

2027 Technical Program

The below agenda represents all Contributed Oral Sessions, Symposia, Workshops, Ignite and Campfire Sessions. Specific speaker details and information for Symposia, Workshops, Ignite and Campfire Sessions will be populated soon.

MONDAY, Feb. 15th

10:20am-Noon

Workshop: IYRP 2027 Stakeholder Action-Planning for North America: Project Outcomes, Lessons Learned, and Way Forward

Ignite: Rangeland science at the USDA-Agricultural Research Service: Addressing grand challenges for enduring rangeland systems

Symposia: Remote Sensing Approaches for Analyzing and Mapping Southern Great Plains Wildfires

Symposia: Rinker Rock Creek Ranch: A working landscape for research, education, and conservation

Producers Forum

Contributed Oral Session: Ecosystem Services: Biodiversity 1

Taleigh Adrian: Playing with Fire & Fences: Alternative Grazing Strategies for Pollinator Conservation

David Rowley: Seasonal plant community composition in a grassland under extreme drought and grazing were altered by the unexpected apparent invasion of pasture mealybug (Heliococcus summervillei)

Merilynn Schantz: Pasture Mealybug, a new and novel pest in the southern US grasslands: A case study of the effects on plant communities, grazing strategies, and forage quality and quantity

Justin Luong: Is keeping them out really better: the impact of nearly a decade of grazing exclusion on a short grass forbland

Fadzayi Mashiri: Effects of Rangeland Conversion on Plant and Insect Diversity

Contributed Oral Session: Ecosystem Services: Carbon 1

Edward Raynor: Selecting replacement heifers – would individual animal data on enteric CH4 emissions benefit ranchers?

A. Joshua Leffler: Soil respiration and methane flux differ among landscape positions in a Nebraska Sandhills ecosystem

Walter Wafula: From Stocking to Exclusion: How Grazing Management Shapes Soil Respiration in a Mixed-Grass Prairie

Caroline Wade: Grazing management effects on organic and inorganic soil carbon in northern temperate grasslands

Brekke Peterson: What are Regional Patterns of Soil Carbon on Working Rangelands? Baseline SOC Stocks Across Climate and Grazing Gradients of the United States.

Contributed Oral Session: Restoration 2

Charlie Clements: Rehabilitation of Arid Great Basin Rangelands

Elizabeth Struble: Harnessing Soil Microbial Communities to Restore Rangelands Experiencing Climate and Invasion Stressors

Robert Arkle: Vegetation treatments and raven removal efforts for restoring Greater Sage-grouse habitat and increasing nest survival

Bryan Tarbox: Evaluating trends and drivers of invasive annual grass cover to predict treatment outcomes across the sagebrush biome

Francis Kilkenny: Seeding application, partial reburns, and the race between annual grass invasion and native plant community recovery

Contributed Oral Session: Invasive Species 1

Esben Kjaer: Invasive Grass Thatch Suppresses Seedling Establishment and Limits Rangeland Recovery to Invasion

Gopal Marwaha: Aboveground suppression, belowground filtering: how native diversity constrains Kentucky bluegrass

Jacob VanDress: Drivers of Belowground Root Biomass in Northern Great Plains Invaded Rangelands

Jake Courkamp: Evaluating intregrated management weed management strategies for reed canarygrass (Phalaris arundinacea L.) in northern Colorado

Lealand Schoon: Thinning out Smooth Bromegrass Invasion

Contributed Oral Session: Ecosystem Services: Wildlife 1

Nicki Nimlos: Using GPS ear tags to improve management of predator-livestock interactions on rangelands: A case study from Wyoming

Lara Macon: Detecting Antipredator Behavior in Cattle via GPS and Accelerometer Technology: Validation Against Direct Observation from a Simulated Predation Study

Jerod Merkle: Empowering agricultural producers to help conserve migratory big game: Introducing USDA's Migratory Big Game Framework for Conservation Action

Katie Joe Pennartz: Evaluating Potential Pathways of Competition Between Sympatric Mule Deer and White-Tailed Deer in the Rolling Plains of Texas

Ben Goodheart: A Tool to Identify Conservation Priority Areas for Rangeland Wildlife of the Northern Great Plains: A Case Study For Herpetofauna

1:20pm-3pm

Workshop: IYRP 2027 Stakeholder Action-Planning for North America: Project Outcomes, Lessons Learned, and Way Forward

Symposia: Rangeland Management in Mexico from a New Perspective of Conservation and Sustainable Use

Symposia: Science for Enduring Rangelands: Six Years of Monitoring Grazing Management Impacts Across the 3M Project

Symposia: From GPS to Management: Making Sense of Modern Livestock Movement Data

Producers Forum

Workshop: Playing to Our Strengths - What we Focus Grows: A Workshop on Leadership Training

Symposia: Advancing landscape assessment and monitoring with digital technologies

Contributed Oral Session: Ecosystem Services: Biodiversity 2

Bethany Roberton: Bumble bee and floral response to severe drought under alternative grazing management strategies in the northern mixed grass prairie

David Pilliod: Evaluating visual and eDNA survey methods for the Dakota Skipper, an elusive butterfly of the tallgrass and mixed-grass prairies

Tolibjon Mukimov: Geobotanical studies conducted in the Karnabchul Desert In Uzbekistan

Theresa Becchetti: Rewriting the Landscape: Fire, Vegetation, and Management Lessons

Rosalie Terry: Change on the range: Characterizing plant community pathways between grazing states and the impact of nitrogen addition and insect loss

Contributed Oral Session: Ecosystem Services: Carbon 2

Lydia Salsburuy: Cows and Carbon: A look at Ecosystem Processes and Soil Carbon Dynamics under Hawai'i Grazing Systems

Benjamin Turner: Soil organic matter and ecosystem indicator responses to long-term management of loamy rangeland soils in south Texas

Isai Ochoa Pumaylle: Parastrephia Shrub Encroachment and Its Effects on the Carbon Sink Capacity of High-Andean Rangelands, Peru

Savannah Adkins: Digging Deeper: Subsurface Soils Help Predict Dryland Rangeland Soil Organic Carbon Distribution

Shawn Salley: Arid Land Soil System Dynamics following Ecological State Transition

Contributed Oral Session: Restoration 3

Kendall Hays: Restoration Where Water is Scarce: Plant Community Responses to Restoration Treatments on Decommissioned Oil and Gas Pads in the Permian Basin

Aaron Norris: Effects of Polished Desalinated Produced Water Irrigation on Native Grass Establishment and Production in the Permian Basin

Brandon Edwards: Applying land health indicators to evaluate wind erosion mitigation outcomes in Lordsburg Playa, New Mexico, USA

John Stables: First-Year Evaluation of Pearl Millet as a Nurse Crop for Native Grass Restoration in Texas Rangeland

Justin Luong: Evaluation of 37 restored coastal grasslands informs current limits and future directions for native grassland management

Contributed Oral Session: Invasive Species 2

Landon Neumann: Does Tree Encroachment Increase the Occurrence of Wildfire? Evidence from the Great Plains

Michele Beadle: Repeated Brush Management Controls Aspen in the Northern Great Plains

Samantha Cady: At what scale do conservation outcomes emerge? Case studies from the Great Plains

Callie Cartwright: Effects of herbicides on honey mesquite & non-target plant species one year post application in the Rolling Plains Region of Texas.

Justin Clarke: Landscape-scale Application of "Defend the Core, Grow the Core" to Move the Needle on Woody Plant Encroachment

Contributed Oral Session: Prescribed Burning

Amy Symstad: A model to strategize the use of prescribed fire in annual brome-invaded northern Great Plains grasslands

Daniel Asplin: Restoring Fire to Invaded Rangelands: Interactive Effects of Fire-Return Interval, Fire Season, and Grazing in the Northern Great Plains

Katherine Johnson: Invasive Plant Responses to Prescribed Fire and Herbicides in Open Ponderosa Pine Forests in Southeast British Columbia, Canada

Dakota Moberg: Fire return intervals shape ecosystem multifunctionality in Ashe juniper (Juniperus ashei)-dominated landscapes

Garren Bastin: A Decade of Prescribed Fire: The Oklahoma Prescribed Burn Association’s Impact On Oklahoma Lands

3:20pm-5pm

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Symposia: Science for Enduring Rangelands: Six Years of Monitoring Grazing Management Impacts Across the 3M Project

Symposia: From GPS to Management: Making Sense of Modern Livestock Movement Data

Producers Forum

Symposia: Advancing landscape assessment and monitoring with digital technologies

Symposia: The Conservation Reserve Program and Fire-Resilient Landscapes in the Great Plains: Responding to Growing Wildfire Risk

Contributed Oral Session: Remote Sensing & Modeling 3

David Boak: The Root of the Problem: Using Tracer-Derived Active Root Distributions to Overcome Biomass-Based Assumptions in Plant Community Models

Gonzalo Irisarri: Forage Allowance and Crude Protein Differentially Explain Cattle Performance in Shortgrass Steppe

Julie Peeling: Heterogeneity across scales: outcomes of shrub removal treatments in the Chihuahuan Desert

Jack Daniel Hagenbuch: Scaling Residual Dry Matter Measurements with Hyperspectral Remote Sensing for Grazing Management

Contributed Oral Session: Soil Health and Carbon

John Wendt: Fire, fire exclusion, and carbon persistence in North American rangelands

Adam Dixon: Management in context: Baseline ecological outcomes across Northern Great Plains ranching network

Joseph G. Toman: Following the Green: Topographic Influence of Cattle Grazing Patterns to Create Forage and Soil Mineral Nitrogen Hotspots in Mixed-Grass Prairies

Nicholas Webb: Generalizability of benchmarks for rangeland health assessments

Shubham Tiwari: Ecological controls on wind erosion hotspots in southwestern US drylands

Contributed Oral Session: Restoration 5

Tyler Geltmacher: Competitive and Priority Effects of Northern Great Plains Native Cool-Season Grasses on Invasion of Smooth Brome Rhizomes

Madeline Mayorga: Soil Seed Bank Responses to Warming Temperatures and Native Seed Addition in Grasslands

Owen Palsic: The role of land management history and vegetation type in rangeland soil seed bank dynamics.

Tolibjon Mukimov: Restoring Degraded Desert Rangelands in Uzbekistan Through Phytomelioration and Grazing Management

Contributed Oral Session: Ecosystem Services: Wildlife 3

Katherine Travis: Using species distribution modeling to inform strategic conservation of Greater Prairie-chickens (Tympanuchus cupido) in the Great Plains

Luke Johnson: Evaluating the mechanisms of rangeland management effects on sharp-tailed grouse nest survival.

Michael Warren: Breeding Ecology of Sharp-tailed Grouse in Agroecosystems of the Great Plains

Mallory Hinton: Investigating Habitat Selection for Seasonal Ranges of Male Greater Sage-Grouse using Resource Selection Functions

Jeffrey Beck: Greater Sage-Grouse Migrate Through the Same Migration Corridors as Pronghorn and Mule Deer in the Upper Green River Basin, Wyoming, USA

Elisabeth Teige: The availability of Lesser Prairie-chicken breeding season habitat provided by the Conservation Reserve Program (CRP) grasslands

TUESDAY, Feb. 16th

10:20am-Noon

Symposia: Applications of Virtual Fence: Bridging Agriculture & Conservation Through Partnerships

Symposia: Ecophysiology's Purpose in Rangeland Management

Workshop: Kitchen Table Chats: Relationships that Endure

Ignite: Promoting rangeland literacy and resilient management practices: A showcase of agents of change in education and outreach

Contributed Oral Session: Fire Management/Fuels & Grazing 1

Matt Reeves: Understanding the footprint of recent megafires on sagebrush ecosystems.

Matt Reeves: Quantifying herbaceous fuel and atmospheric dryness conditions associated with large wildfires across western U.S. vegetation types

Katherine Lee: Coupled economic and ecological resilience of ranching and sagebrush systems to wildfire

Jonathan Spiess: Can you have too much sagebrush? Challenges from managing a resilient section of the sagebrush sea

Trenton Benedict: Leveraging time-series remote sensing to predict post-fire invasive annual grass response in western US rangelands

Contributed Oral Session: Human Dimensions 1

Gonzalo Irisarri: More productive, but more resilient? Historical reorganization of global beef supply reveals emerging resilience-loss signals in herd productivity

Katrina Turner: Bridging Communication and Goal Gaps Between Ranchers and Corporate Beef Sustainability Stakeholders

Steelle Scearce: De facto Stewards: Understanding producer experiences with ecological, economic, and social trade-offs of riparian grazing management in southern Idaho.

Benjamin Turner: Complex adaptive rangeland systems: modeling frontiers at the interface of natural resource processes, ranch management, and heuristic decision making

Contributed Oral Session: Restoration 1

Evalynn Trumbo: Cattle grazing in Conservation Reserve Program grasslands: Impacts on plant structural heterogeneity within a growing season

William Jensen: Woody cover and short-term cattle grazing affect bird nest success in central U.S. CRP grasslands

Gavin Page: Cattle Grazing Interacts with Grass Species Composition to Shape the Structural Heterogeneity of CRP Fields: Implications for Plant and Animal Diversity

Nora Bales: Using plant functional traits to improve restoration seed mixes in shortgrass prairie Conservation Reserve Program plantings

Theo Knowles: Identifying the Impact of Grassland Restoration Strategies on Sown Species Establishment across the Great Plains through Meta-Analyses

Contributed Oral Session: Remote Sensing & Modeling 2

Nathan Kleist: Integrating expert-based assessments with remotely sensed data through machine learning to map land health condition at broad scales

Matthew Rigge: RCMAP (Rangeland Condition Monitoring Assessment and Projection) Long-term and Near-real time Rangeland Vegetation Monitoring

Saroj Dhital: Mapping Spatial Patterns of Wind Erosion on US Rangelands Using the Aeolian EROsion (AERO) Model

Travis Nauman: Scaling Ecological Management Unit (EMU) Synthesis with a Domain-Specific AI Knowledge Engine

Scott Zimmer: RangeMap: Landscape-scale imputation of rangeland plot vegetation cover, height, and species composition across the western United States from 2006 to 2025

Contributed Oral Session: Soil Health

Shivam Singh: Drought-Driven Shifts in Root-Associated Microbiomes of Cheatgrass and Western Wheatgrass in Reclaimed Mine Soils

Dakota Moberg: Weather Whiplash Drives Rapid Shifts in Semi-arid Rangeland Soil Microbial Communities

Abigail Ridder: Whole soil inoculation from intact grasslands increases fungal colonization while minimally influencing plant functional trait ontogeny.

1:20pm-3pm

Workshop: Using virtual fence technology to enhance rangeland conservation outcomes: A scenario planning workshop for public and private lands

Workshop: Runoff and Erosion Risks on Enduring Rangelands: A Hands-On Rangeland Hydrology and Erosion Model (RHEM) Workshop

Symposia: Stockmanship for Stewardship: Connecting Livestock Behavior, Grazing Management, and Rangeland Health

Symposia: USDA/DOI Grazing Action Plan

Symposia: Moving the Needle on Woody Plant Encroachment: Successes, Stumbling Blocks, and Lessons Learned in the Great Plains

Workshop: How to Run a Successful Range Club

Symposia: The role of scientific publishing and our Society journals in rangeland stewardship

Contributed Oral Session: Fire Management/Fuels & Grazing 2

Jesse Haudrich: Seasonal Variation of Nutritive Value and Mineralogy of Five Native Grass Species in the Texas High Plains and Rolling Plains

Hannah Allen: Variation in cattle botanical diet composition and diet quality throughout the growing season in the Nebraska Sandhills

Jonathan Spiess: Forage nutritive value and sheep diet quality across an extensive transhumant grazing season

Daniel Macina: Impact of prescribed burns on sheep (Ovis aries) habitat selection and flocking behavior

Mackenzie Hiberd: Cattle preference and plant response to previously burned and intensively grazed patches in a mixed-grass prairie ecosystem

Contributed Oral Session: Human Dimensions 2

Melissa Shehane: Bridging Science and Stewardship: Preparing Future Natural Resource Professionals Through Communication and Natural Resource Partnerships

Melissa Shehane: Cultivating Critical Thinkers Through Climate-Smart Agriculture: Using Extension Infographics and Free-Response Questions in Environmental Science Education

Diablo Trust: The Changing Landscape of Partnership: Thirty Years of Collaborative Rangeland Stewardship at Diablo Trust and a Vision for What Comes Next

John Canfield: The Moral Landscape of Montana's Northern Great Plains: Land Use, Stewardship, and Conceptions of the Good

Contributed Oral Session: Restoration 4

Laura Beck: Mowing as a Corrective Practice for Shelter Tube-Induced Growth Form Abnormalities in Tamaulipan Thornscrub Restoration

Kyndra McGovern: Supporting Thornscrub Persistence Through Strategic Restoration Planning in Urban-Impacted Landscapes

Danielle Johnston: Bitterbrush shrubland restoration: effects of a pre-emergent herbicide and a micronutrient fertilizer

Melissa Burrell: Evaluating Groasis Waterboxx® Effectiveness for Woody Plant Establishment in Semiarid Restoration

Contributed Oral Session: Remote Sensing & Modeling 1

Hailey Melzow: Spatial Patterns in Rangeland Forage Production Across Western US: 1986 – 2025

Brittney Schilling: Pasture Aboveground Biomass and Grazing Utilization Using Satellite Imagery and Machine Learning

Ethan Rising: Integrating Grazing Treatment, Satellite Phenology, and Climatic Drivers with Field Sampling to Map C3 and C4 Grass Cover in the Northern Great Plains

Zak Ratajczak: Using high-resolution aerial data to train satellite-based remote sensing: a much-needed leap for remote sensing woody encroachment

Jay Weeks: An Integrated End-to-End MMRV Pipeline for Quantifying Soil Organic Carbon Stock Change at Scale on Working Grazing Lands

3:20pm-5pm

Workshop: Using virtual fence technology to enhance rangeland conservation outcomes: A scenario planning workshop for public and private lands

Workshop: Understanding Context: The Foundation for Better Rangeland Management Decisions

Workshop: Runoff and Erosion Risks on Enduring Rangelands: A Hands-On Rangeland Hydrology and Erosion Model (RHEM) Workshop

Symposia: Stockmanship for Stewardship: Connecting Livestock Behavior, Grazing Management, and Rangeland Health

Symposia: USDA/DOI Grazing Action Plan

Symposia: Moving the Needle on Woody Plant Encroachment: Successes, Stumbling Blocks, and Lessons Learned in the Great Plains

Symposia: The role of scientific publishing and our Society journals in rangeland stewardship

Contributed Oral Session: Fire Management/Fuels & Grazing 3

Megan Anglin: Growth Performance and Diet Quality of Yearling Steers Under Two Stocking Strategies in the Kansas Flint Hills

Payton Lemme: Linking Legacy Data to Long-Term Grazing Effects on Mixed-Grass Plant Communities in Western South Dakota

Katherine White: Effects of Grazing Systems on Intermountain West Summer Range Plant Communities

Joshua Wianecki: Grazing Management Impacts on Grazing Behavior and Livestock Movement

Bob Hamilton: Ecological restoration and conservation outreach in the Flint Hills tallgrass prairie of Oklahoma.

Contributed Oral Session: Human Dimensions 3

Luci Lu: Contested or quiet? Rangeland, rural context, and public conflict over solar development

Adam Dixon: Rural Indicators: Centering community in support of conservation efforts within the grassland ecosystems of the Great Plains

Cheryl Dunn: Building Nebraska Grassland Literacy for K-12: Using the Grassland Biome to Teach Ecology and Applied Sciences

Stacy Lynn: Thematic and rhetorical discourse analysis of wild horse and burro group websites reveals communication strategies and informs development of a virtual K-12 curriculum

Jamila Jaxaliyeva: Can Eating Horses Improve Rangelands?

Contributed Oral Session: Restoration 6

Corban Gibson: Utilizing seed safeners as an alternate to activated carbon coatings

Curtis Garlick: Improving rangeland seeding success with a modified no-till drill and in-furrow mulch

Justin Luong: Compost and native seeding interactively increase bulk soil carbon, but compost addition favors nonnative plants

Contributed Oral Session: Remote Sensing & Modeling 4

Maggie Wertheimer: Fire, fuel, and forage: Vegetation outcomes of prescribed fire and other fuels treatments in Montana Rangelands

Gonzalo Irisarri: Beyond productivity trends: How fire and grazing shape grassland resilience through time

Chris Wilson: Progress and challenges in remote sensing for subtropical grassland management

John Severson: Predicted vegetation recovery following well pad reclamation in western U.S. rangelands

Austin Housley: Monitoring and Inventorying Populations of the Rare Endemic St. Anthony Evening Primrose Using sUAS and Object-Based Image Analysis

WEDNESDAY, Feb. 17th

10:20am-Noon

Workshop: Many Hooves Make Less Work: The importance of livestock species selection in targeted grazing

Symposia: Empowering future rangeland professionals and educators as agents of change developing innovative programming for climate-smart agriculture practices

Symposia: Enduring Knowledge, Shared Stewardship: Co-Producing Rangeland Education Across Indigenous, Producer, and Educational Communities

Symposia: Tracking the Trajectory: Soil Carbon, Biology, and the Future of Rangeland Management

Symposia: SRM Private Sector Policy Roundtable: Private Voices for Our Enduring Grasslands

Campfire Sessions: Generational Succession: Helping Working Rangelands Endure by Connecting Aspiring and Retiring Producers; Succession Out on the Range: Identifying Barriers to and Pathways for Ranch Succession

Ignite: Leveraging vegetation production data in rangeland management

Contributed Oral Session: Virtual Fence 1

Derek Bailey: Understanding commercial sensors for use in cattle behavior research: A case study with a rumen bolus activity metric

Aubree Triplett: Economic comparison of physical fence reconstruction and virtual fencing for post-wildfire grazing management

Laura Snell: Applied Use of Grazing Technologies to Improve Management on a Public Lands Grazing Allotment in Northeastern California

Contributed Oral Session: Restoration 7

Jacob Harvey: Nuisance Windbreak Removal and Reclamation in the Eastern Nebraska Sandhills

Sophie Wieland: Managing woody encroachment: could simultaneous management actions control dogwood population growth?

Remy Sutherland: Heterogeneity-based management integrates invasive species control with conservation and production objectives in working landscapes

Benjamin Turner: Managing and monitoring long-term ecological recovery from overgrazing and brush encroachment on a south Texas plains ranch

Contributed Oral Session: Ecosystem Services: Food and Fiber Production; Grazing 1

Damon Bectell: Sod-Seeding Perennial Legumes During the Freeze-thaw Cycle in Central Alberta

Noah Davis: The Impact of Supplemental Alfalfa on the Foraging Behavior of Beef Cows Grazing Dormant Rangeland

Javier Arturo Ñaupari Vasquez: Portable vs. Benchtop NIRS for Predicting Feces Chemical Composition in Grazing Brown Swiss Heifers

Caleb Tabler: Effects of nitrogen fertilizer on a cereal pulse forage crop in East Central Alberta

Logan Holey: To graze or not to graze: Evaluating effects of agrivoltaic microhabitats on plant traits in coastal grasslands.

Contributed Oral Session: Ecosystem Services: Wildlife 2

Levi Sweeten: Alternative vegetation states constrain connectivity in a semi-arid shrubland for a matrix-sensitive species

Kadie Simmons: Scale-dependent and Seasonal Habitat Selection and Home Range Dynamics of Chestnut-bellied Scaled Quail in the Tamaulipan Thornscrub

Caleb McKinney: Panarchy in the Thornscrub: Spatial Collapse and Reorganization in a Declining Ground-Nesting Bird

Shaelyn Rainey: Changes in vegetation attributes and avian species diversity following herbicide application to manage honey mesquite

Courtney Duchardt: The challenge of dramatic fluctuations in prairie dog populations for avian conservation and livestock coexistence: 12 years of monitoring in northeast WY

1:20pm-3pm

Workshop: Rangeland Management in South Sudan: Challenges, Opportunities, and Sustainable Management Strategies

Symposia: Empowering future rangeland professionals and educators as agents of change developing innovative programming for climate-smart agriculture practices

Symposia: Sustaining Our Enduring Grasslands: Clonal Shrub Encroachment Across the Great Plains

Workshop: Beyond the Classroom; Professional Development for Students in Range

Campfire Sessions: Generational Succession: Helping Working Rangelands Endure by Connecting Aspiring and Retiring Producers; Succession Out on the Range: Identifying Barriers to and Pathways for Ranch Succession

Ignite: My rangeland ecology and management inheritance: a support group for next generation range professionals

Contributed Oral Session: Virtual Fence 2

Isabel Christine Sonnet: Assessing the Efficacy of Using Precision Cattle Grazing Technology to Create a Fuel Break

Ira Parsons: Application of Virtual Fencing Technology to Monitor Pasture Utilization in a Dual-Species Mob-Grazing System

Dawson Uhl: Virtual Fencing as a Riparian Management Tool: Managing Cattle Access to Riparian Areas in the Northern Great Plains

Flavie Audoin: Virtual Fencing Technologies: A Comparative Overview of Leading Companies

Contributed Oral Session: Invasive Species 3

Miranda Peteson: Benchmarks for invasive cheatgrass informed by interactions with land health attributes and function

Lauren Myers: Impacts of habitat restoration treatments on invasive annual grasses cover in rangelands of Montana

Amariah Fischer: A systems-based approach to explore rancher responses to invasive annual grasses in the Great Basin

Peder Engelstad: Connecting managers to modelers: updates and enhancements to the Invasive Species Habitat Tool (INHABIT)

Michelle Jeffries: Herbicide Treatment Effects on Vegetation and Wildlife of the Charles M. Russell National Wildlife Refuge in Montana

Adriana Ronquillo Leyva: African Rue (Peganum Harmala) Management with Herbicides in the Trans-Pecos

Contributed Oral Session: Ecosystem Services: Food and Fiber Production; Grazing 2

Joel Brown: A mass balance approach to grazing research and management

Alexander Barnes: Is this ranch rotational? How the temporal scale of grazing metrics changes the answer

Conor McCabe: Impact of a methane reducing feed additive on grazing beef cow mineral consumption and frequency on California annual rangeland

David McKenzie: Aboveground biomass across land uses and management regimes in tallgrass prairie in the Flint Hills of Kansas

Josh Davy: Protein blocks and loose salt mineral as delivery methods for stocker cattle grazing California annual rangelands

Contributed Oral Session: Ecosystem Services: Water

Carlos Ochoa: Long-Term Ecohydrological Response to Western Juniper (Juniperus occidentalis) Control: 30 Years of the Camp Creek Paired Watershed Study

M. Allison Stegner: A framework for assessing climate-driven shifts in land potential and soil moisture

Jacqueline Ott: Precipitation affects belowground bud survival rather than rhizome and bud production in the perennial grass Andropogon gerardii