Stacy Davies (or a ranch representative) of Roaring Springs Ranch.
From Nevada we have Jeff Morre (BLM) and James Rogers of the Winecup-Gamble Ranch, and
From Wyoming we have Cheryl Newberry (BLM) and Niels Hansen of PH Livestock Co.
Kathryn Dyer of BLM, will also be a presenter/contributor as well as being the facilitator/moderator.

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When "Rangeland Scientists" question why those who manage ecosystems do not implement the information developed into action, the managers concern is not centrally about the quality of *data* or *information,* but rather, the processes of *knowledge* production and implementation*. Knowledge* is a consequence of human reflection and experience, and it is most often found within an individual, collective, routine or process that results in an increased capacity for decision-making and action to achieve some purpose. This definition stands in meaningful contrast to *data*, which refers to unedited descriptions or results of observations about states of past, present or future domains, or *information,* which refers to patterns that observers find or instill onto the data that has been generated through experimentation. The adoption and spread of innovation through a society/organization was formally described by Everett M. Rogers in the book *Diffusions of Innovations* and expanded upon by Geoffrey Moore to not only address the concepts of innovation, but also the spread if *ideas*. These concepts apply particularly well in natural resource management with a bell-curved continuum from those who readily develop and adopt (Innovators – 2.5%, Early Adopters – 13.5%) through those who are waiting to see (Early Majority – 34%, Late Majority – 34%) and ending with those who lag behind (Laggards – 16%). David Scarnecchia described rangeland "Management Science" as a distinct scientific entity that provides the basis for synthesizing many of the basic sciences into a discipline focused on the effective management of rangeland/grazing land ecosystems. He pointed out one distinct issue…" To accomplish synthesis, **organization** is essential, as is **communication**". What has lacked in most components of the profession is the realization that no matter the complexity of the subject (stocking rate, ecohydrology, landscape dynamics, etc.); to apply rangeland management science is most importantly a science of **communication**. Fred Provenza stated that the role of today's rangeland scientist is to provide understanding of the structures, processes and functions that are critical to the "wise" management of rangeland/grazing land ecosystems. To answer the call for communication and knowledge generation in the 21st century, those who study, assess, create policy, assist and manage natural resource ecosystems must coalesce around a common vision of "Why?" the systems are important, "How?" we can most efficiently and effectively manage them, and "What?" will become the actions and decisions that influence the future of this vital natural resource. The proposed symposium builds upon the questions of the days sub-plenary session and provides insight from rangeland managers and ideas for communication that traverses science to management.

Moderated by Bill Fox with special guest: Special Agent H. L. Bentley. Speakers will include Neal Wilkins (East Foundation), Meredith Ellis (rancher) and Martin Carcasson (CSU).

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Ignite Your Rangeland Collaboration: Lessons Learned and Keys to Success

Organizers: Terri Schulz, Mark Brunson, and Michael Duniway

Collaborations occur in many different contexts from landowner led groups sharing best practices to co-management of a property. Some are formed to share information and others to resolve conflicting priorities. Are there characteristics of collaboration that ensure success or predict failure? Four – six speakers from a diversity of collaboratives will tell the story of their group and why they have been successful. These ignite presentations will focus on lessons learned and themes which are transferable across a variety of collaborations. After the presentations, a discussion with the audience will determine how universal the themes are.

Speakers:
- John Sanderson - Collaborations in Conservation: What do they look like, how do they work, and when do they succeed
- Terri Schulz – Collaborative Adaptive Rangeland Management project in Colorado
- Lynn Huntsinger – Ranchers, Agencies, Scientists, and Consultants work together as the California Rangeland Conservation Coalition
- Mike Duniway – Well Pad Reclamation Research & Collaboration in the Uinta Basin
- Maria Fernandez-Gimenez – Co-creating Knowledge for Action with Women Pastoralists in Spain
- Brian Martin - Ranch Community Collaboratives and Conservation in Central Montana
- Nathan Sayer - Species of Capital in Collaborative Conservation: the Malpai Borderlands Group
- Jay Angerer – Developing national livestock and rangeland information systems: Lessons learned and adaptations
- Mark Brunson – Can boundary-spanning collaborations help us cross the desire/outcome barrier?

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Collaboration between experts from different fields and backgrounds is essential in producing actionable science that is applicable as well as accepted and trusted. Diverse expertise, languages, cultures, and priorities can challenge a team's progress, and ineffective collaboration can lead to misunderstanding, inefficiency, and frustration, impacting progress and reducing the acceptance and perceived trustworthiness of results. Improving communication helps to incorporate perspectives of diverse stakeholders, including those who are frequently under-represented or overlooked, and improve public understanding of the benefits of scientific work and its results.

The goal of this workshop is to help bridge the gap between the scientific, managerial, and administrative communities; to improve actionable, collaborative research; and to increase the presence and relevance of research findings in the decision- and policy-making process. Participants will learn and practice ways to transform complex scientific studies into concise descriptions of problems, goals, methods, and relevance using less jargon-heavy and technical language.

The workshop consists of four parts and is built around the Message Box, a widely used concept to communicate complex problems, and guided conversations among three people from different fields (e.g., scientist, management officer, agency employee). Participants first learn the basics of science communication to a broader audience, before being introduced to the Message Box concept, including goals and examples. Then, participants team up in groups of three to apply the concept using their own work and evaluate each other. Finally, all participants will share their experience with each other.

Organizers/hosts:
Toni Klemm, Ph.D., Texas A&M University, College Station, Texas
Cait Rottler, Ph.D., USDA Southern Plains Climate Hub, El Reno, Oklahoma

Toni Klemm and Cait Rottler are postdoctoral researchers. They have extensive experience working in interdisciplinary groups and have been teaching and practicing science communication for several years.