



## Contributed Oral Sessions Schedule

*All times noted are in Mountain Standard Time*

### **MONDAY, FEBRUARY 13<sup>TH</sup>**

#### **10am-11:30am**

##### **Riparian and water resources**

10am-10:15am: Benjamin Menapace

Evaluating Changes in Riparian Complex Ecological Sites Over Time

10:15am-10:30am: Mary Rowland

What Drives Cattle to Water? Accounting for Summer Riparian Use to Inform Management

10:30am-10:45am: David Bohnert

Supplement Type and Factors Affecting Use by Cattle in a Montane Riparian Pasture

10:45am-11am: Lia Qin Ryan Ossanna

Using rock detention structures to slow erosion in ephemeral streams: A 10-year case study

11:am-11:15am: James Dobrowolski

Water Quality and Quantity Programs of USDA-NIFA Supporting Rangeland Science and Management

11:15am-11:30am: Mike Anderson

How Proper Grazing Management Can Improve Water Security

##### **Fire, session 1 of 2**

10am-10:15am: Lauren Svejcar

Post-fire recovery of native and introduced plant species across an elevation gradient

10:15am-10:30am: Theresa Becchetti

Shrub encroachment effects on wildfire potential (incidence) in California's Wildland Urban Interface

10:30am-10:45am: Jacqueline Ott

Sagebrush survival following spring prescribed fire at the ecotone of sagebrush steppe and mixed-grass prairie in northeastern Wyoming

10:45am-11am: Troy Ocheltree

Nutrient availability and plant responses to fire-induced sagebrush mortality at the sagebrush steppe/mixed-grass prairie ecotone

11am-11:15am: Jonathan Bates

Early succession after prescribed fire in low sagebrush steppe

11:15am-11:30am: Jacob E Powell

Vegetative Fuel Break Establishment and Effectiveness in the Columbia Plateau

### **Restoring rangelands, session 1 of 3**

10am-10:15am: Juan-Gilberto Garcia-Cancel

The effects of Mexican feathergrass density on blue grama seedlings

10:15am-10:30am: Amber Johnson

Breaking dormancy and increasing restoration success of native forbs with innovative seed coating and planting techniques

10:30am-10:45am: Scott Shaff

Ten-year ecological responses to fuel treatments within semiarid Wyoming big sagebrush ecosystems

10:45am-11am: Matthew Rinella

Theory of seed mix design with applications to rangeland restoration

11am-11:30am: Tolibjon Mukimov

-SELECTION OF BREEDING SOURCES FROM PROMISING SPECIES OF ASTRAGALUS

-ORGANIZATION OF SOWING OF PROMISING DESERT-FORAGE PLANT SPECIES

### **Grazing, session 1 of 5**

10am-10:15am: Abbigail Rodgers

Grazing intensity and fire frequency effects on plant species and community characteristics in tallgrass prairie

10:15am-10:30am: Sherman Swanson

Contrasting Grazing Management for Livestock Versus Free-Roaming Horses and Burros

10:30am-10:45am: Sherman Swanson

Sustaining Riparian Functions with Management of Livestock and Free-Roaming Horses and Burros

10:45am-11am: Amy Nagler

Labor Changes in Beef Production: A Social and Economic Investigation of Labor Market Shifts

11am-11:15am: Justin Clarke

Avian Nesting Communities and Success in a Heterogeneity-based Rotational Grazing System

**1pm-3pm**

**Plant Ecology, session 1 of 3; Woody plants**

1pm-1:15pm: Mohammed Abdelkreim

Investigation of Change in Vegetation Attributes at EL\_Khauwie District, Western kordofan State, Sudan

1:15pm-1:30pm: Matt Reeves

Quantifying Encroachment on Rangelands in the Kaibab National Forest

1:30pm-1:45pm: Samantha Cady

Quantifying and describing woody plant encroachment risk in the Great Plains

1:45pm-2pm: Dillon Fogarty

Grassland risk and vulnerability to woody encroachment in the Great Plains

2pm-2:15pm: Pete Bauman

Use of NAIP and LiDAR Imagery to Determine the Rate of Loss of Native Grasslands in Eastern South Dakota from 2012 – 2021.

2:15pm-2:30pm: Trevor Caughlin

Achieving the promise of landscape demography with drone-based measurements of sagebrush demographic rates

2:30pm-2:45pm: Ryan Schroeder

Soil seed bank and aboveground vegetation community dynamics across a shrub encroachment gradient in the Northern Chihuahuan Desert, U.S

2:45pm-3pm: Katie Joe Pennartz

Niche divergence of a drought-deciduous shrub and its implications on range expansion under changing climate scenarios

**Grazing, session 2 of 5; Targeted grazing, virtual fencing & more**

1:15pm-1:30pm: Shelemia Nyamuryekung'e

Virtual Fencing of nursing cattle grazing large pastures of Chihuahuan Desert rangelands

1:30pm-1:45pm: Brett Blum

Applications of Virtual Fence Technology in Quantifying Livestock Resource Selection in a Semi-Arid Ecosystem

1:45pm-2pm: Alexander Smart

Targeted browsing with goats for eastern redcedar (*Juniperus virginiana*) control

2pm-2:15pm: Andrew Evans

Targeted grazing in California grasslands increases native annual forbs and reduces fine fuels

2:15pm-2:30pm: Agustina Rivoir

Effect of herbage allowance and animal genotype on the selectivity for high and low patches of beef cows grazing native subtropical grassland.

2:30pm-2:45pm: Shiva Torabian

The seasonal effects of residual Ivermectin on nutrient cycling, plant biomass and dung beetle

2:45pm-3pm: Courtney Buchanan

USING GENETIC SEQUENCING OF FECAL SAMPLES TO UNDERSTAND DIETARY AND MICROBIAL DIFFERENCES IN FERAL HORSES AMONG BLM HERD MANAGEMENT AREAS

### **Avian wildlife on the range**

1pm-1:15pm: Peter Coates

Estimating spatiotemporal trends of sage-grouse population abundance within stochastic environments: six decades of declines across the American West

1:15pm-1:30pm: Jeff Beck

Increasing Feral Horses Adversely Affect Greater Sage-Grouse Nest Survival in Central Wyoming

1:30pm-1:45pm: William Richardson

Shifts in Sage-Grouse Arthropod Food Sources Across Grazing and Environmental Gradients in Upland Meadow Communities

1:45pm-2pm: Megan Milligan

Linking resource selection to population performance to identify species' habitat across broad spatial scales: an example of greater sage-grouse in a Distinct Population Segment

2pm-2:15pm: Brian Prochazka

Assessing the efficacy of conservation efforts aimed at improving rangeland conditions for greater sage-grouse within the Bi-State Distinct Population Segment

2:15pm-2:30pm: Seth Dettenmaier

A science-based management of ravens tool (SMaRT): A 3-tiered hierarchical framework

2:30pm-2:45pm: Shawn O'Neil

Dynamic spatial modeling of common raven densities and a decision support tool to manage predation of greater sage-grouse nests

2:45pm-3pm: Sarah Webster

Geothermal energy production impacts a sensitive indicator species within sagebrush ecosystems in western North America

**3pm-5pm**

## **Range technologies, session 1 of 2; UAVs**

3pm-3:15pm: Keegan Hammond

Detecting Spatiotemporal Variation of Alfalfa Leaf Area with Drone

3:15pm-3:30pm: Peter Olsoy

Estimating shrub biomass and productivity at the Great Basin LTAR site with an unoccupied aerial system (UAS) time series

3:30pm-3:45pm: Dan Lauritzen

Predicting bulbous bluegrass green-up using weather and soil measurements and remote cameras in eastern Idaho

3:45pm-4pm: Sean Kearney

Prairie dog burrow and colony mapping from unmanned aircraft systems (i.e., drones)

4pm-4:15pm: David Rowley

Mapping Grassland Plant Communities Subjected to Nutrient Influx and Disturbance using UAV Remote Sensing and Machine Learning

4:15pm-4:30pm: Lori Massey

Using UAVs to Quantify Forage Production of a Pastureland

4:30pm-4:45pm: Xavier Jaime

Exploring effective detection of Prickly Pear Cactus (*Opuntia lindheimerii*) from airborne imagery before and after prescribed fires in the Edwards Plateau

4:45pm-5pm: Mike Anderson

Mapping Milkweed for Monarchs

## **Plant Ecology, session 2 of 3: Climate, water & drought**

3pm-3:15pm: David Toledo

Drought effects on plant species composition and root biomass in a Kentucky bluegrass Invaded northern Great Plains rangeland

3:15pm-3:30pm: Carlos Ochoa

Soil Moisture, Vegetation, and Shallow Groundwater Level Variability in a Rangeland Setting in the Chihuahuan Desert, Northern Mexico

3:30pm-3:45pm: Thomas Merchant

Seasonal dry spell effects on primary production in Colorado grasslands

3:45pm-4pm: Julie Finzel

Long-term Impacts of Drought in the Southern San Joaquin Valley

4pm-4:15pm: Tolibjon Mukimov

CULTIVATION OF FODDER CROPS BASED ON THE USE OF GROUNDWATER IN THE KYZYLKUM DESERT

4:15pm-4:30pm: Federico Villarreal-Guerrero

Chlorophyll fluorescence of fourwing saltbush (*Atriplex canescens*) and blue dalea (*Dalea bicolor*) under climate change scenarios

4:30pm-4:45pm: Rebecca Finger Higgens

Drought diminishes differences among ecological states across a historical grazing gradient

4:45pm-5pm: Fidel Hernandez

Evaluating the Insurance Hypothesis: Biodiversity and Rangeland Productivity in a Variable Environment

### **Grazing, session 3 of 5; Grazing systems & management**

3pm-3:15pm: Cameron Shea Burleson

Long-term adaptive management trends on USFS Region 3 grazing allotments

3:15pm-3:30pm: Gregg Simonds

How Proper Grazing Management Can Improve Water Security

3:30pm-3:45pm: Cameron Burleson

Long-term adaptive management trends on USFS Region 3 grazing allotments

3:45pm-4pm: David Augustine

Adaptive, multi-paddock, rotational grazing management alters foraging behavior and spatial grazing distribution of free-ranging cattle

4pm-4:15pm: Sheila Barry

Conserving habitat and species, the role of livestock grazing on California's rangelands

4:15pm-4:30pm: Nicolas Caram

Factors affecting seasonal defoliation patterns by cattle in heterogeneous grassland

4:30pm-4:45pm: Jen Hanson

Plant community response to changes in grazing and precipitation timing in the Shortgrass Steppe

### **Restoring rangelands, session 2 of 3**

3pm-3:15pm: Elise Gornish

Granivorous ants prefer small and unprotected seeds—implications for restoration in arid rangelands

3:15-3:30pm: Tolibjon Mukimov

RE-INTRODUCTION OF PERENNIAL, DROUGHT-RESISTANT FORAGE PASTURE CROPS IN THE CONDITIONS OF THE FOOTHILL ZONE OF UZBEKISTAN

3:30pm-3:45pm: Pete Bauman

Do cover crops enhance the success of prairie plantings? A cautionary tale from Eastern South Dakota.

3:45pm-4pm: Randi Lupardus

Reclamation following oil and gas development on the Colorado Plateau governed by abiotic setting and time

4pm-4:15pm: Chandan Shilpakar  
Vegetation diversity, productivity, and soil dynamics in reclaimed grassland

4:15pm-4:30pm: Molly Reichenborn  
Plant community dynamics following herbicide application across a mesquite encroachment gradient

4:30pm-4:45pm: Alexandra Urza  
Variation in drought responses and restoration applications for pinyon pine

### **Invasives, session 1 of 2**

3pm-3:15pm: William Austin Rutherford  
Trait responses of a grassland shrub invader to altered moisture regimes

3:15pm-3:30pm: John Paul Wasan  
Disturbance, Drought and Nutrients: Investigating Absinthe Invasion in Native Grassland in the Canadian Prairies

3:30pm-3:45pm: Devii Rao  
Control of Russian thistle (*Salsola* spp.) on California's Central Coast Rangelands

3:45pm-4pm: Jeff Mosley  
Long-term vegetation dynamics after 2, 4-D treatment to suppress *Wyethia helianthoides* in mountain meadows of central Idaho

4pm-4:15pm: Erik Lehnhoff  
Lehmann Lovegrass (*Eragrostis lehmanniana*) Removal Facilitates Black Grama (*Bouteloua eriopoda*) Recovery in the Chihuahuan Desert

4:15pm-4:30pm: Nic McMillan  
Scale, biodiversity, and invasion in the tallgrass prairie: a test of the Invasion Paradox across large working rangelands.

4:30pm-4:45pm: Katherine Hovaness  
Demographic rates of invasive perennial bunchgrass grass buffelgrass (*Pennisetum ciliare*) vary with topography

4:45pm-5pm: Jaycie Arndt  
Evaluating Bulbous Bluegrass Control by Various Herbicides

## **TUESDAY, FEBRUARY 14TH**

**9:30am-11:30am**

### **Rangeland technologies, session 2 of 2; Cameras and remote sensing**

9:30am-9:45am: Mike Anderson  
Remote Sensing for Wildlife

9:45am-10am: Taylor Bayne

SMART WILDLIFE MONITORING: EVALUATING CAMERA TRAPS ENABLED WITH ARTIFICIAL INTELLIGENCE

10am-10:15am: Biquan Zhao

Linking on-ground plant functional group biomass production to remote sensing in the semi-arid grasslands of the Nebraska Sandhills

10:15am-10:30am: Cara Applestein

Considerations when using remote sensing fractional cover products for land management purposes

10:30am-10:45am: Matthew Rigge

Rangeland Condition Monitoring Assessment and Projection (RCMAP): Tracking Fractional Rangeland Component Cover Over a 36-year Time-series

10:45am-11am: Pete Bauman

Innovative use of NAIP and LiDAR Imagery to Identify Potentially 'Undisturbed' Land in South Dakota and the Great Plains: Implications for Retention of Native Grasslands.

11am-11:15am: Wayne Smith

Exploring Spatial and Dimensional Differences Across Multiple Resolutions in Image Classification

11:15am-11:30am: Lucas Phipps

Assessing vegetative state utilizing remotely sensed fractional cover and vegetation inventory data

### **Restoring rangelands, session 3 of 3**

9:30am-9:45am: Michelle Jeffries

Accessible Adaptive Management: An Introduction to the Land Treatment Exploration Tool

9:45am-10am: Corey Gucker

Biology, Ecology, and Use of Forbs in Restoration

10am-10:15am: Alan Alvarez

Selecting grass species for grasslands restoration through environmental niche modeling

10:15am-10:30am: Akasha Faist

Biocrust and nutrient additions increase vascular plant biomass of perennial rangeland grass Arizona Cottontop (*Digitaria californica*)

10:30am-10:45am: Kyle Cook

Effects of seed coatings on emergence and survival of winterfat

10:45am-11am: Amy Symstad

Prescribed fire and targeted herbicides may not be enough to restore invaded northern mixed-grass prairie

11am-11:15am: Jacqueline Ott

Sagebrush survival following spring prescribed fire at the ecotone of sagebrush steppe and mixed-grass prairie in northeastern Wyoming



## **Grazing, session 4 of 5; Case studies from around the world**

9:30am-9:45am: Wendimu Bireda

Multivariate analysis to Distinguish Indigenous Cattle in North Shewa zone of Oromia, Ethiopia

9:45am-10am: Mesay Guyo

Physiological features reactivity of Arsi-Bale goats reared under the three agro-ecologies of the Bale zone, southeastern Ethiopia

10am-10:15am: BRIEN NORTON

Rotational grazing success in Central Asia

10:15am-10:30am: Matthew McIntosh

Assessing grazing behavior of heritage, hybrid, and conventional cattle breeds in response to climate change

10:30am-10:45am: Javier Arturo Ñaupari Vasquez

Response of Degraded Rangelands to the Exclusion of Cattle Grazing within the Huascarán National Park, Ancash-Peru

10:45am-11am: Caroline Wade

Assessing the impact of water and forage resources on sheep and goat distribution in Queensland, Australia – a case study

11am-11:15am: Erach Mamedov

CULTIVATION OF FODDER CROPS BASED ON THE USE OF GROUNDWATER IN THE KYZYLKUM DESERT

11:15am-11:30am: Tolibjon Mukimov

THE USE OF EFFECTIVE TECHNOLOGIES IN ANIMAL HUSBANDRY IN UZBEKISTAN

**1pm-3pm**

## **Grazing, session 5 of 5, Diets & more**

1pm-1:15pm: Keith Harmoney

Vegetation and Animal Production in Pastures Sprayed for Western Ragweed Control

1:15pm-1:30pm: Laura Snell

Livestock Mortality Composting in California

1:30pm-1:45pm: Cory Oltjen

Effects of temperature and lunar illumination on cattle activity and distance traveled from water at night by Corriente cattle

1:45pm-2pm: Robin Malik

The effect of diet diversity on goat meat quality

2pm-2:15pm: Anna Dagele

## Precision Supplementation Effects on Heifer Development and Reproduction

2:15pm-2:30pm: John Walker

Dietary Preference Nature or Nurture?

2:30pm-2:45pm: Logan Vandermark

Comparing Net Energy for Activity Between Continuous and Virtual Grazing Systems Using GPS Data and Daily Weights

2:45pm-3pm: Carmen Willmore

Forage Intake and Digesta Kinetics of Beef Cattle Differing in Feed efficiency While Grazing Idaho Rangelands

## **Plant ecology, session 3 of 3; Animal interactions & more**

1:15pm-1:30pm: Lindsey Buehler

Evaluating Ungulate Usage of Rangelands with Black-tailed Prairie Dog Disturbance

1:30pm-1:45pm: Lauren Porensky

Ecosystem resilience to prairie dog disturbance offers opportunities for rangeland management

1:45pm-2pm: Stephanie Yelenik

Disturbance and plant community assembly in exotic-dominated landscapes

2pm-2:15pm: Martín Do Carmo Corujo

Improving herbage mass prediction by regression tree analysis

2:15pm-2:30pm: Sergio Arispe

Predicting Litter Biomass in Degraded Sagebrush Rangelands of the Northern Great Basin

2:30pm-2:45pm: Brandi Wheeler

Leveraging erosion models with established land health assessments to support management decisions

2:45pm-3pm: Lea Condon

Intact Habitat for Greater Sage-Grouse Includes Biological Soil Crusts

## **3pm-5pm**

### **Carbon on the range**

3pm-3:15pm: Seton Bachle

Belowground storage in grassland systems: the impact of seasonal fires on non-structural carbohydrate reserves in native forbs

3:15pm-3:30pm: Paige Stanley

Prospects for grazing management to AMP up soil carbon on California rangelands

3:30pm-3:45pm: Zg Chen

Effects of extreme rainfall events and different functional types on the net ecosystem exchange, biomass and nitrogen mineralization in a Northern Great Plains mixed grassland

3:45pm-4pm: Travis Brammer

Arriving at a natural solution: Bundling credits to access rangeland carbon credits

4pm-4:15pm: Landon Schofield

Acute Effects of Fire on Soil Carbon

4:15pm-4:30pm: Mike Anderson

Mapping Percent Soil Carbon and its Change in the Riparian Areas of the Humboldt Ranch

4:30pm-4:45pm: Mike Anderson

Upland soil carbon pools: sampling, mitigating costs, and defining carbon distributions across large landscapes.

### **Exotic Annual Grasses, session 1 of 2**

3pm-3:15pm: Lisa Rew

Evaluating integrated control practices for cheatgrass at high elevation sagebrush sites

3:15pm-3:30pm: Brynne Lazarus

Critical questions for pre-emergent herbicides in sagebrush steppe: longevity of target and non-target effects on species and ecosystem properties

3:30pm-3:45pm: Maddy Case

Exotic annual grass invasion and grazing across Northern Great Basin rangelands: a cross-scale perspective

3:45pm-4pm: Ranae Zauner

Effects of imazapic and drought on plant communities in intact Mojave Desert ecosystems

4pm-4:15pm: Beth Fowers

Effects of Indaziflam Application Timing on Annual Grass Control at Seven Rangeland Sites

4:15pm-4:30pm: Jake Courkamp

Long-term cheatgrass (*Bromus tectorum* L.) control with indaziflam in sagebrush-grasslands in Sublette County, Wyoming: research synthesis and future directions

4:30pm-4:45pm: Joe Smith

Invasive annual grasses and fire in the Great Basin: New insights from remote sensing

4:45pm-5pm: Stephen Boyte

Bi-weekly early estimates of exotic annual grass abundance in rangelands of the western U.S.

**WEDNESDAY, FEBRUARY 15<sup>TH</sup>**

**9:30am-11:30am**

## **Social science of the range, session 1 of 2**

9:30am-9:45am: Kelly Hopping

Who approves of livestock grazing? An assessment of Idahoans' changing views on rangeland issues

9:45am-10am: Ada Smith

Institutional interactions: How government programs and public land grazing permits influence adaptation on U.S. working rangelands

10am-10:15am: Kaylee Littlefield

Collaborating Across Borders for Rangeland Benefits

10:15am-10:30am: Lesley Morris

Working with ranchers to improve rangeland wildfire preparedness outreach

10:30am-10:45am: Lauren Hunt

Climate change beliefs, decision-making and adaptation behaviors of Western US ranchers

10:45am-11am: Krista Ehlert

beefSD: Exposure to a holistic view of the beef cattle industry helps beginning producers increase operation sustainability over time

11am-11:15am: Lesley Morris

Working with ranchers to improve rangeland wildfire preparedness outreach

11:15am-11:30am: Gwendwr Meredith

Great Plains fire cultures: Opportunities to align science, policy, and management

## **Fire, session 2**

9:30am-9:45am: Xavier Jaime

Exploring effective detection of Prickly Pear Cactus (*Opuntia lindheimerii*) from airborne imagery before and after prescribed fires in the Edwards Plateau

9:45am-10am: Cami Dixon

Timing Prescribed Fire in Tallgrass Prairies Based on Plant Phenology – Lessons Learned

10am-10:15am: John Hendrickson

Impact of fire and drought on axillary bud numbers in Kentucky bluegrass (*Poa pratensis* L.)

10:15am-10:30am: Jim Ansley

Prescribed Fire and Invasive Woody Sprouters: Are We Trapped in a Fire Trap?

10:30am-10:45am: Amy Symstad

Prescribed fire and targeted herbicides may not be enough to restore invaded northern mixed-grass prairie

10:45am-11am: Abbigail Rodgers

Grazing intensity and fire frequency effects on plant species and community characteristics in tallgrass prairie

11:am-11:15am: Georgia Harrison

Cheatgrass increases flammability of native perennial grasses in laboratory-based combustion experiments

11:15am-11:30am: Sophia Heston

Exploring the status of historical greenstrip seedings containing forage kochia (*Bassia prostrata*) in northern Nevada

## 1pm-3pm

### **Social science of the range, session 2 of 2**

1pm-1:15pm: Anna Clare Monlezun

Traversing the Social & Ecological Dimensions of Collaborative Rangeland Management Through Ecosystem Services Valuation

1:15pm-1:30pm: Open

1:30pm-1:45pm: Courtney Buchanan

International Year of Rangelands and Pastoralists: Amplifying local voices through film

1:45pm-2pm: Elizabeth Bennett

The Impact of High Net Worth Individuals on Communities and Rangeland Management in Southwest Montana

2pm-2:15pm: Elena Graciela Dosamantes

In The Weeds: A Review and Synthesis Invasive Species Governance

2:15pm-2:30pm: Aaron Lien

Mind the Gap: Citizen Preferences and Motivations for Invasive Plant Management

2:30pm-2:45pm: Ken Erickson

Let's Go Brandin': An Ethnographic Look at Family, Community, and Ranching Practices in New Mexico's High-Low Country

2:45pm-3pm: Haley Netherton-Morrison

A values typology to support decision-making in working landscapes undergoing change

### **Exotic annual grasses, session 2 of 2**

1pm-1:15pm: Brandon Palmer

An Innovative Approach to Controlling Medusahead at a Management Scale

1:15pm-1:30pm: Adam Clifford

Post-Fire Recovery and Cheatgrass Resistance of Perennial Grasses used for Restoration

1:30pm-1:45pm: Esben Kjaer

Assessing the Drivers and Impacts of Invasive Cool-Season Grasses on Rangeland Plant Communities

1:45pm-2pm: Jaycie Arndt

Assessing Adaptive Invasive Annual Grass Management via Landscape-scale Vegetation Monitoring

2pm-2:15pm: Kristina Young

Understanding practitioner weed management practices and needs in Arizona and Utah

2:15pm-2:30pm: Marshall Hart

The Effects of Ventenata Removal on Rangelands of Northeast Wyoming

2:30pm-2:45pm: Marshall Hart

The Economics of Ventenata Control in Northeast Wyoming

2:45pm-3pm: Marshall Hart

Does annual grass invasion affect rangeland drought resistance?