Contributed Oral Sessions Schedule

Monday, January 29th

10:20am – 12:00pm

Rangeland Monitoring
10:20am: Jason Cox
Utah's range trend vegetation monitoring: Using landscape scale monitoring to inform wildlife and habitat management

10:40am: Leah Dreesmann
A statistical approach to quantifying sources of variability in vegetation monitoring data

11:00am: Loreen Allphin
Monitoring of long-term grazing paddocks in cold, salt desert shrub communities on the experimental range, Utah, USA.

11:20am: Rheinhardt Scholtz
Monitoring early warning signals to Resist-Accept-Direct (RAD) grassland collapse

11:40am: John Scasta
Refinement of the Robel pole for rangeland grazing applications: insights from diverse applications

Mapping
10:20am: Sujan Parajuli
Prototyping sentinel-2 data to develop 10-m NDVI-based exotic annual grass maps in Snake River Basin using machine learning

10:40am: Shane Green
Integrating concepts of ecological sites, state-and-transition models, rangeland health, and NRCS conservation planning

11:00am: Lucas Phipps
Quantitative assessment of vegetative states and thresholds in the Wyoming Sagebrush plant community in Nevada

11:20am: Felix Ratcliff
Developing ecological sites to guide grazing on San Diego County conserved lands

11:40am: Sean Kearney
Mapping standing biomass from satellite imagery in heterogeneous rangelands: Updates from a sagebrush-grassland ecotone

Global Producer
10:20am: Nicolas Caram
The role of grasslands and rangelands in global beef production

10:40am: Mohammed N. Sawalhah
Effects of pandemic lockdown on Jordan rangelands Vegetation

11:00am: Luci Lu
Land tenure security determinants and trade-offs: A hypothetical game

11:20am: Tunga Ulambaya
Testing a multifunctionality framework for Mongolian mountain forest steppe grazing systems: Enhancing wellbeing for humans and wildlife

11:40am: Tolib Mukimov
Prevention of pasture degradation under climate change by mobilizing plant resources Salsola Paletzkiana LITV

Program Communications (session 1 of 2)
10:20am: Michelle Jeffries
Accessible adaptive management: An introduction to the Land Treatment Exploration tool

10:40am: Devii Rao
An updated California rangeland decision assistance tool: The CRSA

11:00am: Cali Roth
A decision support tool for rangeland grazing planning and management

11:20am: Krista Ehlert
Leveraging producer scientists to inform a decision-support tool for real-time management in extensive rangeland systems

Woody Plant Encroachment
10:20am: Scott Morford
Mapping tree encroachment impacts to ecosystem services: biome-scale insights from remote sensing & ML

10:40am: Samantha Cady
Rangeland vulnerability to tree encroachment in the Great Plains and Western United States

11:00am: Craig Carr
Conifer in-growth and expansion in the western US: A regional evaluation with implications to sustainable beef cattle production.

11:20am: Landon Neumann
Eastern red cedar encroachment creates cooler microclimates and increased soil carbon and infiltration

11:40am: Sydney Noble
Possible hysteresis in a woody dominated state grazed by bison

Historical
10:20am: Gregg Simonds
Alexander Von Humboldt- The invention of nature

10:40am: Hailey Wilmer
Lost seasonal ranges reshape transhumant adaptive capacity: Thirty-five years at the US Sheep Experiment Station

11:00am: Karin Sonnen
Nunivak Island Then and Now; a review of 10 permanent vegetation monitoring locations through the last 32 years on this Alaska Bering Sea Island, home to herds of muskoxen and reindeer.

11:20am: Kierstin Acuna
Effects of a reintroduced herbivore on native and exotic vegetation in a grassland community over the past 25 years

11:40am: Eric Sant
Assessing change using historic ~1m imagery

1:00pm – 3:00pm

Climate
1:00pm: Anna Maher
A compendium of management-relevant, decision-support tools to support climate adaptation on northwest U.S. rangelands

1:20pm: Maria Stahl
Protecting rangelands in a changing climate: Comparing Raramuri Criollo landscape use patterns with red Angus cattle in the Colorado Palteau

1:40pm: Olivia Hajek
Assessing the production-precipitation relationship across diverse agroecosystems and climate gradients in the US

2:00pm: Justin Luong
Trait mechanisms underlying secondary invasion for California rangelands during drought

2:20pm: David Augustine

Does drought intensify the effects of black-tailed prairie dogs on livestock production and net revenue in semiarid rangelands?

2:40pm: Magda Garboski
Assessing the influence of functional traits on drought resistance and tolerance in 10 rangeland plants

Education
1:00pm: Krista Ehlert
Successes, challenges, and takeaways from developing a rangeland curriculum for middle school students in South Dakota

1:20pm: James Oltjen
Rancher motivations for adopting sustainability practices and joining sustainability programs

1:40pm: Sakina Dixon
Prairie project educator cohorts: A promising initiative to increase awareness of the need and strategies to protect and preserve the southern Great Plains among K-12 and college educators and students

2:00pm: Stephen Bramwell
Developing a southwest Washington grazing school to support livestock production and rare habitat

2:20pm: Jessalyn Bachler
Foraging in the northern Great Plains: A case study of a successful rangelands curriculum lesson for all ages

2:40pm: Stephanie Bestelmeyer
Introducing K-12 students and teachers to change on the range: free hands-on lessons about sustainable beef production in the southwest

Invasives
1:00pm: Esben Kjaer
Nitrogenous nightmare: Soil nutrient changes favor smooth brome invasion over Kentucky bluegrass

1:20pm: John Paul Wasan
Absinthe chemical warfare: Investigating allelopathic effects on native and invasive species of the Canadian Prairies

1:40pm: Katherine Hovanes
Impact of priority effects and native plant community on performance of buffelgrass (Pennisetum ciliare), an invasive C4 perennial bunchgrass in the southwestern United States

2:00pm: Daniel Lauritzen
Determining optimal livestock grazing timing for bulbous bluegrass in southeast Idaho

2:20pm: Melissa Meyers
Plant-soil feedbacks of Lehmann lovegrass (Eragrostis lehmanniana) and its effect on competition with native black grama (Bouteloua eriopoda)

2:40pm: Megan Clayton
Whitebrush (Aloysia gratissima) control during growing and dormant seasons in South Texas.

Modeling
1:00pm: Sean Di Stéfano
Tackling rangeland complexity: APEX modeling on the western Great Plains

1:20pm: Joseph Smith
Saving sagebrush ecosystems from exotic annual grasses: can we win by managing disturbance?

1:40pm: David Board
Disentangling drivers of annual grass invasion in the sagebrush biome: biophysical susceptibility vs. fire-induced conversion

2:00pm: Sam Knuth
Assessing fire-induced bunchgrass mortality in sagebrush rangelands: An agent-based modeling approach

2:20pm: Micheal Clyne
Forecasting sagebrush recovery potential in the Great Basin using structured population models

2:40pm: Jessica Windh
Temporal heterogeneity of rangeland grasses in a simulated grazing system and the potential benefits of integrating with cropping systems: A bioeconomic analysis

Riparian
1:00pm: Sawyer Reagan
Relationships among stream morphology, riparian plant community types, and grazing management in southwest Montana

1:20pm: Tulley Mackey
Rangeland restoration: Mimicking beaver to improve aquatic and riparian habitat in the high desert

1:40pm: James Bolyard
Low-tech process-based restoration of prairie streams in western South Dakota: Preliminary results

2:00pm: Matt Trentman
Predicting landscape-scale susceptibility of streams to potential livestock degradation using Google Earth Engine

2:20pm: Benjamin Sullivan
Meadows as soil carbon hotspots in rangelands.

2:40pm: Nick Pitizzette
Quantifying rangeland ground conditions using remote sensing in riparian areas

Livestock Technology
1:00pm: Claire Foyil
Identification of bitter sensitivity in ram lambs using phenylthiocarbamide topically applied to feed

1:20pm: Aaron Kersh

Sheep foraging behavior and diet selection in the context of Geyer's larkspur (Delphinium geyeri): insights from fDNA barcoding

1:40pm: Temitope Oloede
Pedometer-based metrics of animal behavior in relation to summer heat stress

2:00pm: Amadeus Barto
Evaluation of a commercial rumen bolus to monitor cattle behavior and well-being on rangelands.

2:20pm: Martín Do Carmo Corujo
Ingestive and digestive behavior of pure and crossbred beef cows grazing native subtropical grassland differing in herbage mass

2:40pm: Esben Kjaer
Bring us a shrubbery! DNA barcoding reveals dietary preferences across rangeland management practices

Monday, January 29th

3:20pm- 5:00pm

Avian Wildlife
3:20pm: Tracey Johnson
Hayfields to habitat: restoring sagebrush breeding habitat for songbirds

3:40pm: Katherine Travis
Navigating the fragmented thornscrub: using fine-scale movement data to assess functional responses to disturbance in a declining galliform

4:00pm: Lauren Berry
Grassland bird occupancy responses to two new spatial early warning signals of state transitions: testing spatial variance and spatial covariance

4:20pm: Justin Clarke
Enhancing avian territory quality with heterogeneity-based grazing regimes

4:40pm: Caleb Roberts
Successes, challenges, and scientific advances gleaned from ecoregion-scale grassland restoration in the Loess Canyons, Nebraska.

Data Use
3:20pm: Mike Schellenberg
First year rancher response to Central Prairies Living Lab project

3:40pm: Victoria Donovan

The Prairie Project: A grass-roots effort to address literacy gaps in grasslands and their management in the Great Plains

4:00pm: Jameson Brennan
Integrating precision technology, machine learning, and animal nutrition models to inform grazing rotations in South Dakota

4:20pm: Logan Megard
The need for speed: Using Amazon Web Services to map larger areas, more often in less time

4:40pm: Tolib Mukimov
The use of efficient production technologies in desert-pasture animal husbandry

10:20am-12:00pm

Feral Horses
10:20am: Matt Reeves
Spatially explicit capacity assessments support rangeland NEPA

10:40am: Courtney Buchanan
Seasonal and geographic differences in diets of feral horses among BLM herd management areas

11:00am: Megan Milligan
Free-roaming horses exceeding appropriate management levels affect multiple vital rates in greater sage-grouse

11:20am: Steven Peterson
Resource selection patterns by free-roaming horses within the Great Basin

11:40am: Kalen Taylor
Mustang Camp: Promoting healthy rangelands through youth education

Imaging 1 (session 1 of 2)
10:20am: Erika Peirce
What is truth? Comparing different rangeland biomass estimation methods to inform remote sensing products

10:40am: Dave Atkins
Comparison of remote sensing platforms for non-destructive estimation of herbaceous biomass.

11:00am: David Rowley
Shifting mosaics indicate grassland fragmentation and disconnection throughout the Texas Gulf landscape

11:20am: Trenton Benedict
Differentiating cheatgrass and medusahead phenological characteristics in western United States rangelands

11:40am: Brittany Castle

A comparison of manual and point of view camera observations of sheep grazing behavior and diet selection

Program Communications 2 (session 2 of 2)
10:20am: Sarah Carter
Synthesizing science for decision makers to help bridge the gap between rangeland science and management on public lands

10:40am: Sam Jordan
Developing BLM national landscape conservation system science plans: Planning for land managers, scientists, and stakeholders

<mark>11:00am: OPEN</mark>

11:20am: Hondo Brisbin
Development of a riparian State and Transition Model to enhance predictability of low gradient stream dynamics in the Great Basin region based upon management and disturbance regimes

11:40am: Mathew Rigge
Rangeland condition monitoring assessment and projection (RCMAP): Tracking fractional rangeland component cover over a 38-year time-series using Landsat

Restoration 1 (session 1 of 2)
10:20am: Lauren Svejcar
Establishing a precision restoration approach using novel technologies across a heterogeneous landscape

10:40am: Sara Barga
Selecting seed for restoration: exploring relationships between source climate and population-level variation in germination

11:00am: Dan Harmon
Hedge betting seed mixes: Reducing the risk of failure

11:20am: Francis Kilkenny
Seeding evaluation and experimental design strategies (SEEDS) partnership to increase learning from post-fire restoration in sagebrush shrublands: Concept and first steps

11:40am: Gregor Siegmund
Synthesizing knowledge about the environmental drivers of plant regeneration to support restoration seeding

Tuesday, January 30th

1:00pm – 3:00pm

Sage Grouse 1 (session 1 of 2)
1:00pm: Codi Backen
Greater Sage-grouse nest success is more strongly associated with climatic variability than vegetation productivity

1:20pm: Shawn O'Neil
A retrospective analysis of greater sage-grouse population and survival response to precipitation and drought across 5 western states, 1985–2022

1:40pm: Carl Lundblad
A review and synthesis of the effects of climate on sage-grouse, indicator species of sagebrush ecosystem health

2:00pm: Sarah Webster
Surface mining impacts to sagebrush vegetation communities and greater sage-grouse populations

2:20pm: Jeff Beck
Population trends in non-core Greater Sage-Grouse relative to wind-energy development in Wyoming

2:40pm: Steven Mathews
Effects of manipulating common raven (Corvus corax) breeding success on raven and greater sage-grouse (Centrocercus urophasianus) populations in Nevada and California, USA.

Carbon
1:00pm: Mike Anderson
Assessing carbon over working lands and sources of bulk density information

1:20pm: David Eduardo Prado-Tarango
Soil carbon initiative: Monitoring soil carbon on sheep and livestock ranches in the Western US.

1:40pm: Megan Nasto
Measuring soil organic carbon as a means for promoting collaborative land stewardship by cattle ranchers and state and Federal agencies in the southern great plain grasslands of eastern New Mexico

2:00pm: Brian Morra
Carbon stocks and total belowground carbon flux reflect weather and grazing use in semiarid montane meadows
2:20pm: Cody Reed
Assessing carbon losses and gains in montane meadows: A comparison of methods

2:40pm: Anne Blackwood
Comparing soil organic carbon between four grazing treatments

Grazing
1:00pm: Curtis Drake
Assessing effects of dormant season grazing on biodiversity using line-point intercept and modified-Whitaker plot methods

1:20pm: Amanda Norton
Cow foraging behavior in adaptive multi-paddock grazing on a sagebrush steppe ranch in 2023

1:40pm: Ira Parsons

Cue frequency and animal behavioral response to changing virtual paddock boundaries in extensive grazing systems

2:00pm: Benjamin Menapace
Impact of riparian grazing on incised prairie streams

2:20pm: Kalyn Taylor
Contrasting soil health and productivity responses to long-term grazing in two semiarid rangelands

2:40pm: Lennel Camuy-Velez
Soil microbiome predator-prey relationships altered by temporal grazing intensity

Herbicides
1:00pm: Lisa Rew
Response of cheatgrass and native plant community to herbicide management over four years in high-elevation sagebrush steppe

1:20pm: Ranae Sullivan
Impacts of imazapic on vegetation and soil seed banks in an annual grass-invaded Mojave Desert ecosystem during a drought

1:40pm: Erik Lehnhoff
Herbicide induced vegetation dynamics across a mesquite encroachment gradient

2:00pm: Sheila Taillon
Combining the effects of herbicides and fertilizers for enhanced control of leafy spurge (Euphorbia esula)

2:20pm: Nic McMillan
Growing season fires and herbicide may not be the silver bullet to Lespedeza cuneata management

2:40pm: Kayla Johnson
Using an integrated management approach to control an invasive legume in the tallgrass prairie

Imaging 2 (session 2 of 2)
1:00pm: Biquan Zhao
Forage biomass estimation for smooth bromegrass using drone-based remote sensing to evaluate effects of treatments with nitrogen fertilization and cattle nutrient supplement

1:20pm: Tracy Shane
Drones vs. Humans: multi-temporal comparisons between sUAS photogrammetry/spatial analysis methods and field-based vegetation measurements collected by humans

1:40pm: Micah Funk
Combining high-resolution drone imagery and satellite remote sensing to assess rangeland pastures

2:00pm: Ryan Blackburn
Phones and drones: Rapid assessment of plant functional types and vegetation structure in the Mongolian steppe
2:20pm: Jason Karl

Lens-caused relief displacement and the potential for bias in estimates of vegetation cover from downward-looking photographs

2:40pm: Amira Burns
CameraTrapDetectoR: Harnessing the power of deep learning to classify camera trap images

3:20pm – 5:00pm

Virtual Fence
3:20pm: Krista Ehlert
What's in a name? Virtual fencing terminology for the enhancement of research, extension, and industry applications

3:40pm: Kaitlyn Dozler
The Influence of virtual fence cues on heart rate responses of cattle

4:00pm: Alexandra Harland
Efficacy of virtual fencing as a tool to rotationally graze beef cattle in Western Canada.

4:20pm: Melinda Ellison
Use of virtual fence in an upland western sagebrush steppe grazing allotment.

4:40pm: Logan Vandermark
The significance of extension programming in promoting the adoption of virtual fencing

Fire Management 1 (session 1 of 2)
3:20pm: John Wendt
Trends and drivers of consumer dominance in ancient and modern North America

3:40pm: Keith Harmoney
Mixed-grass vegetation response to an extreme wildfire event

4:00pm: Dakota Moberg
Changes in landscape structure after wildfire in South Texas

4:20pm: Alison Paulson
Post-fire regeneration and severity patterns across the 2021 Tamarack fire in the eastern Sierra Nevada (USA)

4:40pm: E.J. Bates
Grazing intensity impacts on herbaceous composition in burned sagebrush steppe

Pollinators and Soil Biome
3:20pm: Devyn Orr
Crested wheatgrass seeding restructures plant-pollinator networks

3:40pm: Kevin Sedivec

Wildflower mineral status and nutritional value: Creating diverse rangelands benefit livestock and pollinators

4:00pm: Robert Arkle
Forbs, pollinators, wildfire, and restoration in the Northern Great Basin

4:20pm: Devan McGranah
Resilience of grazed, semi-arid rangeland to wildfire: Soil, vegetation, and pollinator responses

4:40pm: Lea Condon
Biological soil crusts are most common on warmer, drier sites as defined by the resistance and resilience framework.

<mark>Wednesday , January 31st</mark>

<mark>10:00am-12:00pm</mark>

Fuels Grazing
10:00am: SRM Targeted Grazing Committee
Putting prescribed/targeted grazing to work at state/regional scales landscape-level in the western U.S. and beyond

10:20am: Alex Stoneburner
Assessing the effectiveness of targeted grazing for managing cheatgrass (Bromus tectorum) in the sagebrush biome

10:40am: Kelly Hopping
Early indications of the potential of sheep targeted grazing as a cheatgrass and wildfire risk management tool

11:00am: Genoa Starrs
Large-scale impacts of cattle grazing on annual burn probability in Napa and Sonoma Counties, California

11:20am: Roxanne Foss
Grassland biomass thresholds critical to fire behavior and land management in California

11:40am: John Hendricks
Impact of burning and mob grazing on range productivity in the northern Great Plains.

Restoration 2 (session 2 of 2)
10:00am: Shannon Nelson
Soil amendments to improve tall wheatgrass establishment at a mine tailings impoundment

10:20am: Leah Prescott
Historic seed collections as a tool to understand seed mass variation in native plants

10:40am: Stephanie Yelenik
Restoration to stall grass-fire cycles in Hawai'i

11:00am: Shannon Wilson

Pest status, seasonal abundance, and management of the twolined spittlebug, Prosapia bicincta, on Hawaiʻi rangelands

11:20am: Catherine Silliman
Comparing seed emergence and seedling survival of Krascheninnikovia lanata (winterfat) across spatial and environmental gradients in the Great Basin and Mojave deserts

11:40am: Shaelyn Rainey
Effects of digestion on germination of native grasses of the Southern Great Plains

Sagebrush Management
10:00am: Angela Fletcher
Measuring and quantifying the ecosystem service values of conservation investments on western rangelands

10:20am: Daniel Eddington
Utah Watershed Restoration Initiative Partnership

10:40am: Beth Orning
Long-Term costs and effects of biome-wide sagebrush conservation strategies for invasive annual grasses

11:00am: Robert Heckman
Invasion, precipitation seasonality, and precipitation legacies impact plant production in western US rangelands

11:20am: Daav Sannerud
Thinning dense big sagebrush to replenish herbaceous understories: Seedling establishment

11:40am: Joshua Day
Drivers of big sagebrush (Artemisia tridentata) survival and mortality in the Colorado Plateau

Wildlife
10:00am: Marlin Dart
Linking behavioral states with movements to examine resource selection dynamics of pronghorn in the southern shortgrass prairie

10:20am: Laura Snell
Mitigating ranching-wildlife conflict with science and community engagement

10:40am: William Richardson
 From juniper jungles to curl-leaf conservation: How PJ removal affects mule deer habitat

11:00am: Taylor Bayne
Wildlife monitoring in real time: Cellular-connected cameras with automated image classification

11:20am: Cody Griffin
Using accelerometers to understand resource selection and energy expenditure in Wild Turkeys: implications for land management
11:40am: Jacob Yetter

Breeding ecology of ring-necked pheasants in a dynamic agroecosystem

1:00pm – 3:00pm

Sage Grouse 2 (session 2 of 2)
1:00pm: Jonathan Dinkins
 Insects, forbs, and cover for greater sage-grouse across an annual grass invasion gradient

1:20pm: Brianne Brussee
Sage-grouse brood-rearing habitat within the Great Basin region of Nevada and California: Observations and inference from multi-scale modeling of habitat selection and survival

1:40pm: Peter Coates
Integrating indices of habitat selection, survival, and space use to inform habitat management areas for greater sage-grouse in Nevada and northeastern California

2:00p: Cali Roth
A decision support tool for a hierarchical population monitoring framework for greater sage-grouse

2:20pm: Morgan Solomon
Mesic protection and restoration: Applying a new threat-based assessment to prioritize conservation actions for an at risk sagebrush obligate

2:40pm: Wayne Smith
Using remote sensing to assess habitat of Gunnison sage-grouse

Fire Management 2 (session 2 of 2)
1:00pm: Corey Gucker
Changing fire regimes in the Great Basin USA

1:20pm: Austin Nash
Do fuel breaks contribute to the spread of annual grasses in the sagebrush ecosystem?

1:40pm: Aaron Johnston
An economic evaluation of the net benefits of fire fuel breaks in the Great Basin

2:00pm: Michelle Day
Optimizing fuel treatments to reduce wildfire risk to sagebrush ecosystems in the Great Basin of the western US

2:20pm: Peter Olsoy
Remote sensing of wildfire fuels along potential control locations with unoccupied aerial systems

2:40pm: Jessica Brown
Evaluating risks and guiding fuels management in a Forest Service high priority landscape